Port Traffic Statistics: methods and quality

Contents

Section 1: Introduction

Department for Transport statistics on UK port traffic are published in three stages:

(1) provisional quarterly releases, published 10 weeks after the end of the quarter

(2) provisional annual release, published in June of the following year

(3) more detailed final annual release, published in September of the following year

All results are published on the DfT Statistics web site (www.dft.gov.uk/statistics).

Until 2010 (data year 2009) the final annual results formed part of the annual *Maritime Statistics* compendium.

From 2011 all port freight traffic results will be published through the Ports series on the DfT statistics web pages, and other topics previously included in the compendium will be published through their own series (Sea Passengers or Shipping Fleet). An index is available on the web site to help users locate tables in the new setup.

Section 2: Definitions and notes to tables

Coverage

The statistics relate to traffic to and from ports in United Kingdom, unless otherwise stated, and do not cover ports in the Isle of Man or the Channel Islands.

Sources

The data collection system is described in more detail in Section 3.

Major and minor ports

From 2000, major ports are those with cargo volumes of at least 1 million tonnes annually (plus a small number of ports with less tonnage). The current major ports are listed in Section 7. Prior to 2000 the threshold for 'major' ports was 2 million tonnes of cargo annually. More detailed data are collected for major ports than for the remaining 'minor' ports, and this is reflected in the statistics which can be produced. Tables PORT0104 and PORT0203-0204 have been supplemented by estimated breakdowns of the minor port traffic.

Weights

All weights are tonnes gross, including crates and other packaging. The tare weights of containers, road goods vehicles, trailers and other items of transport equipment (i.e. the unloaded weight of the vehicle or equipment itself) are excluded.

Cargo types

Major port traffic is classified by cargo type. Cargo type is defined primarily in terms of the means by which the goods are loaded onto or off the vessel - although for some cargo types there is some further subdivision into broad commodities, the method of loading takes priority. A table of the cargo types is shown in the following section.

Unitised goods

Goods which are lifted on or off the vessel in large (20 foot or longer) shipping containers, or rolled on or off in one of a variety of self propelled or towed units are said to be **unitised** cargoes. For these cargo types, the number of units as well as the weight of goods is recorded. A subset of unitised goods are **main freight units** – this group consists of all containers and those ro-ro units which are designed to carry freight (categories 51, 61 and 63 in the cargo type table in the next section). The purpose of the main freight unit classification is that it excludes those ro-ro units which are not freight carrying – i.e. passenger vehicles, trade vehicles, and other specialised vehicles and trailers.

Geographical classification of traffic

UK port traffic is classified geographically according to where the goods were last loaded or next unloaded at the other end of the sea journey. All traffic is either domestic or foreign. Domestic traffic is either coastwise or one-port. Foreign traffic is either 'short sea' or 'deep sea', and 'short sea' traffic may be further divided according to whether or not it is with another EU member state. A more detailed description of these terms is given in the following table.

Geographical classification of UK port traffic			
Domestic	**Coastwise**	Traffic between ports in the United Kingdom (and with the Isle of Man and the Channel Islands). The totals of inwards and outwards coastwise traffic, however, do not match exactly. This is mainly because traffic between major and minor ports, or between major ports and ports in the Isle of Man and the Channel Islands, are not recorded at both ends (as is the case with coastwise traffic between major ports), but only at the major port end.	
	One-port	Dredged sand, gravel etc, landed at a port for commercial purposes; and traffic to and from UK offshore oil and gas installations (traffic with non-UK offshore oil and gas installations is recorded as foreign traffic). Formerly also included material shipped for dumping at sea, until this practice ceased.	
Foreign	**Short sea**	**EU** (as at 1 Jan 2007)	Traffic with Belgium, Bulgaria, Cyprus, Denmark (including Faroe Islands), Estonia, Finland, France, Germany, Greece, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal (including Madeira and Azores), Republic of Ireland, Romania, Spain (including the Canary Islands), Slovenia, Sweden
		Other Europe & Mediterranean	Traffic with Albania, Algeria, Azerbaijan, Croatia, Egypt, Georgia, Gibraltar, Iceland, Israel, Lebanon, Libya, Monaco, Morocco, Norway, Russia, Syria, Tunisia, Turkey, Ukraine
	Deep Sea	**Rest of World**	Traffic with all countries of Africa (excluding Mediterranean countries), America (both North and South America), Asia (excluding Mediterranean and Black Sea countries) and Australasia

Port groups

The port groups are shown in Section 6 and in the map in Section 8.

All ports of United Kingdom, by Government Office Region (Table PORT0103)

The Port of London reports for some facilities along the lower reaches of the River Thames which are in the South East and East of England Regions, as well as some in the London Region. This is the only port which is 'split' between regions.

Major port traffic by flag or owner nationality of carrying vessel (Tables PORT0113 and 0114)

In PORT0113 the flag denotes the country authorising the registry of the vessel. In PORT0114 nationality refers to the nationality of the direct registered owner of the vessel. See Shipping Fleet Statistics tables for more information on shipping fleets).

Changes to classification of unitised traffic (Tables PORT0201-0211)

See Section 3 for a description of the data collection system. In addition, the following effects of an important change to the categorisation of 'containers' and 'shipborne port-to-port trailers' between 1999 and 2000 should be noted.

Containers can be lifted onto ships using conventional services at container ports (Lift-on/Lift-off or LoLo) or they can be loaded onto Roll-on/Roll-off (RoRo) vessels – used principally for road goods vehicles, road goods trailers or passenger cars etc. The latter method often employs 'port-to-port trailers' used only within the port and which may return to the quay after

loading or stay with the ship (either returning empty from the destination port or with another load).

Until 1999 LoLo containers were included in 'containers on LoLo and conventional services' whilst RoRo containers were classified to 'containers on RoRo services'. From 2000 the category ‘containers on RoRo services’ was discontinued and a new category introduced called ‘rail wagons, shipborne port-to-port trailers and barges’. Most containers previously recorded by respondents as RoRo containers were subsequently recorded as 'rail wagons, shipborne port-to-port trailers and barges' but it is believed others were recorded as containers on LoLo services. The effect of this definitional change can be seen in PORT0203.

It was evident by 2005 that some respondents operating at RoRo ports were indeed incorrectly reporting containers transported on port-to-port trailers as LoLo containers (rather than 'rail wagons, shipborne port-to-port trailers and barges') and had been doing so since the start of the new data system in 2000. This was corrected for 2005 when data providers were given further guidance.

This clarification resulted in a reduction of approximately 300,000 LoLo container units in 2005, with a similar increase in 'rail wagons, shipborne port-to-port trailers and barges'. The discontinuity, which affected a number of East coast ports, is highlighted in the relevant tables.

Revised estimates for 2000 to 2004 for containers and shipborne trailers, etc. are provided in the following table.

Containers and shipborne trailers, etc: 2000–2007 (thousand units)

	2000	2001	2002	2003	2004	2005	2006	2007
Containers (original)	4,325	4,464	4,506	4,533	4,919	4,754	4,883	5,381
Shipborne trailers, etc. (original)	361	344	348	374	383	665	668	744
RoRo containers[1]								
Adjustment to containers	-116	-157	-230	-265	-299			
of which London	32	-74	-173	-158	-166			
Adjustment to shipborne trailers, etc.	116	157	230	265	299			
of which London	-32	74	173	158	166			
Containers (adjusted)	4,209	4,307	4,276	4,268	4,620	4,754	4,883	5,381
Shipborne trailers, etc. (adjusted)	477	501	578	639	682	665	668	744

1 Not separately identified after 1999

The adjustment shown was calculated using updated information obtained from ports together with information from shipping lines and published sources. Comparative data is shown for 2005-07. Note that the original figures for 2000-2004 have not been adjusted in the main report tables.

It should be noted that in both the previous and current data collection systems containers carried by road goods vehicle or road goods trailer are correctly classified as 'road goods vehicles’ or 'unaccompanied trailers' and not as containers.

Major ports container traffic in TEUs and weight carried (Table PORT0208)

TEU (twenty-foot equivalent units) is a standardised measure to allow for the different sizes of container boxes. The standard units taken for each size of container box are as follows:

	Units
20 foot containers	1
40 foot containers	2
>20 foot and <40 foot	1.5
>40 foot	2.25

All ports container traffic in TEUs (Table PORT0209)

For 2000 onwards TEUs have been calculated as set out in the note to PORT0208. In 1999 and earlier only two categories were used, 20 foot (defined to be in the range of 15 to 24 feet) and 40 foot (defined to be in the range 25 feet or over) and these were given standardised units 1 and 2 respectively to calculate TEUs. Thirty foot containers (the main alternative size to 20 and 40 foot), and units over 40 feet were both assigned to the 40 foot category with a standard unit of 2.

Containers carried on board Ro-Ro vessels by shipborne port-to-port trailers are not included from 2000 onwards, although some operators incorrectly continued to include them until 2004 (see 'Changes to Classification of Unitised Traffic' above for more information).

Downloadable data files (Tables PORT0498 & PORT0499)

These special files are designed to allow advanced users to filter for or download data for their own analyses. The data are disaggregated as far as is consistent with maintaining commercial confidentiality.

Table PORT0498 contains data by weight of goods and PORT0499 contains data by number of units. (Please note that not all unitised cargo types are capable of carrying cargo – see the Unitised Traffic table below – therefore tonnage and units results should only be compared for those types of unit which can do so).

The tables contain data by year (from 2005), UK port, country of loading/unloading, cargo category (at two different levels of detail) and direction of movement. Very small flows have been aggregated to world region totals to help maintain confidentiality.

Section 3: Data collection system for maritime freight traffic

Port freight traffic statistics are based on a combination of data reported to the DfT by port authorities and shipping lines or their agents. Prior to 2000 reporting was by port authorities only.

The current collection arrangements for port freight traffic statistics were introduced in 1 January 2000 to meet the requirements of the EC Maritime Statistics Directive (Council Directive 95/64/EC on statistical returns in respect of the carriage of goods and passengers by sea, recast as Directive 2009/42/EC).

Under the Directive, information is required quarterly on foreign and domestic tonnages and freight units, for major ports (i.e. those that have over one million tonnes of freight per annum) by route, flag and cargo type. Much less information is required for smaller ports.

Most of the detailed freight information is collected from shipping lines, operators and shipping agents, because the detailed route and ship flag information required by the Directive is only generally available from them. The ports supply more limited information quarterly and annually, which is used to provide control totals and also to publish more timely provisional results.

The full guidance for data providers is available via a dedicated section of the DfT web site: www.dft.gov.uk/ukmaritimestatistics/, including the forms, instructions for their completion and code lists.

Shipping lines and agents information (Form MSD1)

Shipping lines or their agents complete detailed returns of their inwards and outwards traffic at each major port for each ship, on each route, quarterly, on form MSD1. Major ports are those handling more than 1 million tonnes a year, plus a few selected ports with less tonnage. The returns give the gross weight of goods in tonnes of liquid bulks, dry bulks, unitised traffic and other general cargo, by individual category. Additionally for unitised traffic, the returns give the numbers of units, broken down where appropriate into those with cargo and those which are empty. A full list of the cargo categories is given in Table 1 and a comparison with the categories used in the previous system is at Table 2.

Ports information (Forms MSD2, MSD2X and MSD5)

The port authorities or other undertakings at major ports complete quarterly (MSD2) returns comprising four figures: the gross weight of goods inwards, the gross weight of goods outwards, the total number of units inwards and the total number of units outwards. Units include containers, road goods vehicles, passenger cars, unaccompanied trailers etc. Results from the MSD2 returns have been used since the beginning of 2009 to produce provisional quarterly port freight statistics which are published via the DfT Transport Statistics web site.

More cargo details are supplied annually on form MSD2X, which uses the same cargo type categories as the MSD1. The MSD2X results are used to provide more detailed grossing totals for the final annual results, and are also the basis of the provisional annual results published about 6 months after the year end on the DfT Transport Statistics web site.

Minor ports provide information on total tonnages in and out, annually on form MSD5.

Ports also provide quarterly returns listing the shipping agents, lines and operators active at the port (MSD3) and giving data on ship arrivals and departures (MSD4).

Classification of port freight traffic for the EC Directive on statistical returns in respect of the carriage of goods and passengers by sea (2009/42/EC)

Unitised Traffic

Category	***Description***	***Code***	*Statistics required for major ports*			
			Number of units			*Weight of goods*
			Loaded	*Empty*	*Total*	
Containers	20 ft freight units	31	✓	✓	✓	✓
	40 ft freight units	32	✓	✓	✓	✓
	Freight units > 20 ft & < 40 ft	33	✓	✓	✓	✓
	Freight units > 40 ft	34	✓	✓	✓	✓
Roll-on/Roll-off (self- propelled)	Road goods vehicles with or without accompanying trailers	51	✓	✓	✓	✓
	Passenger cars, motorcycles and accompanying trailers/caravans	52			✓	
	Passenger buses	53			✓	
	Import/Export motor vehicles	54			✓	✓
	Live animals on the hoof	56			✓	✓
	Other mobile self-propelled units	59	✓	✓	✓	✓
Roll-on/Roll-off (non self-propelled)	Unaccompanied road goods trailers & semi-trailers	61	✓	✓	✓	✓
	Unaccompanied caravans and other road, agricultural and industrial vehicles	62			✓	✓
	Rail wagons, shipborne port to port trailers, and shipborne barges engaged in goods transport	63	✓	✓	✓	✓
	Other mobile non self-propelled units	69	✓	✓	✓	✓

Non-Unitised Traffic

Category	***Description***	***Code***	*Statistics required for major ports*
			Weight of goods
Liquid Bulk	Liquefied gas	11	✓
	Crude oil	12	✓
	Oil products	13	✓
	Other liquid bulk products	19	✓
Dry Bulk	Ores	21	✓
	Coal	22	✓
	Agricultural products	23	✓
	Other dry bulk	29	✓
Other general cargo	Forestry products	91	✓
	Iron and steel products	92	✓
	Other general cargo & containers < 20 ft	99	✓

Section 4: Processing methods and data quality

Validation and Quality Assurance procedures

Data are mainly reported electronically, either as bespoke XML files (the GESMES system) or ASCII files, or via a web-based reporting tool (iSDES). A few senders still report by email or other methods. The guidance for data providers may be found here: http://www.dft.gov.uk/ukmaritimestatistics/. The data are sent to a Collection Agency working on behalf of DfT, who collate the data, carry out initial validation checks, and also operate a helpdesk and identify and follow up non-respondents. Validation checks at this stage include checks on the validity of port codes and ship identities, and basic plausibility checks on types and sizes of certain cargoes.

Once data are transmitted securely to DfT additional checks are carried out, including the cross-comparison of MSD1, MDS2 and MSD2X records, and comparisons with previous time periods. Major anomalies are followed up with data providers.

Grossing procedures

MDS2, MSD2X or MSD5 returns are normally received from virtually all significant operators. It is not possible to measure the response rate for MSD1s except by comparing the resulting traffic totals with those from the MSD2 or MSD2X returns.

The MSD2X data from ports are used as control totals to gross up the information supplied by shipping lines and agents data, that is make an estimated adjustment to correct for any missing MSD1s. Each of the data variables for each port on the MSD2X, ie. the cargo categories for unitised and non-unitised traffic (see table above) are divided by the corresponding estimates provided by shipping lines and agents to produce grossing factors. These factors are then applied to all corresponding MSD1 data variables to provide grossed totals. This method allows the estimation of other variables, for example traffic by cargo type by port of loading and unloading, vessel characteristics, flag etc, which are unavailable from ports from the MSD2 or MSD2X. The grossing procedure applies to traffic to and from major ports; information for minor ports is added in separately.

From 2000 all freight estimates shown in the tables which have a geographic element, eg. imports, exports, foreign, domestic traffic, have been estimated by the grossing procedures described above based on information supplied by shipping lines and agents. For 1999 and earlier years this information has been estimated by ports but only approximately in many cases. The new collection arrangements provide more reliable geographic information, ie. estimates of imports, exports, foreign, coastwise, one-port traffic, traffic on individual routes etc.

The overall effect of grossing, and the spread of grossing factors, are summarised in the following table.

Implied grossing factors for a range of traffic types

	Total weight reported on MSD1 forms (million tonnes)	Published estimate after grossing (million tonnes)	Implied grossing factor
Total major ports: 2006	526.5	568.8	1.08
2007	521.2	566.6	1.09
2008	493.1	548.1	1.11
2009	455.8	489.6	1.07
2010	463.5	498.5	1.08
2010 results for specific traffic types:			
Inwards	282.8	304.4	1.08
Outwards	180.8	194.1	1.07
Liquid bulk	210.6	231.6	1.10
Dry bulk	93.0	97.4	1.05
Other general cargo	14.7	16.8	1.14
Lo-Lo containers	48.2	56.7	1.17
Ro-Ro	97.0	96.0	0.99
Domestic	109.2	115.2	1.06
Short Sea	252.7	269.1	1.06
Deep Sea	101.6	114.2	1.12
Major ports	Smallest implied factor among ports		0.87
	Lower quartile (port 13 of 52)		1.01
	Median		1.03
	Upper quartile (port 39 of 52)		1.10
	Largest implied factor among ports		1.29

Publication arrangements and provisional results

Port freight statistics are published in three stages in order to put usable information in the public domain as early as possible:

(1) Provisional quarterly results are published approximately 10 weeks after the end of the quarter to which they relate. These statistics are based on the MSD2 forms provided by major ports. Data are available for total weight of goods and number of units, inwards and outwards for each responding port. These figures may be subject to revision if subsequent checks against MSD1 data provided by agents or MSD2X data provided by ports at the year end highlight anomalies. Typically a very small number of ports do not provide data in time for publication, in which case the national trend is estimated based on the trend for those ports which have provided data for the latest quarter. Table P1 below shows how the published quarterly indices for traffic at major ports have changed in each successive quarter since Q1 2009. This illustrates the overall effect at national level of changes to the provisional figures after their initial publication.

(2) Provisional annual results are published approximately 6 months after the end of the calendar year to which they relate. These statistics are based on the MSD2X and MSD5 returns provided at the end of the year by each major port and minor port respectively. A split into broad cargo type is available for each major port. Some additional quality checks will have been possible, compared with the earlier quarterly data. However, full checks of MSD2/2X data against MSD1 data from shipping agents, and grossing of the final data will not have been completed, so the data remain provisional at this stage. Furthermore, past experience is that the figures for the vast majority of ports do not change. Table P2 below compares the 'provisional annual' national totals as first published each year with the final

figures released subsequently, showing that the differences at national level have usually been extremely small.

(3) Final detailed results are published about 9 months after the year end. At this stage a full reconciliation of port and shipping agent data will have been carried out, and the grossing procedures described above completed and checked. The detailed results are based on this grossed data. At this stage the full range of analyses, including those by route and vessel type are available.

Table P1: Showing how port traffic indices have varied in successive editions of Quarterly Port Statistics

	Index value (Q4 2000 = 100)											
Index Publication Date	Q3 '08	Q4 '08	Q1 '09	Q2 '09	Q3 '09	Q4 '09	Q1 '10	Q2 '10	Q3 '10	Q4 '10	Q1 '11	Q2 '11
Total tons index												
March 2009	99.7	98.5	96.4									
June 2009	99.8	98.6	96.5	93.3								
Sept 2009	99.8	98.6	96.5	93.3	91.1							
Dec 2009	99.8	98.6	96.5	93.3	91.1	88.9						
March 2010	99.8	98.6	96.7	93.6	91.6	89.5	88.8					
June 2010	99.8	98.6	96.2	92.7	90.3	88.1	87.9	88.2				
Sep 2010	99.8	98.6	96.2	92.7	90.3	88.1	88.2	88.2	90.0			
Dec 2010	99.8	98.6	96.7	93.2	90.6	88.1	87.6	88.2	88.8	89.9		
March 2011	99.8	98.6	96.7	93.2	90.6	88.1	87.5	88.2	88.4	89.4	90.0	
June 2011	99.8	98.6	96.7	93.2	90.6	88.1	87.6	87.8	88.6	89.7	90.3	91.6
Total units index												
March 2009	114.7	111.4	107.9									
June 2009	115.2	112.0	108.3	103.8								
Sept 2009	115.2	112.0	108.3	103.8	102.3							
Dec 2009	115.2	112.0	107.1	102.8	101.4	100.4						
March 2010	115.2	112.0	107.4	103.5	102.5	101.9	103.4					
June 2010	115.2	112.0	107.2	103.1	101.9	101.0	102.5	104.0				
Sep 2010	115.2	112.0	107.2	103.1	101.9	101.0	102.9	104.0	104.9			
Dec 2010	115.2	112.0	107.8	103.5	101.9	101.0	102.4	104.0	104.8	104.5		
March 2011	115.2	112.0	107.8	103.5	101.9	101.0	102.6	104.0	105.7	105.7	105.6	
June 2011	115.2	112.0	107.8	103.5	101.9	101.0	102.6	104.7	105.6	105.6	105.8	104.8

Table P2: Comparison of provisional and final annual totals: 2000-2010

Year	Direction	million tonnes			Per cent difference
		Provisional	Final	Difference	
2010	In	311.0	312.5	1.5	0.5
	Out	199.2	199.4	0.2	0.1
	All	510.2	511.9	1.7	0.3
2009	In	307.9	303.6	-4.3	-1.4
	Out	200.6	197.3	-3.3	-1.7
	All	508.5	500.9	-7.6	-1.5
2008	In	346.5	346.5	0.0	0.0
	Out	216.0	215.7	-0.3	-0.1
	All	562.5	562.2	-0.3	-0.1
2007	In	358.0	357.8	-0.2	0.0
	Out	223.1	223.7	0.6	0.3
	All	581.1	581.5	0.4	0.1
2006	In	362.3	364.7	2.4	0.7
	Out	217.9	218.6	0.7	0.3
	All	580.2	583.3	3.1	0.5
2005	In	352.1	354.0	1.9	0.5
	Out	229.4	230.5	1.1	0.5
	All	581.6	584.5	2.9	0.5
2004	In	341.4	342.1	0.8	0.2
	Out	230.7	230.6	0.0	0.0
	All	572.1	572.8	0.7	0.1
2003	In	323.2	323.4	0.2	0.1
	Out	231.5	231.9	0.4	0.2
	All	554.7	555.3	0.6	0.1
2002	In	320.7	320.5	-0.2	-0.1
	Out	237.6	237.5	-0.1	-0.1
	All	558.3	557.9	-0.4	-0.1
2001	In	329.3	328.9	-0.4	-0.1
	Out	236.4	237.5	1.1	0.5
	All	565.7	566.4	0.7	0.1
2000	In	318.2	316.3	-1.9	-0.6
	Out	258.9	256.7	-2.2	-0.9
	All	577.1	573.1	-4.1	-0.7

Section 5: Previous data collection systems

Annual statistics on freight handled at GB ports have been collected by the Department for Transport since 1980. (Statistics for Northern Ireland ports were collected by the Department for Economic Development, Northern Ireland from 1988 to 1999, and have been collected by DfT within the UK system since 2000). Prior to this, similar statistics were collected by the National Ports Council from 1965. There were various relatively modest changes to the collection system during this period, and these notes relate mainly to the previous data collection system as it was in its final form, from 1995 to 1999.

Although the published data series from before 2000 are considered to be largely comparable with the current system, the change in collection methodology resulted in some discontinuities in the data between 2000 and previous years.

The current system includes *more* detail than previously on vessels and routes (in terms of the port of loading/unloading) used, and on unitised traffic by weight; but *less* commodity detail for non-unitised traffic.

Prior to 2000 all freight information was collected from ports annually. There was no quarterly collection and no collection from shipping agents. A PS4 form was sent to major ports asking for detailed information on weight of traffic in and out, by cargo category and whether these were foreign, coastwise or one port cargoes. A detailed commodity analysis was also required for bulk traffic, and a broad commodity analysis for coastwise traffic. Separate information was required on unitised traffic ie. the number of number of units in and out by unitised cargo categories and by broad route.

The major ports covered by the PS4 were taken to be ports with least 2 million tonnes of cargo a year. A few selected ports with smaller volumes were also included, which were required to provide only total weight of cargo, in and out, in a simplified form.

Main differences between the freight collection systems in 1995–1999 and from 2000

Difference	Freight collection system from 2000	Freight collection system in 1995–1999
Traffic breakdown	More detail on unitised traffic by weight (e.g. by size of container) but less commodity detail on non-unitised traffic. Change to definition of containers on Roll-on/Roll-off services (see table below for full comparison)	Less detail on unitised traffic by weight but more commodity detail on non-unitised traffic (see table below for full comparison)
Route and vessel information	Information on individual trips from shipping lines and agents, including port of load and unload, so geographic information should be more accurate. Also vessel details available e.g. LRN and flag. Summary data only from ports, on traffic in and out of ports, quarterly.	No information from shipping lines and agents and no vessel data. Detailed information annually from ports, but aggregated – no individual trips identified, so geographic information is likely to be less accurate.
Definition of major port	Major ports (52 in 2000) are defined as ports with annual cargo volumes of at least 1 million tonnes, plus a few selected ports with less tonnage. Otherwise ports are classified as minor ports.	Major ports (39 in 1999) defined as ports with annual cargo volumes of at least 2 million tonnes, plus a few selected ports with less tonnage. Otherwise ports classified as minor ports.

Comparison of cargo categories used in port statistics up to 1999 and from 2000

1) Weight of unitised cargo

Cargo categories in use until 1999	***Cargo categories in use from 2000***	
Containers on Lift-on/Lift-off or conventional services	Containers	20 ft freight units 40 ft freight units Freight units > 20 ft & < 40 ft Freight units > 40 ft
Containers on Roll-on/Roll-off services	Containers	*Only if lifted on or off vessel by crane*. Container sub-categories as above.
	Roll-on/ Roll-off (non self-propelled)	*If loaded aboard using any type of roll-on/roll-off trailer.* Rail wagons, shipborne port to port trailers, and shipborne barges engaged in goods transport
Powered road goods vehicles and unaccompanied road goods trailers	Roll-on/ Roll-off (self-prop)	Road goods vehicles with or without accompanying trailers
	Roll-on/ Roll-off (non self-prop)	Unaccompanied road goods trailers & semi-trailers
Rail wagons and barges carried on ships	Roll-on/ Roll-off (non self-prop)	Rail wagons, shipborne port to port trailers, and shipborne barges engaged in goods transport
Vehicles for import and export on Roll-on/Roll-off services	Roll-on/ Roll-off (self- prop)	Import/Export motor vehicles
Other wheeled and Roll-on/Roll-off freight	Roll-on/ Roll-off (self- prop)	Other mobile self-propelled units
	Roll-on/ Roll-off (non self-prop)	Unaccompanied caravans and other road, agricultural and industrial vehicles Other mobile non self-propelled units

2) Weight of non-unitised cargo

Cargo categories in use until 1999		***Cargo categories in use from 2000***	
Liquid bulks	Crude petroleum	Liquid bulks	Crude oil
	Petroleum products and gas		Oil products
			Liquefied gas
	Animal and vegetable oils and fats, beverages, chemicals, chemical fertilisers, crude minerals, material shipped for dumping at sea, sugar and sugar preparations, and other liquid bulks		Other liquid bulks
Dry bulks	Ores and scrap	Dry bulks	Ores
	Coal, coke and briquettes		Coal
	Foodstuffs and tobacco (including animal feeding stuff, dairy products and eggs, fruit and vegetables, meat and meat preparations, milled cereals and cereal preparations, sugar and sugar preparations and unmilled cereals), animal and vegetable oils and fats, and oil seeds and nuts		Agricultural products
	Cement lime etc, chemicals, crude and manufactured fertilisers, crude minerals, iron and steel, material shipped for dumping at sea, non-ferrous metals, other non-metallic mineral manufactures, petroleum products and gas, sea dredged aggregates, wood lumber and cork, and other dry bulks		Other dry bulks
Semi-bulks	Unitised forest products	Other general cargo	Forestry products
	Other semi-bulk traffic (for example, iron and steel, and palletised cargo)		Iron and steel products
Conventional traffic			General cargo and containers < 20 ft
Non-oil traffic with UK offshore installations			

3) Number of units

Cargo categories in use until 1999		***Cargo categories in use from 2000***	
Containers on Lift-on/Lift-off or conventional services	20 ft	Containers	20 ft freight units
	30/40 ft	Containers	40 ft freight units Freight units > 20 ft & < 40 ft Freight units > 40 ft
Containers on Roll-on/Roll-off services	20 - 40 ft	Roll-on/ Roll-off (non self-propelled)	Rail wagons, shipborne port to port trailers, and shipborne barges engaged in goods transport (including containers loaded using special port trailers/shipborne port to port trailers). *Note – number of roll-on/roll-off units is counted, as opposed to the number of containers carried (change from 2000)*
Powered road goods vehicles		Roll-on/ Roll-off (self-prop)	Road goods vehicles with or without accompanying trailers
Unaccompanied road goods trailers		Roll-on/ Roll-off (non self-propelled)	Unaccompanied road goods trailers & semi-trailers
Rail wagons and barges carried on ships		Roll-on/ Roll-off (non self-propelled)	Rail wagons, shipborne port to port trailers, and shipborne barges engaged in goods transport
Vehicles for import and export on Roll-on/Roll-off services		Roll-on/ Roll-off (self-prop)	Import/Export motor vehicles
Accompanied passenger cars		Roll-on/ Roll-off (self-prop)	Passenger cars, motorcycles and accompanying trailers/caravans
Accompanied passenger buses and coaches		Roll-on/ Roll-off (self-prop)	Passenger buses

Section 6: List of port authorities and undertakings supplying port traffic returns for 2009

Port group	Port (* major port)	Authority/undertaking
Thames and Kent	Brightlingsea	Sita UK (Metal Recycling)
	Wallasea	Baltic Distribution
	London *	Port of London Authority
	Medway * (inc. Thamesport)	Medway Ports Ltd
	Whitstable	Canterbury City Council
	Ramsgate *	Thanet District Council
	Dover *	Dover Harbour Board
	Folkestone	Port no longer in freight operation
	Other ports	Port of Rye
Sussex and Hampshire	Newhaven *	Newhaven Port and Properties Ltd
	Shoreham *	Shoreham Port Authority
	Littlehampton	Littlehampton Harbour Board
	Portsmouth *	Portsmouth Commercial Port
	Southampton *	Associated British Ports
	Southampton *	Southampton Container Terminals Ltd.
	Cowes IOW	Cowes Harbour Commissioners
	Other ports	Newport Harbour (Isle of Wight)
	Other Ports	Port of Rye
West Country	Poole *	Poole Harbour Commissioners
	Teignmouth	Associated British Ports
	Plymouth *	Associated British Ports
	Plymouth *	Cattewater Harbour Commissioners
	Fowey *	Fowey Harbour Commissioners
	Par	Port no longer in freight operation
	Falmouth	A & P Falmouth Ltd
	Falmouth	Falmouth Oil Services (1994) Ltd
	Other ports	Weymouth and Portland Borough Council
	Other ports	Portland Port Ltd.
	Other ports	Torbay Borough Authority
	Other ports	Carrick District Council – Truro
	Other ports	Penzance Harbour Authority
	Other ports	Newlyn Pier and Harbour Commissioners
	Other ports	Padstow Harbour Commissioners
	Other ports	West of England Quarry, Porthoustock
	Other ports	Hanson Aggregates Marine (Bidna & Appledore)
	Other ports	Hughtown (St Mary's) Isle of Scilly
Bristol Channel	Bridgwater	Sedgemoor District Council
	Bristol *	Bristol Port Company
	Gloucester and Sharpness	British Waterways
	Newport *	Newport Harbour Commissioners
	Newport *	Associated British Ports
	Cardiff *	Associated British Ports
	Barry	Associated British Ports
	Port Talbot *	Associated British Ports
	Neath	Neath Harbour Commissioners
	Swansea *	Associated British Ports
	Other ports	Torridge District Council – Bideford

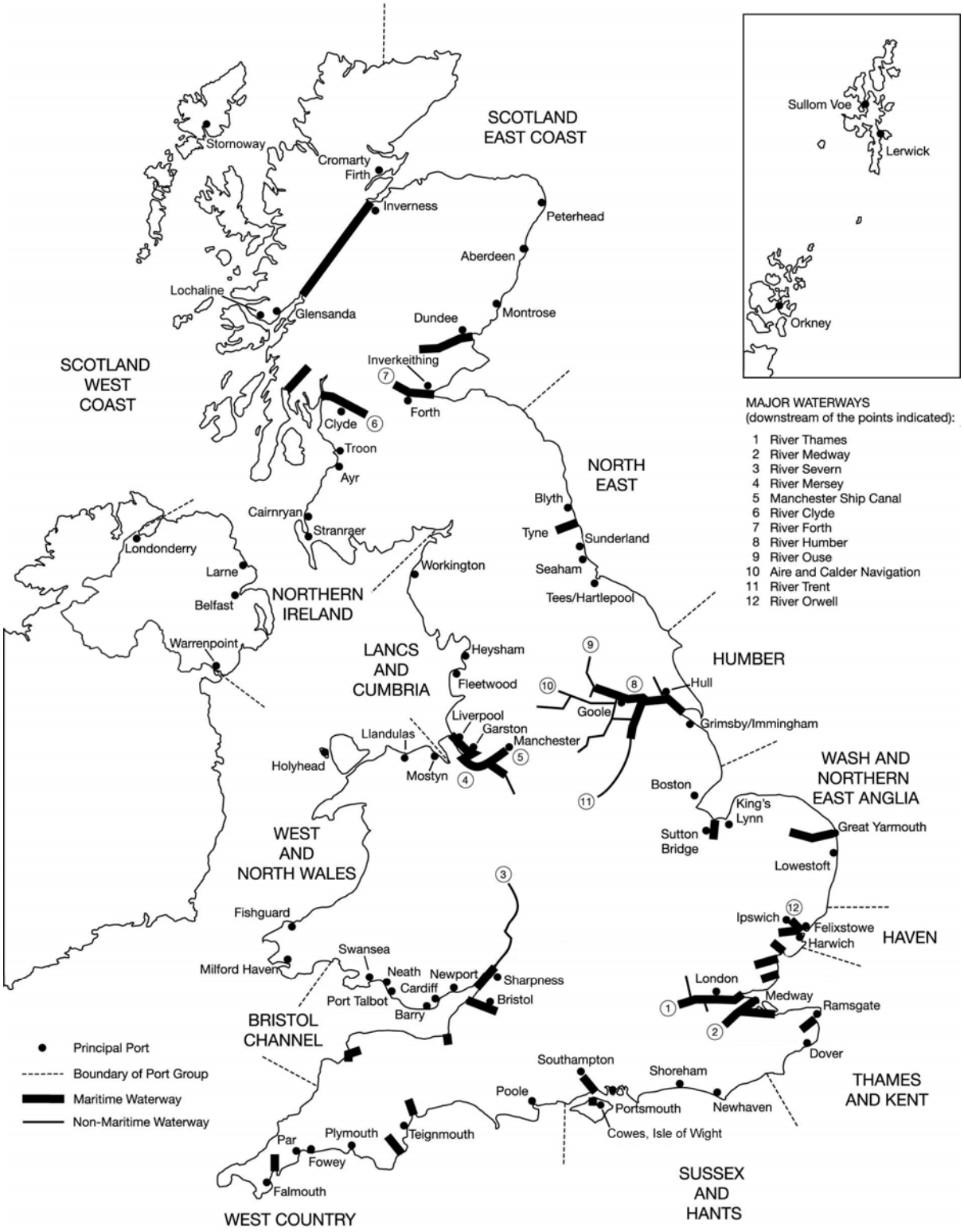
Port group	Port (* major port)	Authority/undertaking
West and North Wales	Milford Haven *	Milford Haven Port Authority
	Fishguard *	Stena Line Ltd
	Holyhead *	Stena Line Ports Ltd
	Mostyn	Port of Mostyn
	Other ports	Cemex Operations UK – Llanddulas
	Other ports	Dickies International (Port Penrhyn)
Lancs and Cumbria	Liverpool *	Mersey Docks & Harbour Company
	Liverpool *	Mersey Wharf – Bromborough
	Garston	Associated British Ports
	Manchester *	Manchester Ship Canal Company
	Fleetwood *	Associated British Ports
	Lancaster	Lancaster Port Commissioners
	Heysham *	Heysham Port Ltd
	Barrow	Associated British Ports
	Workington	Cumbria County Council
	Silloth	Associated British Ports
Scotland: West Coast	Stranraer *	Stena Line Ltd
	Cairnryan *	P&O European Ferries Ltd
	Ayr	Associated British Ports
	Clyde *	Clydeport Operations Ltd
	Glensanda *	Foster Yeoman Ltd
	Other ports	Associated British Ports – Troon
	Other ports	British Waterways – Ardrishaig & Corpach
	Other ports	Highland Council (Kyle of Lochalsh)
	Other ports	Stornoway Pier & Harbour Commission
Scotland: East Coast	Orkney *	Orkney Islands Council
	Lerwick	Lerwick Port Authority
	Sullom Voe *	Shetland Islands Council
	Scalloway	Shetland Islands Council
	Cromarty Firth *	Cromarty Firth Port Authority
	Inverness	Inverness Harbour Trust
	Peterhead *	Peterhead Port Authority
	Aberdeen *	Aberdeen Harbour Board
	Montrose	Montrose Port Authority
	Dundee *	Port of Dundee Ltd
	Perth	Perth & Kinross Council
	Forth *	Forth Ports plc
	Other ports	Wick Harbour Trust
	Other ports	Scrabster Harbour Trust
	Other ports	The Moray District Council – Buckie
	Other ports	Aberdeenshire Council – Macduff
	Other ports	Forth Bridge Stevedoring (Inverkeithing)
	Other ports	Fraserburgh Harbour Commissioners
	Other ports	Pentland Ferries Ltd (Gills Bay)
North East	Berwick	Berwick Harbour Commission
	Blyth	Port of Blyth
	Tyne *	Port of Tyne Authority
	Sunderland *	Port of Sunderland Authority
	Seaham	Seaham Harbour Dock Company
	Tees and Hartlepool *	PD Teesport
	Whitby and Scarborough	Scarborough Borough Council – Whitby

Port group	Port (* major port)	Authority/undertaking
Humber	Hull *	Associated British Ports
	Rivers Hull and Humber *	New Holland Dock (Wharfingers) Ltd
	Rivers Hull and Humber *	New Holland Bulk Services Ltd
	Rivers Hull and Humber *	Conocophillips Ltd – Tetney
	River Trent *	Flixborough Wharf Ltd
	River Trent *	Gunness Wharf Ltd
	River Trent *	Trenship Agency Ltd – Neap House Wharf
	River Trent *	J Wharton (Shipping) Ltd – Grove Wharf
	River Trent *	PD Port Services – Keadby
	Goole *	Associated British Ports
	River Ouse	PD Port Services – Howdendyke
	Grimsby and Immingham *	Associated British Ports
	Grimsby and Immingham *	Associated Petroleum Terminals (Immingham) Ltd
	Grimsby and Immingham *	Humber Sea Terminal
	Grimsby and Immingham *	Simon Cargo Ltd
	Other ports	Storefreight Services Ltd – Dutch River Wharf
Wash and Northern East Anglia	Boston *	Port of Boston Ltd
	Wisbech	Fenland District Council
	Sutton Bridge	Port Sutton Bridge Ltd
	King's Lynn	King's Lynn Conservancy Board
	Great Yarmouth *	Great Yarmouth Port Company Ltd
	Lowestoft	Associated British Ports
	Other ports	Wells Harbour Commissioners
Haven	Felixstowe *	Felixstowe Dock and Railway Company Ltd
	Felixstowe *	Maritime Cargo Processing Ltd
	Ipswich *	Associated British Ports
	Mistley Quay	Mistley Quay & Forwarding Co. Ltd
	Harwich *	Harwich International Port Ltd – Parkeston Quay
	Harwich *	Harwich Dock Co. Ltd – Navyard Wharf
Northern Ireland	Londonderry *	Londonderry Port & Harbour Commissioners
	Coleraine	Coleraine Harbour Commissioners
	Larne *	Larne Harbour Ltd
	Carrickfergus	Port not in use
	Belfast *	Belfast Harbour Commissioners
	Warrenpoint *	Warrenpoint Harbour Authority
	Other ports	Irish Salt Mining & Exploration Co. Ltd – Kilroot
	Other ports	AES Kilroot Power Ltd

Section 7: List of major ports in 2009

Aberdeen
Belfast
Ballylumford (Kilroot)
Boston
Bristol
Cairnryan
Cardiff
Clyde
Cromarty Firth
Dover
Dundee
Felixstowe
Fishguard
Fleetwood
Forth
Fowey
Glensanda
Goole
Great Yarmouth
Grimsby & Immingham
Harwich
Heysham
Holyhead
Hull
Ipswich
Larne
Liverpool
London
Londonderry
Manchester
Medway
Milford Haven
Newhaven
Newport
Orkney
Peterhead
Plymouth
Poole
Port Talbot
Portsmouth
Ramsgate
Rivers Hull & Humber
River Trent
Shoreham
Southampton
Stranraer
Sullom Voe
Sunderland
Swansea
Tees & Hartlepool
Tyne
Warrenpoint

Section 8: Ports, port groups and freight waterways



Section 9: International Classification of Ships by Type (ICST(94))

Level 4		Level 3		Level 2	Level 1	Level 0
Crude oil tanker Crude/products tanker Oil products tanker Oil/chemical tanker		Oil tanker	1	LIQUID	MERCHANT SHIP STRUCTURES	MARINE STRUCTURES
Chemical tanker		Chemical tanker	2			
LNG carrier LPG carrier Other liquefied gas carrier		Liquefied gas carrier	3			
Single hull Double hull Double-sided Double-bottomed Other tank barge		Tank barge	4			
Asphalt, bitumen carrier Molasses tanker Vegetable oil tanker Other tanker nei		Other tanker	5			
Ore/bulk/Oil Ore/Oil Bulk/Oil		Bulk/oil carrier	6	DRY BULK		
Ore carrier Bulk/container carrier Other bulk carrier		Bulk carrier	7			
Container (FC)		Container (FC)	9	OTHER DRY CARGO		
Barge carrier Chemical carrier Irradiated fuel carrier Livestock carrier Vehicle carrier Other specialised carrier		Specialised carrier	8			
Reefer	12	General cargo				
Ro-Ro passenger	10					
Ro-Ro container Other Ro-Ro cargo	11					
Gen cargo/passenger	13					
Gen cargo/single deck	14					
Gen.cargo/container Gen cargo/other multi deck	15					
Deck barge Hopper barge Lash/seabee barge Open dry cargo barge Covered dry cargo barge Other dry cargo barge		Dry cargo barge	16			
Cruise	17	Passenger		MISCELLANEOUS TYPES		
Other passenger	18					
Fish processing Fish catching		Fish processing and catching	19			
Off-shore drilling Off-shore support		Offshore production and support	20			
Tug Push-boat		Tow-boat (tug in MS)	21			
Research/Survey	22	Other types				
Dredger	23					
Other nei	24					
NAVAL (MILITARY CRAFT)						
NON-SHIP STRUCTURES						

Note: Shaded cells indicate the main groupings used in this report

Section 10: Ship arrivals statistics

Introduction

The PORT06 series of tables present statistics on the number of arrivals of commercial cargo and passenger ships at UK ports. These statistics are based largely on different sources of data to the statistics on cargo handled obtained through the MSD system described above. The data are considered a reasonably accurate estimate of the number of commercial shipping movements at UK ports, but are not necessarily exact, and the coverage of certain vessel or traffic types may be variable at the margins. The data are not classified as National Statistics. The methods for compiling the statistics were substantially revised for 2010 data (and 2009 was also re-cast on the new basis, so that 2009 estimates are available on both bases for comparison). These changes improved the coverage of the data, and therefore also resulted in some discontinuities in the series. The methods and changes are described in more detail below.

Method until 2009

The scope of these estimates was cargo carrying trading vessels – as shown in the table below accompanying the discussion of the new method.

The primary source used was commercially obtained vessel movement data from Lloyds List Intelligence (LLI). LLI maintain a global vessel movement database, based on a variety of sources, principally daily reports from an established network of Lloyd's Agents and sub-agents, and increasingly also vessel tracking data from transponders which most vessels are now required to carry under maritime safety rules. LLI aim to cover "the deployment of all self-propelled sea going merchant vessels over 99gt engaged in international seaborne trade". The data obtained by DfT certainly includes domestic movements between UK ports, but it may be reasonable to suppose that data coverage could be less comprehensive in this category, particularly for small vessels, and/or those on very local or inshore routes.

The LLI data do not cover individual movements on frequent services (those with more than one call per day at the same port – mainly ferry services), so information on the number of these movements was compiled for DfT by a separate contractor and added to the total.

Method from 2009 - summary

In March 2012 new tables were released for 2009 and 2010 using a similar, but revised, method. The purposes of the change were to:

1. replace a source information on 'frequent services' no longer available
2. make better use of information already held
3. expand the scope of the table to cover other types of vessel, and to make coverage more consistent with that of DfT's port freight and sea passenger statistics

Results are available for 2009 using both old and new methods, allowing a comparison to be made (see PORTS0601 and PORTS0602). In summary:

- The new method adds about 5,000 vessel movements not identified by the old method (a 4% increase in the total)

- The new method additionally includes over 13,000 movements by vessel types not previously included in the table (shown separately in PORTS0601)
- Over 1,000 arrivals of general cargo ships with container capacity, many of which are probably running container services, shifted from the 'fully cellular container' to the 'other general cargo' category.

A new table, PORT0603, has been added which shows the total deadweight tonnage of all vessels calling by port and type. This calculation excludes vessels whose deadweight is not available (the numbers of these can be seen in PORT0601).

LLI data continues to be an important basis of the method. However, it is now merged with other information on ship movements obtained by DfT through the MSD system (all cargo or passenger carrying movements at major ports) and its sea passenger survey (movements on regular seagoing ferry services). The three data sources are merged at the level of individual vessels calling at each port. The maximum number of calls from any of the three sources is taken as the final estimate. In the small proportion of cases where it is not possible to match vessels to other sources, these movements are also included in the total for the relevant port.

Method from 2009 – detailed discussion

Tests using 2009 data showed that the new method gave very good agreement with the frequent service information previously used. In addition the new method captured some additional vessel movements at major ports which had not been captured by the previous method. In most cases however, there was very good agreement between the three sources used, giving re-assurance that the new method produces good quality results.

The scope of the MSD system is theoretically limited to seagoing traffic – therefore traffic entirely within inland waters is excluded. Therefore the principal examples of inland waters traffic – Isle of Wight ferry services – are also excluded from the ship arrivals tables. It is possible that a small number of inland waters movements remain in the tables, but it is thought that the numbers involved will be relatively insignificant.

The new method provides statistics for an expanded range of vessel types. The intention is to match the scope of the arrivals tables as closely as possible to the scope of the port freight and sea passenger data published by the department. The four categories of cargo vessel included under the old method are retained. Two new categories are added, for 'passenger vessels' and 'other vessels'.

Ship types used in ship arrival tables under new method (2009 on)

Ship type in PORT06 tables	**Trading status**	**Vessel types included** ***(based on IHS Global world fleet data)***
Tankers	Trading	Oil tanker, oil-chemical tanker, chemical tanker, liquid gas tanker, other tanker
Ro-ro vessels	Trading	Ro-ro passenger, ro-ro containers, ro-ro other cargo
Fully cellular container vessels	Trading	Container (fully cellular)
Other dry cargo vessels	Trading	Bulk carrier, bulk-oil carrier, refrigerated cargo, specialised carrier, general cargo, general cargo-passenger
Passenger*	Trading	Passenger, cruise
Other vessels*	Non-trading	Offshore supply, dredging, bunkering tanker
Not included	Non-trading	Fish catching, other fishing, offshore (except supply), towing/pushing craft, research, other work vessels, non-seagoing ships, non-merchant ships, non-propelled vessels, non-ship structures, vessels of unknown or unrecorded type

* Not included in tables under old method up to 2009.

‘Other vessels’ only includes those vessel types which *may* be carrying cargo which falls within the scope of the MSD system – e.g. offshore industry supply vessels (including dual purpose vessels such as anchor handling tug/supply vessels), or dredgers. Work boats which are unlikely to be carrying cargoes falling with the scope of the MSD system are still excluded from the table – e.g. tugs, offshore vessels other than supply ships, such as drilling vessels, pilot vessels, research ships, fishing boats, military vessels. It is not possible to match the scope of the MSD system exactly using the vessel type classifications available, and the treatment of some vessels is ambiguous (e.g. dredgers may be considered outside the scope of maritime statistics as being ‘work boats’ – however if they land cargo in a port they are within scope of MSD freight statistics. Tugs are also excluded, but the cargo in any barges they are towing is again within the scope of MSD freight statistics).

The new versions of tables PORT0601 and 0602 include arrivals by vessels whose deadweight tonnage is not available. Previously these were excluded. The numbers are fairly small.

A further difference in the new method is that in nearly all cases vessel type is based on IHS Global world fleet data. Under the old method vessel type information came largely from LLI, except for those vessels on frequent services which did not appear in the LLI data set. This change was made because data were being merged from more data sets. In general LLI and IHS Global sources agree on vessel type, but there are some cases where they differ – since some vessels can be employed in a variety of roles. Generally this does not make a significant difference to the overall results, but one relatively major change is for smaller container ships. The old method classified LLI’s ‘General cargo with container capacity’ category as container vessels. In general the vessels in question were employed on container services. However, they were not ‘fully cellular’ – that their container cell guides were not fixed, allowing the vessels to be configured for other cargoes. Therefore these vessels appear under the ‘other general cargo’ category in the new tables. Consideration was given to whether vessels identified by IHS Global as having container capacity should be included under the ‘container’ category, but this would have lead to much larger discontinuities in the opposite direction, with the probability that many vessels operating as general cargo ships would be misclassified as container ships.

Between 2009 and 2010 LLI increased the coverage of their data. The impact of this on the DfT tables results is probably significantly reduced, because many of the additional movements recorded by LLI would already have been captured in one of the other sources used in the DfT statistics.

Strengths and weaknesses of the data

The data are thought to give a very good general indication of the overall level of significant seagoing commercial ship movements in the UK, but they are not necessarily completely precise.

The main limitations on the quality of the data are the accuracy with which major ports report traffic under the MSD system, and the completeness of the LLI data.

Merging three data sources and taking the maximum result could in theory overstate the results, if the matching of vessels is imperfect. However, checks suggest that the scope for this is in practice limited. The results could also be affected by the level of disaggregation of the ports used at the data matching stage.