# Recommended steps for using layers

A number of recommended steps are provided below to guide users in the extraction of data from the layers.

1. Users should download the data to a desktop GIS application. The data will be delivered in two formats: an ESRI ArcGIS layer package (which has pre-formatted symbology incorporated) and a standard shapefile (with no symbology information provided). The data consist of a single layer containing 43,770 polygons (each 1 km2) covering UK and Norwegian pipelines. The geographic co-ordinate system of the layer is WGS84. The attribute table of the layer contains a pipeline identifier field called ‘PL\_No’, a pipeline operator field called ‘Operator’ (representing the operator in May 2016) and 40 fields relating to the number of fishing tracks in each polygon according to year and gear type. The ‘AllGear’ field shows the total number of fishing tracks per polygon over the nine-year period. The ‘AllDredge’, ‘AllNep’ and ‘AllDem’ fields show the total number of fishing tracks over the nine-year period for vessels operating dredges, *Nephrops* trawls and demersal trawls respectively. The number of tracks for each year is given in the remaining fields for each gear category with field names showing ‘AllGear’, ‘Dredge’, ‘Nep’ or ‘Dem’ to represent gear type (all gear types, dredging, *Nephrops* trawling and demersal trawling respectively) and a two-digit year code representing the years between 2007 and 2015.
2. After adding the layer to a map, users should select their area of interest either by zooming to the area or building an SQL expression with known DTI pipeline identification codes contained in the ‘PL\_No’ field.
3. If the ESRI ArcGIS layer package is used, the polygons associated with each 1 km pipeline section will be colour coded to show the total number of tracks for all years and all gear types. Polygons shown in yellow have the fewest number of tracks associated with them, while red polygons have a higher number of tracks. The symbology will need to be set manually by the user if the shapefile data format is used. Initial inspection of the data should be done using the ‘AllGears’ field to identify pipelines sections that are associated with commercial fishing activity. The symbology of the layer can then be manipulated using the remaining fishing fields to identify the type of fishing in the area and any temporal variability in fisheries interactions with the pipeline.
4. The number of fishing tracks associated with pipeline sections of interest can be compared to the fishing patterns for other pipelines in the region (e.g. northern North Sea) to provide context to the data and determine whether the interactions at the pipeline sections of interest may be considered as high or low relative to regional patterns. This can form the basis of permit/licence applications.
5. It is important to note that the number of fishing tracks that may be considered ‘high’ or as representing a ‘significant interaction’ will depend on numerous factors including pipeline type, gear type and substratum type. The fishing intensity data should therefore be considered in consultation with technical pipeline experts to understand risks to decommissioned pipeline integrity and rock placement stability from fishing.