

Annex 3: Natural England data standards

This Annex provides high level guidance for contractors regarding Metadata and Geographic Information System (GIS) deliverables. Final details of requirements for this contract, with reference to Section 2 of the Request for Quotation, will be agreed with the Project Officer.

Natural England reserve the right to check the quality of all digital data and reserve the right to return any data that does not meet these compliance requirements. If any part of this guidance is unclear, please make early contact with the Natural England Project Officer who will be able to provide clarification in consultation with data management colleagues.

A metadata record should be completed for the project outputs as a whole and for each GIS layer generated. This is so that so we can easily understand the lineage (what information products have been used in the output) and ensure the correct licensing and copyright attributions are applied.

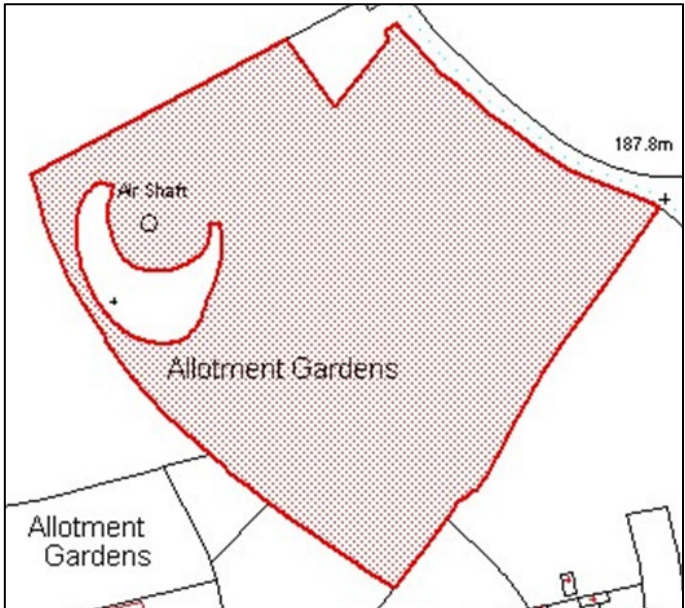
Metadata derived as part of this project must be submitted to Natural England in an XML file which Natural England will archive through Data Archive Centres (DACs). Natural England can supply a basic metadata template for this on request. If you use your own template you should ensure it is compliant with [National Biodiversity Network Trust community standards](#).


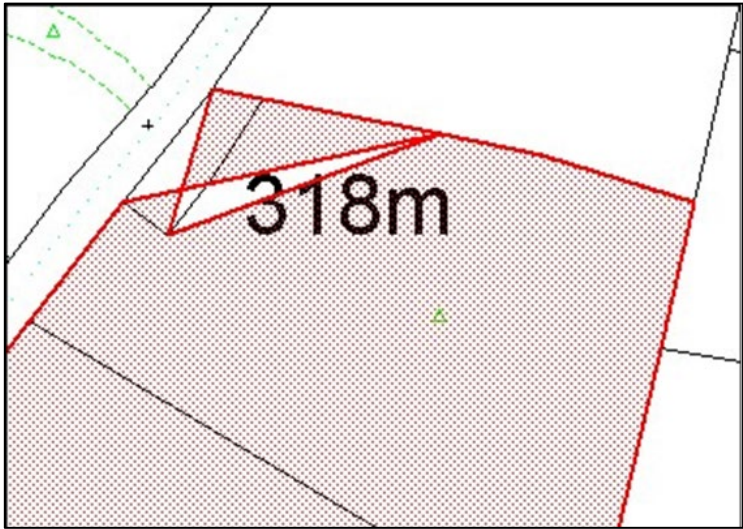
It is essential that the final GI datasets are accompanied by a detailed 'readme.doc' describing the file structure within submitted outputs, and clearly outlining file associations (e.g. layer files for colours/ fill patterns).

Spatial data must be in a format compatible with ArcGIS Online and must have been through the [Esri Check Geometry](#) tool. The below table provides more detail about data standards for spatial data. Documents that give more detailed information on the creation of the dataset or how to use the data should be in Word format.

All data, or media of any nature, containing information and data or other material belonging to Natural England or relating to the Services shall be delivered promptly. Spatial data and accompanying documents, along with Word documents that give more detailed information on the creation of the dataset or how to use the data, should be sent to data.services@naturalengland.org.uk.

File format	ESRI shapefile (as a .zip file containing at least the .shp, .shx, .dbf, and .prj files) or .csv, .txt, .gpx, or GeoJSON files that can be converted to a shapefile in ArcGIS Online (see What can you add to ArcGIS Online?—ArcGIS Online Help Documentation for more information) If MapInfo software is used then data must be converted to ESRI using either: the file conversion tools within that software; FME software; or download freely available conversion software such as QGIS
Geographic projection/ spatial reference	If data is on or near land then use British National Grid co-ordinate systems. If data is marine-based then use WGS84.

Units	<p>Coordinate units: metres</p> <p>Distance units: metres</p> <p>Area units: hectares</p>
Digitising	Using Ordnance Survey MasterMap (as supplied)
Boundaries	<p>Where a boundary follows an OS MasterMap feature the OS MasterMap feature should be copied so that the digitised boundary and OS MasterMap feature share the same geometry.</p> <p>Where a boundary follows part of an OS MasterMap feature the digital boundary should be snapped along the OS MasterMap feature so that the digitised boundary and MasterMap feature both share the same geometry where appropriate.</p> <p>Where a boundary does not follow an OS MasterMap feature the digitised boundary should be captured with sufficient nodes that the digitised feature takes on the shape of the feature on the source material at a scale of 1:2500.</p> <p>Where a boundary is shared between two (or more) polygons the boundaries should all share the same geometry. Thus, there should be no slithers or gaps between polygons with contiguous boundaries.</p> <p>Where a boundary follows a feature on an aerial photograph, scanned and geo-rectified map (may be field or historical) or other raster image that is not shown on the OS MasterMap Data, the digitised boundary should be captured with sufficient nodes that the digitised feature takes on the shape of the feature on the raster material at a scale of 1:2500.</p> <p>Holes in polygons should be appropriately "punched". Where there is a hole in a polygon this should be digitised as a hole as shown below:</p> 

<p>Errors</p>	<p>Features should not be "stream" digitised. Stream digitising is the process of manual digitising, of lines or regions, where nodes are automatically placed at pre-set intervals based upon distance or time.</p> <p>Polygons should not contain inappropriate "spikes". In the figure below the digitised field has an inappropriate spike:</p>  <p>Polygons must not contain "bowties". Polygons must not intersect or cross themselves. In the figure below the digitised field has a bowtie caused by a polygon crossing itself:</p> 
<p>Point data</p>	<p>Point data must be accurate to 10 metres.</p> <p>Point data should be collected in the field using GPS wherever possible.</p> <p>Grid references collected in the field should be to at least 8 figures, e.g. SE832413.</p>