

Boundary Dataset Guidance

The following guidance notes are supplied to assist customers in making informed decisions about the various types of boundary datasets available and their suitability for use.

Year

Boundaries that are built from Ordnance Survey Boundary-Line are created annually (end December) to ensure that the boundaries are topologically correct within each year. This applies even when the geography has not been subject to change. The date the boundaries are operative from will be covered within the metadata.

In addition to the annual releases some boundaries (not administrative) will be created whenever there are changes to the geography (e.g. Westminster parliamentary constituencies).

Boundary datasets which are subject to periodic change (e.g. national parks) will only be created at the time of change.

Boundary datasets which are frozen at a point in time (e.g. travel to work areas) will only be created at that point.

NB For the creation of the 2011 Census boundaries a policy decision was made to update local authority district changes to the original 2001 Census boundaries rather than align to 2011 Boundary-Line. This was to ensure where an OA/LSOA/MSOA hasn't been maintained it will be topologically the same as in 2001 and therefore better for time series analysis and stability, a frozen geography where possible and as originally planned.

Prior to 2001, boundary dataset availability is limited.

Resolution

The majority of boundary sets are available as **Full** or **Intermediate/Generalised (20m)**.

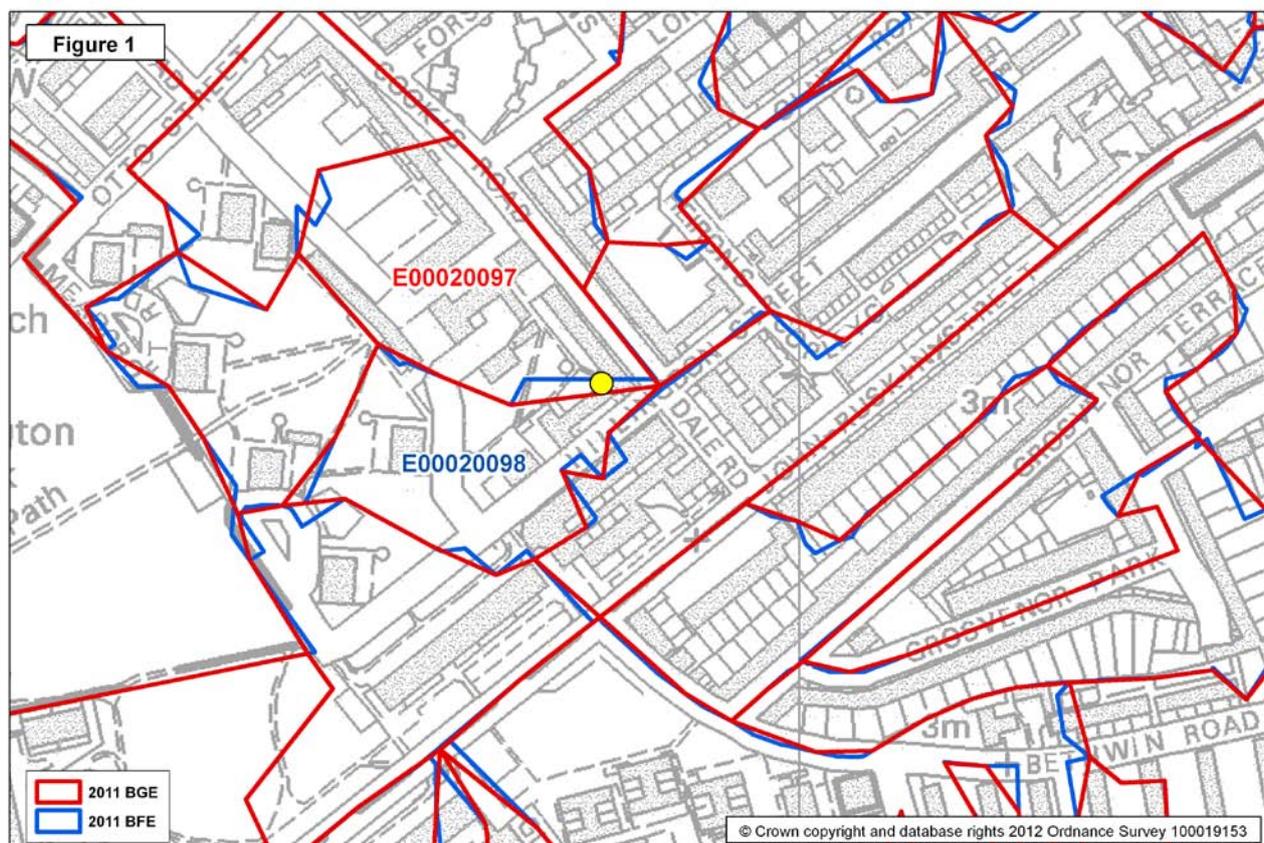
Full: As originally supplied to ONS, the highest resolution data available (usually meaning **large** file sizes). Use 'Full' datasets for advanced GIS analysis (such as point-in-polygon allocation). Full datasets should not be used for general mapping purposes if an intermediate or simple version is available.

Intermediate/Generalised (20m): Intermediate datasets are designed for high quality mapping, preserving much of the original detail from the full dataset, but typically 10% of the file size. They are great when used in conjunction with the OS raster products and for producing detailed regional and local maps, or large wall maps. They are also suitable for non-demanding GIS analyses (such as buffering). Intermediate datasets are a good **compromise** between detail and small file size.

What boundary dataset should I use?

Full resolution boundary sets are the most detailed representation of actual boundaries. They produce the most accurate allocations of point data to a required geography. Generalised boundary sets have been simplified. With less detail they are prepared for use in data visualisation and the publication of maps where the need for detail is not usually as great.

The potential to misallocate point data can be illustrated by Figure 1. It shows full (Blue line) and generalised (Red line) resolution output area boundaries for an area of Newington ward in Southwark together with a single item of point data (yellow dot). The use of full resolution boundary sets which gives the truest representation of the actual boundary would attribute the data items to output area E00020098. Use of generalised boundary sets which gives a more simplified representation of the actual boundary would incorrectly attribute the data items to the neighbouring output area, E00020097.



Geographic Extent

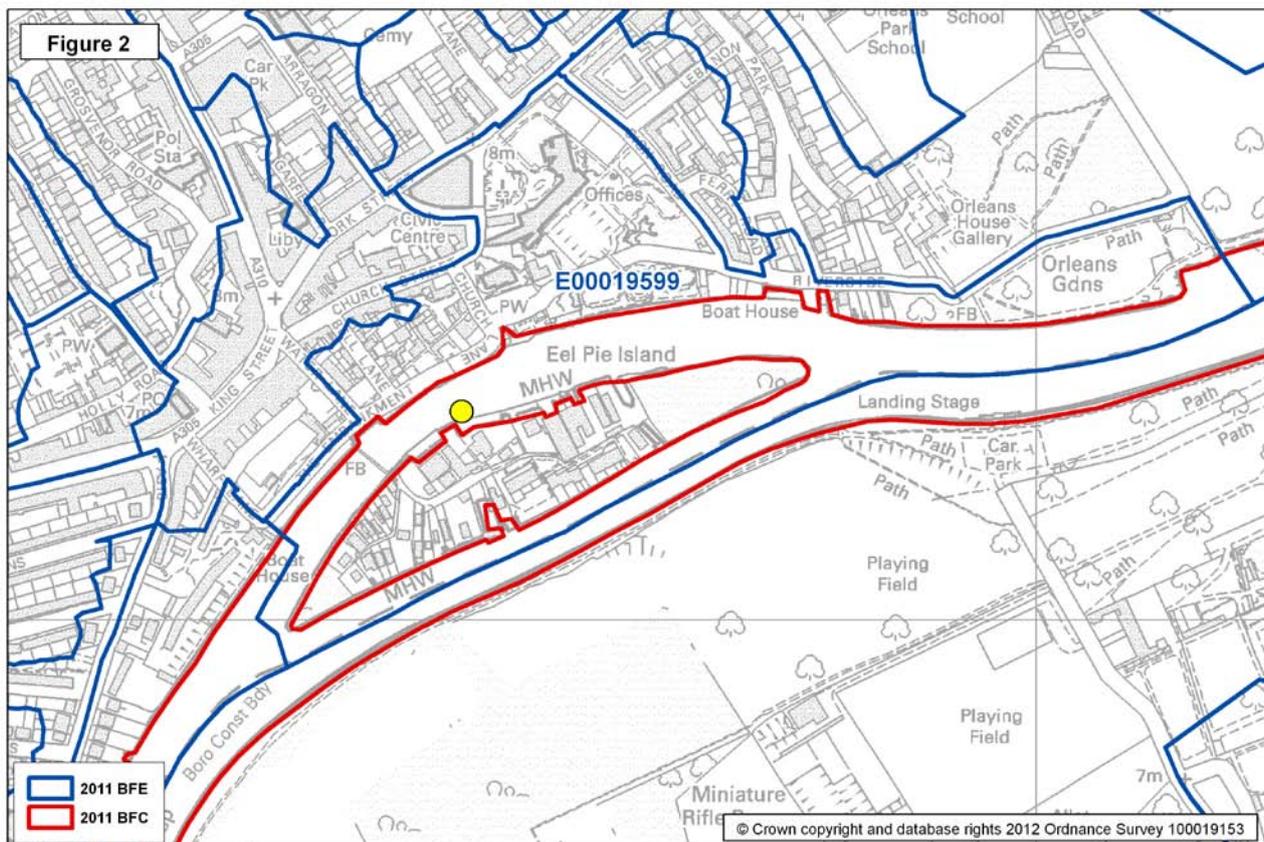
As well as variations in the detail of the lines comprising the boundary sets there can also be variation in the coverage of the boundaries. Boundary sets can be prepared to “**extent of the realm**” and “**clipped to the coastline**”.

Extent of the realm boundary sets typically extend to Mean Low Water, although they can extend to islands off the coast e.g. Avonmouth ward in the City of Bristol extends to the islands of Flat Holm and Steep Holm in the Bristol Channel.

Clipped to the coastline boundary sets, derived from the extent of realm boundaries, show boundaries to Mean High Water. Usually prepared for visualisation of data such boundaries more closely represent map users expectations of how a coastal boundary should look. Whereas extent of the realm boundaries adjacent to an inlet or estuary may join at a point midway across the water, clipped to coastline boundaries permit the more precise identification of the waterside.

These differences are illustrated by Figure 2 for the divide of water within Richmond upon Thames.

Extent of the realm boundaries, shown by the blue lines meet in the divide of water. Clipped to the coastline boundaries, shown by the red lines, have been cut back to Mean High Water.



As for full and generalised boundary sets where use of an inappropriate boundary set can lead to the misallocation of a data item, inappropriate allocations can occur when clipped to coastline boundaries are used in place of extent of the realm boundaries. The potential to misallocate in this way can also be illustrated by Figure 2. The diagram shows extent of the realm (blue lines) and clipped to the coastline (red lines) boundaries for adjacent output areas within Richmond upon Thames together with a single item of point data (yellow dot). The use of the extent of the realm boundary set would attribute the data to output area E00019599. Use of the clipped to coastline boundary set would fail to attribute the point to any output area.

Misallocation and non-allocation of point data can therefore occur when generalised boundaries are used in place of full resolution boundaries and; clipped to coastline boundaries are used in place of extent of the realm boundaries

ONS Geography recommends using a combination of full resolution and extent of the realm for detailed GIS analysis, and generalised resolution, clipped to the coastline for mapping purposes.

Geography (Coverage Available)

The majority of our boundaries are available for England and Wales. Please refer to order form.

Format

Predominantly Esri shapefiles (other formats may be available on request ie MID/MIF and KML)

For Esri shapefiles, 6 standard files are supplied as follows;

- .shp the file that stores the feature geometry.
- .shx the file that stores the index of the feature geometry.
- .dbf the dBASE file that stores the attribute information of features.
- .prj the file that stores the projection of the feature geometry.
- .sbx a spatial index file
- .sbn a spatial index file