

# Beaver Considerations Assessment Toolkit (BCAT) for England – Guidance



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## Executive Summary

Beavers are known as a keystone species, and ecosystem engineers, due to their ability to modify freshwater habitats. The presence of beavers can bring clear benefits to the surrounding environment by enhancing biodiversity, improving water quality, alleviating flooding, and helping to reduce droughts. However, beaver activity can also have negative effects, such as flooding productive land and the felling of trees, which, without suitable mitigation, may directly affect property and land.

As of 2025, there are wild beaver populations present across 15 catchments in England as a result of escapes from enclosures and illegal releases. As of 28<sup>th</sup> February 2025, the release of beavers into the wild is legally permitted under licence from Natural England (NE). With the release of beavers into the wild and expansion of existing wild populations it is critical to understand the potential impact of their activity. Whether that be benefits or challenges of beaver activity on biodiversity, infrastructure, flood risk management assets, waterbodies, productive land, and protected sites at various locations.

The Beaver Considerations Assessment Toolkit (BCAT) has been developed to assist the user with understanding the possible considerations that may be affected by beaver activity, both when reintroduced or when they naturally disperse. The BCAT also provides information on the modelled capacity for dam construction and the distribution of modelled beaver foraging habitat in river reaches across England to help identify areas where beavers are likely to settle and potentially result in positive and negative impacts from their presence. It should be noted that these Beaver Dam Capacity and Beaver Foraging Index data layers are models of potential dam-building likelihood and potential suitable foraging habitat rather than definitive representations.

**Importantly, the BCAT serves as a guide and should complement expert opinion, local knowledge, and scientific literature.** Additional information may be sought from local record centres, local or subject-matter expertise, and/or site visits.

Within the BCAT, no weighting is given to the considerations, be that positively or negatively affected by beavers. It is instead left to the user to seek expert advice to determine whether the identified consideration is positive, negative, or neutral. The list of considerations attributed to beavers has been compiled from the [NE evidence review](#) of the interactions between beavers and the natural and human environment. These considerations have been reviewed by experts and specialists from NE and the Environment Agency (EA). For each consideration identified, relevant data layers from various data sources have been compiled to produce the BCAT. Individuals can use the BCAT to assess the potential effects of beaver reintroduction proposals or natural dispersal by creating user defined areas across England to identify any considerations that may be present at a local scale. The BCAT is available through the [Beaver Management website](#), further details on how to access and use the BCAT are provided within this guidance document.

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# 1.0 Introduction to the BCAT

## 1.1 Purpose

The Beaver Considerations Assessment Toolkit (BCAT) is designed to assist in exploring the feasibility of releasing beavers or the implications of their natural dispersal into a selected area in England by identifying factors their activities have the potential to impact. It will aid our understanding of how beaver presence and natural dispersal of existing populations could influence living alongside beavers. **It acts as a guide only and should not solely be used for area or licence assessments but instead used alongside expert opinion, local knowledge, and supplementary data.**

The BCAT is designed to operate anywhere within England to help identify the potential impacts of beaver reintroduction and dispersal at a localised scale. The BCAT highlights considerations of ecological, environmental, and socio-economic interests that may be affected by either the direct (e.g., tree felling, burrowing, dam construction, and feeding) or indirect (e.g., hydrological alterations, changes in groundwater recharge potential, and migratory fish pathways) activity of beavers. These considerations (e.g., hydrological, designated sites, and infrastructure) are available to view at a national scale within the BCAT and can be identified within localised areas to highlight potential considerations that may be affected by beaver reintroduction proposals and beaver natural dispersal. **Assessment of suitability for reintroductions and considerations around natural dispersal should be made from the user's professional expertise as well as using the identified considerations to seek evidence-based expertise to determine if a consideration is perceived as positive, negative, or neutral.** The BCAT should not be relied upon solely when submitting or assessing wild release applications.

It should be noted that the BCAT is designed to be used as a desktop application and is not suitable for use on mobile devices or tablets.

## 1.2 Audience

The BCAT is available for anyone to use. It is hosted on the [Beaver Management website](#) and was developed by Natural England (NE) and informed in its development with input from the Environment Agency. The toolkit has been developed using ArcGIS Online (AGOL) for anyone to use, but is likely most applicable to:

- Wild beaver reintroduction projects
- Catchment-based partnerships
- Beaver management groups
- Beaver advocacy groups

- Environmental NGOs (e.g., Wildlife and River Trusts)
- Landowners and farmers
- Educational organisations to help engage young people with nature
- Citizen science groups

## 2.0 Datasets within the BCAT

The BCAT utilises a selection of openly accessible datasets to showcase ecological, environmental, and socio-economic factors which could be affected, positively or negatively, by beaver activities. Within the BCAT, datasets are included as standalone data layers. More detailed information for all the data layers used within the BCAT can be found within the corresponding metadata table in Appendix 1.

Datasets within the BCAT have national coverage (England-wide) and facilitate assessment at two different scales:

1. **Catchment scale**, where England is divided into surface water catchments. The user can create any catchment as an area of interest.
2. **Localised scale**, where the user can define a point or user-drawn area of interest buffered with a user defined buffer distance.

### 2.1 Beaver Dam Capacity and Beaver Foraging Index

Produced by the University of Exeter, the Beaver Dam Capacity (BDC) and Beaver Foraging Index (BFI) modelled data layers are included within the BCAT. The layers can be used to identify the likelihood of damming along any stretch of watercourse and the prediction of potential habitat suitability for beavers in terms of foraging including broadleaved woodland and other sources of forage (e.g., shrub, arable fields, and rough grassland) which are fundamental components of beaver feeding habits, as described by Rosell and Campbell-Palmer (2022). More details can be found in Appendix 1 and the associated publication [Graham \*et al.\* \(2020\)](#). Both BDC and BFI are displayed at a national scale using the corresponding layers within the BCAT. For user-drawn areas of interest, a breakdown of the BDC and BFI (i.e., how suitable a river reach is for damming or whether foraging habitat is present) within the area of interest is available via pie chart summaries. As with all models and datasets, several assumptions and caveats exist for these layers, meaning they are not definitive representations, further details of their limitations can be found in the publication relating to these layers [Graham \*et al.\* \(2020\)](#).

### 2.2 Considerations

Any factors which have the potential to be affected by beaver activity have been labelled as considerations. No positive or negative weighting is applied to the consideration, instead it is down to the user to seek further advice in order to determine whether a consideration may be positively, negatively, or neutrally affected by beaver activity. These considerations included within the BCAT have been identified from the NE Evidence Review exploring the [Beaver Considerations Assessment Toolkit \(BCAT\) for England guidance](#)

interactions between beavers and the natural and human environment (Howe, 2020), as well as specialist workshops and testing.

Considerations presented within the BCAT are grouped in categories, these categories are designated sites, habitats and species, hydrological, infrastructure, and land-use considerations. Further details including the constituent data layers, or considerations, within each of these groupings can be found in Table 1.

**Table 1.** Considerations included within the BCAT and their thematic groupings.

Consideration Group	Constituent Data Layers
Designated Sites	<ul style="list-style-type: none"> <li>• National Nature Reserves</li> <li>• Ramsar Sites</li> <li>• Sites of Special Scientific Interest</li> <li>• Special Areas of Conservation</li> <li>• Special Protection Areas</li> <li>• Areas of Outstanding Natural Beauty</li> </ul>
Habitat & Species	<ul style="list-style-type: none"> <li>• Orchards and Deciduous Woodland</li> <li>• Ancient Woodland in England</li> <li>• Chalk Rivers in England</li> <li>• Principal Salmon Rivers of England and Wales</li> <li>• Fresh Water Pearl Mussel Presence</li> </ul>
Hydrological	<ul style="list-style-type: none"> <li>• Reduction in Risk of Flooding from Rivers and Sea due to Defences</li> <li>• Internal Drainage Districts</li> <li>• Ground Water Recharge Potential</li> <li>• Modified Water Bodies</li> <li>• Consented Discharges to Controlled Waters in England</li> <li>• Nutrient Vulnerable Zones</li> <li>• OS Open Rivers</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>• National Grid Towers</li> <li>• National Grid Over Headlines</li> <li>• National Grid Substations</li> <li>• Channels and Culverts</li> <li>• Water Control Structures</li> <li>• Spatial Flood Defences</li> <li>• Railways</li> <li>• OS Open Roads</li> <li>• Listed Buildings</li> <li>• Scheduled Monuments</li> <li>• Registered Parks and Gardens</li> <li>• World Heritage Sites</li> <li>• Public Rights of Way</li> </ul>
Land Use	<ul style="list-style-type: none"> <li>• Agricultural Land Classifications</li> <li>• Historic Landfill Sites</li> <li>• Urban Areas and Gardens</li> <li>• Mines and Quarries</li> </ul>

## 2.3 Surface Water Management Catchments

The surface water management catchments layer is a standalone layer that is provided within the BCAT. This layer indicates the geographic boundaries of surface water management catchments across England based on River Basin Management Plans and River Basin Districts. The user can obtain the considerations present within each surface water management catchment if needed, by drawing a polygon outline around the catchment boundary. This user-drawn area will also display pie charts summarising the BDC and BFI for the area. However, as catchment boundaries are arbitrary to beavers it was deemed not necessary to provide a summary of the considerations present within each catchment. Nevertheless, it is worth noting here that from the perspective of wild releases, the criteria relate to catchment boundaries. Therefore, due consideration of catchments should be a part of the thought process when using the toolkit for the purpose of wild releases.

## 2.4 Data Sharing

Details regarding the licensing for all data layers within the BCAT are available in the respective metadata tables in Appendix 1. All data layers are from openly accessible sources. NE and EA staff have access to some additional layers that are not publicly available due to data sensitivity issues, these include: salmon and sea trout migration (EA), and abstractions (EA). We strongly encourage external users to discuss these layers with NE or EA staff if the presence of salmon and sea trout or abstractions are of concern in an area of interest.

## 3.0 Limitations of the BCAT

**The BCAT serves as a guide and should complement expert opinion, local knowledge, and further information.** Additional information may be sought from local record centres, local or subject-matter expertise, and/or site visits.

Whilst the BCAT covers many considerations, it does not cover all possible considerations in a given area. Examples of considerations, datasets, and data layers not included within the BCAT are provided within the final metadata table (Appendix 1) entitled 'Data Layers not Included within the BCAT'. As a specific example, data on topography is not included, although the Elevation Profile tool goes some way in providing this. Several datasets have been suggested for inclusion within the BCAT during its testing phases, many have been included but some have been excluded to ensure optimal performance of the BCAT. Data layers with local coverage, limited relevance, and those that are not publicly available have been excluded from the BCAT. For further details of the layers suggested that have been excluded from the BCAT, as well as for signposting to these datasets, please see the metadata table in Appendix 1 entitled 'Data Layers not Included within the BCAT'.

Of the data layers included within the BCAT, each comes with its own limitations. Guidance on interpreting the individual datasets alongside their specific limitations can be found within the metadata tables of Appendix 1. The individual Beaver Foraging Index (BFI) and Beaver Dam Capacity (BDC) layers were produced in 2023 and are therefore snapshots which may not reflect the current situation. Other data layers included within the BCAT are also snapshots, where this is the case, it is highlighted in Appendix 1. Whilst most data layers are pulled directly from an API, automatically drawing in the most recent version of the data layer, some layers like the BDC, BFI, and wild beaver catchments are static. It is therefore intended that the BCAT is reviewed annually to ensure all datasets are the most up-to-date versions and the update dates are reflected within the corresponding metadata tables of this guidance document.

The BDC and BFI data layers are produced using modelling approaches and are not definitive representations of damming likelihood and habitat suitability. Their modelled outputs are only as reliable as the data inputted into these models. It should therefore be noted that these are models reflecting the potential damming likelihood and potentially suitable foraging within reaches and thus may not reflect the entire picture. Consequently, these modelled outputs should not solely be used in making applications or assessments of wild releases. Moreover, beavers are widely recognised as ecosystem engineers. Models of the ecosystem are likely to become outdated with time as beavers re-engineer landscapes and ecosystems across the country. Such models will therefore require future updates to remain as reliable as possible. More detailed limitations of these models can be found in the associated publication [Graham et al. \(2020\)](#).

No original data layers have been produced, each data layer is taken from the original data publication, therefore any errors or omissions in these published datasets are not addressed within the BCAT.

Finally, it should be noted that the tool does not account for beaver dispersal or future beaver distribution and simply highlights considerations that may be important to the user. Nevertheless, a layer indicating catchments across England containing current wild populations is available within the BCAT, although this is only updated periodically; please see the relevant metadata table in Appendix 1 for further details.

## 4.0 Guide to using the BCAT

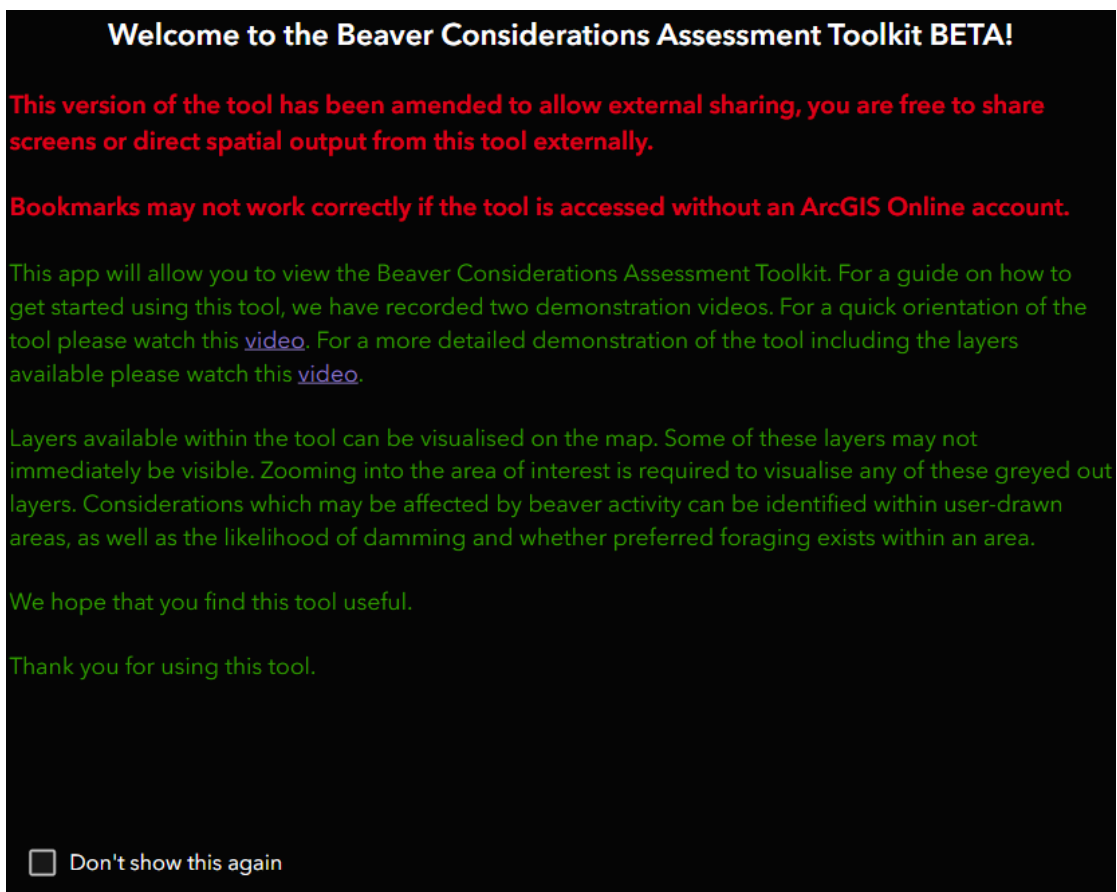
The BCAT has been developed by Natural England with input from Environment Agency colleagues. The BCAT is hosted on the [Beaver Management website](#) and can be openly accessed [here](#).

This section covers the practicalities of using the BCAT, for more detailed information on the layers included within the BCAT, please see Appendix 1.

For any questions or feedback, please contact the NE beaver mailbox: [beavers@naturalengland.org.uk](mailto:beavers@naturalengland.org.uk).

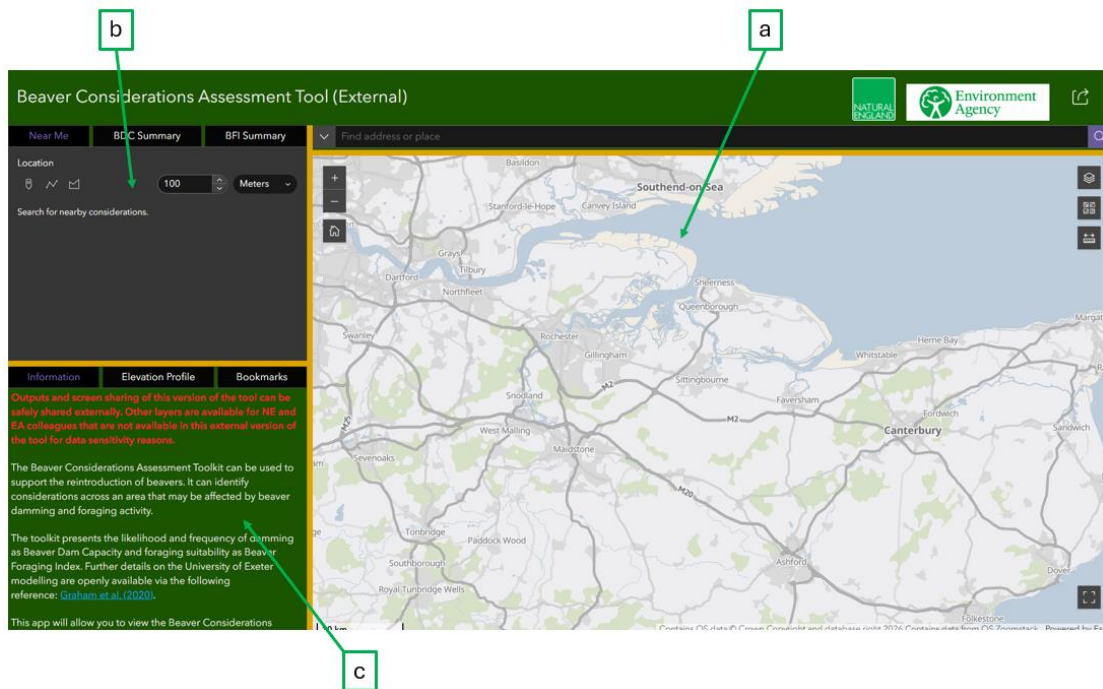
### Step-by-step instructions:

1. The BCAT can be accessed [here](#) from the [Beaver Management website](#). It has been developed by NE via ArcGIS Online Experience Builder.
2. Upon opening the app, a welcome window opens that contains some information about the BCAT and two links to two YouTube videos. One video provides a [quick orientation](#) of the BCAT and the other provides a more [detailed demonstration](#). These videos are a great way to orientate yourself around the BCAT alongside this guidance.



3. Once this window has been read, it can be closed by clicking anywhere outside of the welcome box. You will then be able to access the BCAT and get started.

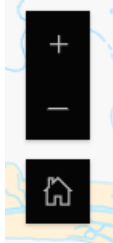
4. **General toolkit orientation:** The BCAT opens onto a map of England displayed in the main section (a). Two other sections are also visible within the BCAT (b-c):



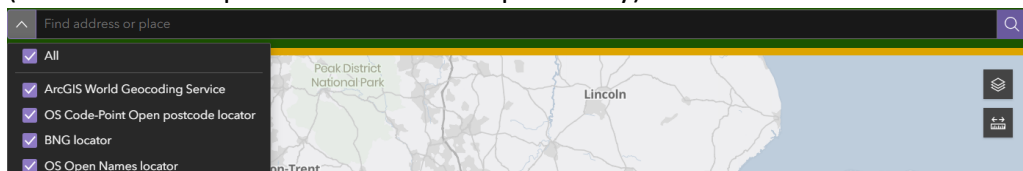
- The main section is the map, through which you can search for specific locations, make measurements, change the basemap, and explore the various data layers included within the BCAT.
- The section in the top left allows the user to draw an area of interest and explore the considerations present within this area, as well as providing a summary of the Beaver Dam Capacity (BDC) and Beaver Foraging Index (BFI) for that area.
- The section at the bottom left of the screen provides some additional information about the BCAT, as well as allowing the user to create bookmarks, and explore elevation profiles for any given location or area.

**5. Navigating the map:** On the map itself buttons are present that allow the user to navigate the map.

- a. In the top left corner (see image below), the user can zoom in and out of map and use the home button to return to the landing site of the map.



- b. Above the map, there is a bar to search to navigate to a location on the map using a postcode (select the 'OS Code-Point Open postcode locator' option only), grid reference (select the 'BNG locator' option only), or place name (select the 'OS Open Names locator' option only).



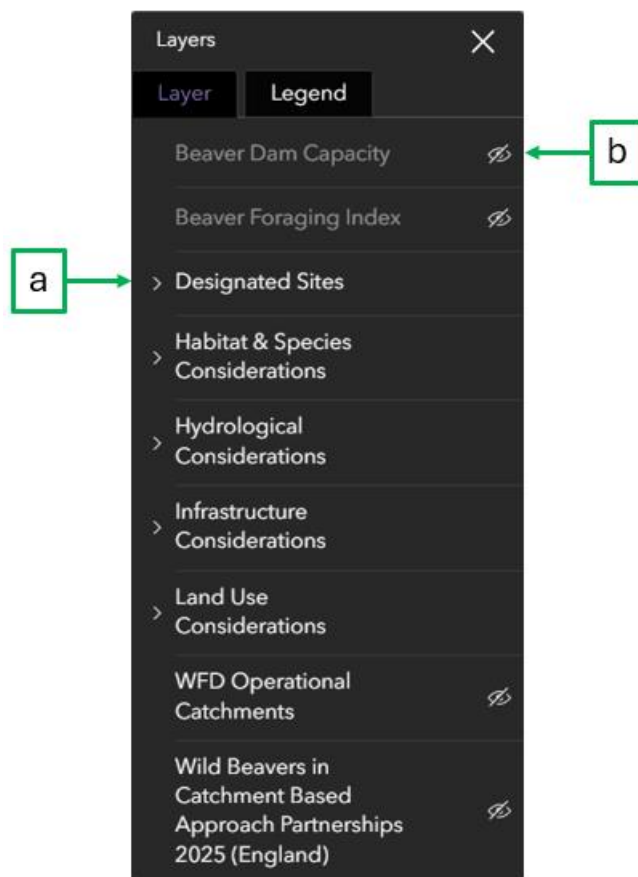
- c. In the top right corner (see image below), going from top to bottom the user can visualise the list of layers present within the BCAT, and make measurements on the map.



- d. In the bottom left corner, of the map a scale bar is present.  
e. In the bottom right corner, there is an option to make the map full screen.

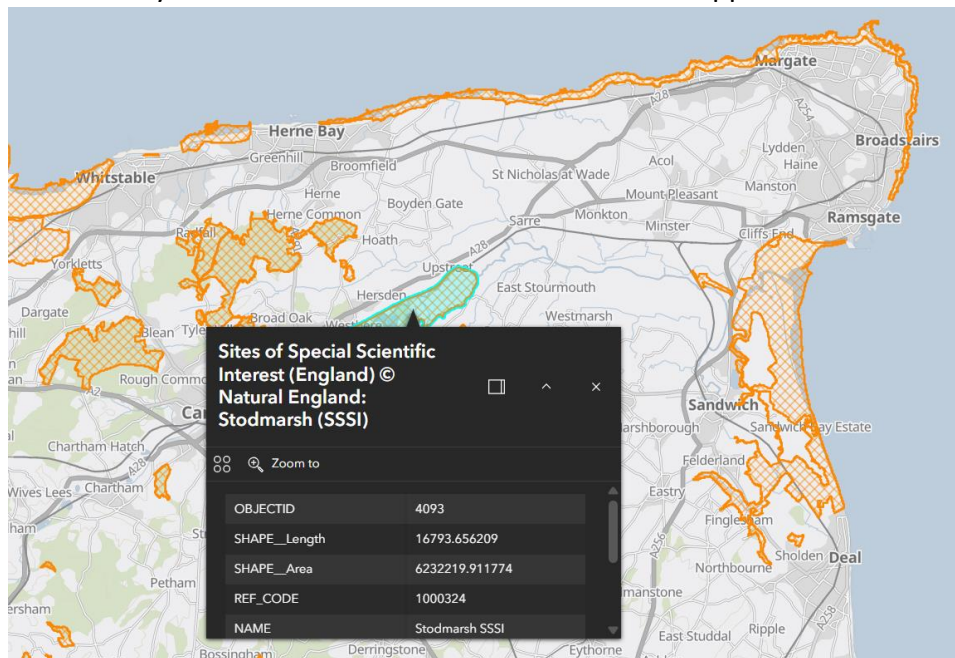
## 6. Exploring the layers:

- a. Several layers are available within the BCAT and can be visualised on the map at a national scale, these include BDC, BFI, Surface Water Operational Catchments, as well as data layers for each of the considerations that have been identified. These considerations have been grouped into the following categories: designated sites, habitats and species, hydrological, infrastructure, and land use. See Appendix 1 for metadata tables providing further information on each of the layers included within the BCAT.
- b. To access the layers within the grouped considerations, the drop-down arrow next to each group can be expanded (see image below (a)).

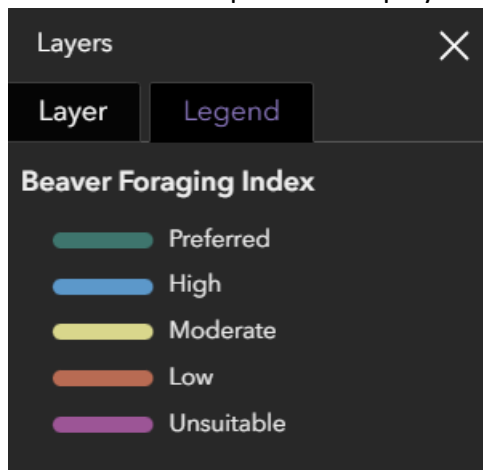


- c. Individual layers can be toggled on or off using the eye symbol (see image above (b)). By toggling a layer to visible, its features will become visible on the map.
- d. *Note:* to visualise the layers grouped within the consideration categories the overarching consideration category must be toggled to visible, as well as the individual layer of interest.
- e. Greyed out layers, will not be visible on the map until zooming into the map. The layer will appear no longer greyed out and can be toggled on and off as above.

- f. Features on the map, after making layers visible, can be selected. Selecting features brings up a pop-up window providing more detail on each feature (see image below). Further details for each layer including what it can and cannot tell you is available in the metadata tables of Appendix 1.

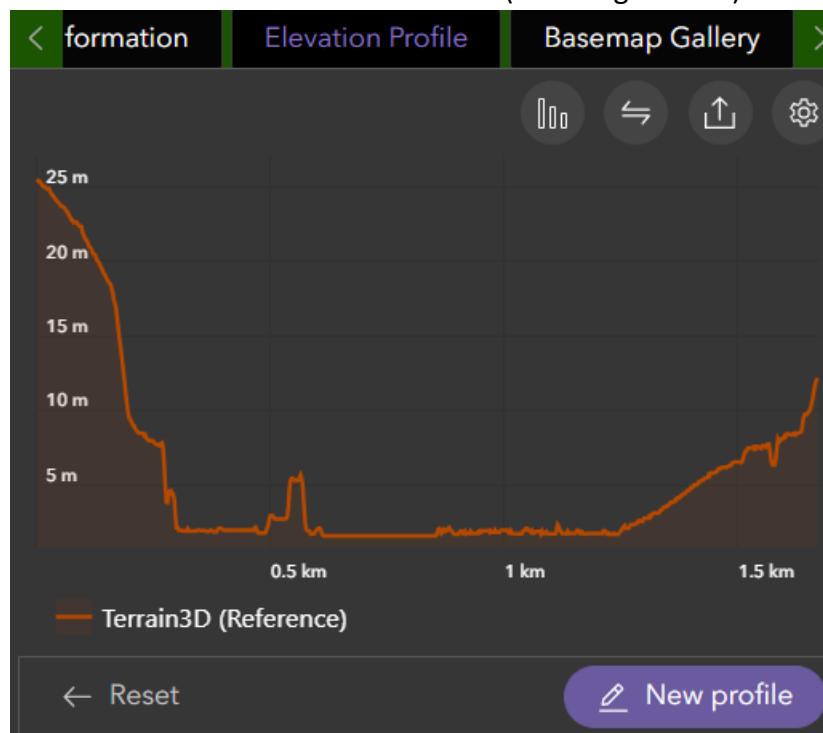


- g. For each of the layers loaded a legend is available (see example below) by selecting the 'Legend' option next to the 'Layers' option. The legend aids in the exploration of features visible on the map. *Note:* only layers that are visible on the map will be displayed in the legend.



## 7. Assessing elevation profiles:

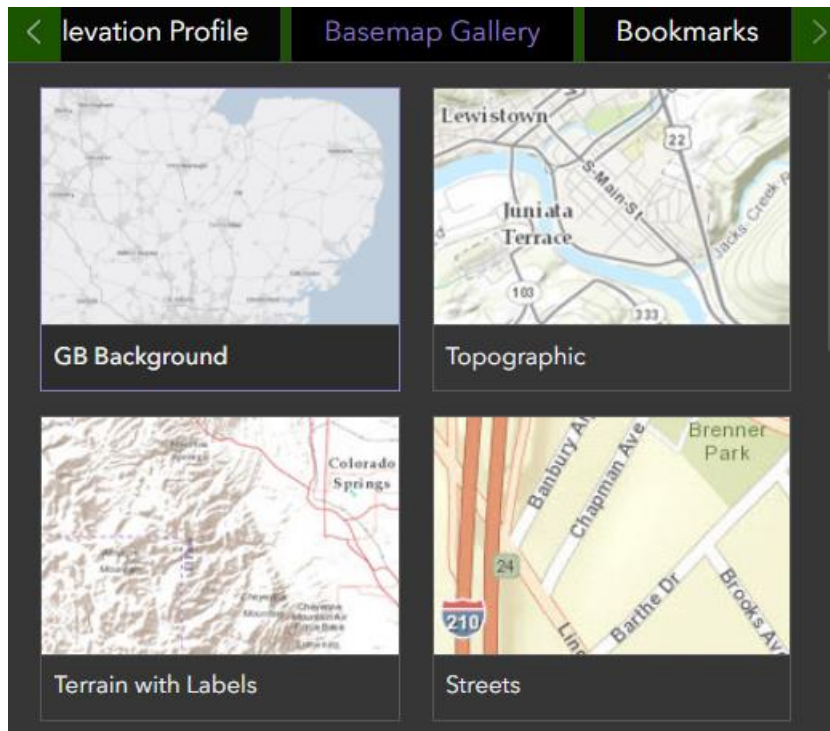
- a. In the bottom left window, there is a button titled 'Elevation Profile' which allows the exploration of elevation profiles across a user-drawn line. The elevation profile tool can be used to understand how the topography changes around a watercourse and thus how likely flooding might be, when viewed with expert opinion.
- b. Selecting 'Draw' brings up a crosshair which can be used to place points on the map by left clicking to create a line (this does not have to follow a straight path). Once the line has been drawn, double click at the final point placement to complete the drawing. An elevation profile is then displayed for the user-drawn line in the bottom left window (see image below).



- c. The profile can be explored in real time by following the cursor along the profile; by doing so, this highlights the location on the user-drawn line that corresponds with the elevation on the profile.

## 8. Changing the basemap:

- a. In the bottom left window, there is a button titled 'Basemap Gallery', if you use the right arrow to navigate to this, which contains several basemap options you change between.



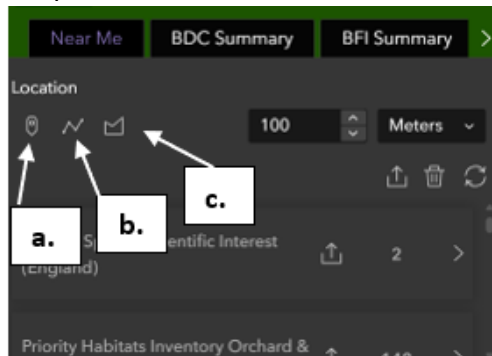
- b. Some useful options might be basemaps showing topography, to help understand potential flooding, but also imagery basemaps to visualise the environment, and greyscale basemap options to better visualise the layers at a landscape on the basemap.

## 9. Creating bookmarks:

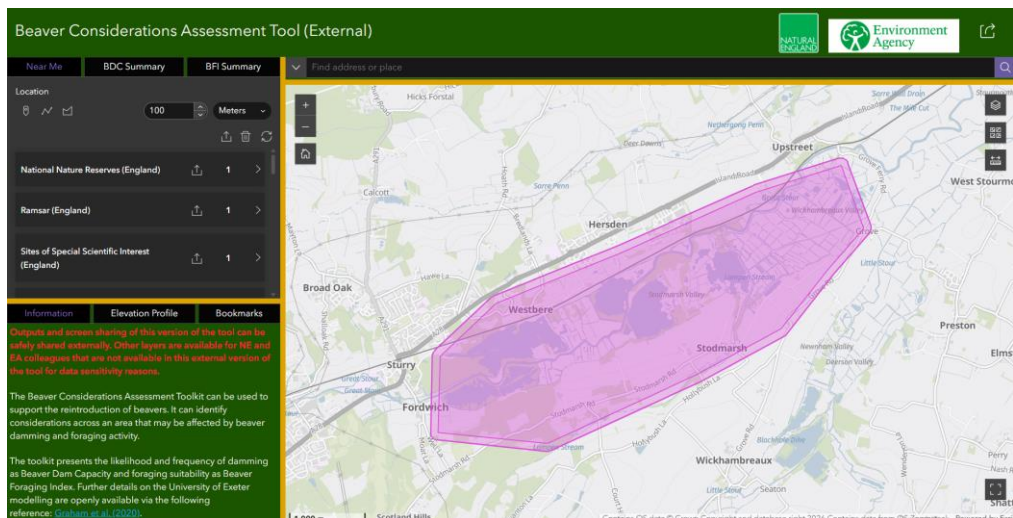
- a. In the bottom left window, there is a button titled 'Bookmarks', if you use the right arrow to navigate to this, which contains an example bookmark. Personalised bookmarks can be created to easily locate areas or views containing certain layers loaded across England. This bookmark creation option may be useful if you wish to return to the same view or location repeatedly.
- b. Firstly, the user should navigate to the location they wish to bookmark alongside loading any layers of interest they wish to be visible in the bookmark and select the '+' icon to create a new bookmark.
- c. The name of the bookmark can be changed by clicking on the current name.
- d. *Note:* any bookmarks created will only be visible to that user and not for other users.
- e. *Note:* the bookmark feature is only available for those would are using the BCAT whilst logged into an AGOL account. Individuals without an AGOL account won't be able to use the Bookmarks feature, but can still interact with everything else included in the BCAT.

## 10. Creating user-drawn areas:

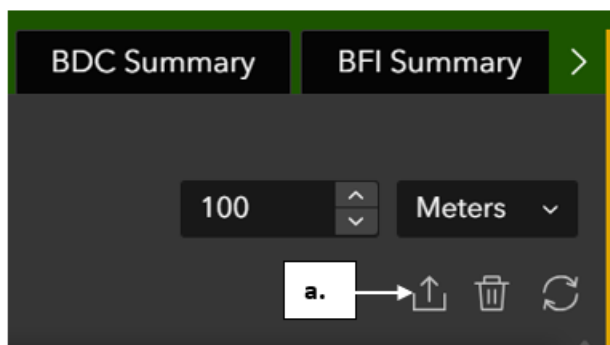
- a. The BCAT provides the functionality to identify any considerations that may be affected by beaver activity as well as summarising the BDC and BFI within a custom-drawn area.
- b. In the top left window (see figure below), the 'Near Me' section can be used to place points (a), draw lines (b), or create polygons (c) on the map in any given location with a user-defined buffer to identify any considerations that are present within the area.



- c. Polygons can be drawn by selecting the polygon draw option (shown by c in the image above). The user simply needs to left click to place outline points on the map to draw the polygon and then double click for the final point placed to finish drawing.
- d. In the example below, the pink polygon displayed shows the user-drawn area with two outlines, one for the user-drawn outline and the other for the user-defined buffer.

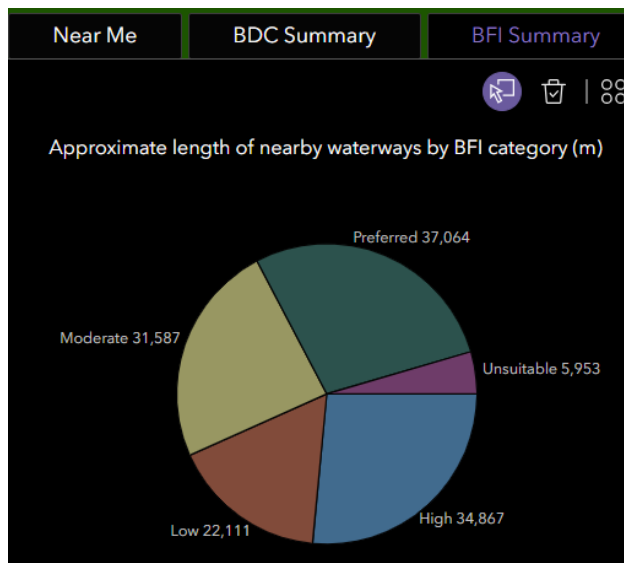
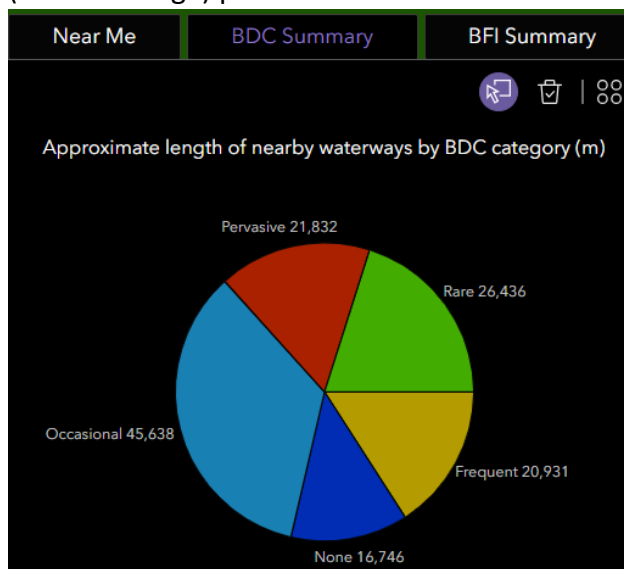


- e. The BCAT is currently set to using a buffer of 100m. However, this buffer distance can be changed by the user. A 100m buffer has been selected as this reflects the maximum foraging range for beavers, which is important when considering the BDC of a given area. Moreover, a 100m buffer aids in the understanding of the topography beyond the area of interest as well as the individual waterway characteristics for hydrological consideration.
- f. All considerations present within the user-drawn area are listed in the top left window. It is left to the user to determine whether these considerations are positive or negative. The considerations can be counted to obtain the total number of considerations within the area and compared with other user-drawn areas. Additionally, a number is provided for each consideration, which indicates the number of features for each consideration that are present within the user-drawn area (e.g., two National Nature Reserves).
- g. The considerations present within a user-drawn area can be exported using the export button in the top left window (see image below, indicated by a). We recommend using the 'Export to csv' option or the 'Export to PDF' option if it is necessary to retain the user-drawn outline. When exporting to csv, a zip folder containing a spreadsheet for each consideration present within the area is then downloaded for offline assessment or records.



## 11. BDC and BFI Summaries:

- a. Within each user-drawn area a summary of both the BDC and BFI for the area is provided within the 'BDC Summary' and 'BFI Summary' tabs. These summaries can be used to determine how pervasive beaver damming is likely to be alongside whether the area has preferred beaver foraging. Each tab displays a pie chart which shows the proportion of each BDC and BFI category present within the user-drawn area and details the metres of watercourse within each BDC and BFI category. A percentage of pervasive damming and preferred foraging can then be calculated for the area. These pie charts are specific to each unique user-drawn area.
- b. The image below provides an example of these BDC (top image) and BFI (bottom image) pie charts.



- c. It should be noted that BDC and BFI can also be visualised using the respective layers within the BCAT.

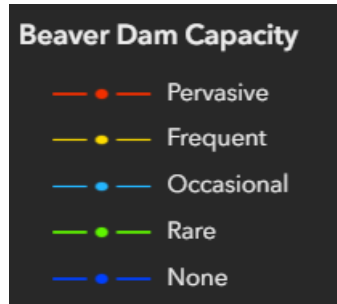
## Appendix 1: Metadata Tables for Datasets in the BCAT

<b>Data layer name</b>	<b>Beaver Dam Capacity (BDC)</b>
<b>Layer name in the BCAT</b>	Beaver Dam Capacity
<b>Date last updated</b>	07 May 2020
<b>Link to metadata</b>	<a href="#">Graham <i>et al.</i> (2020)</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<p><b>Attribution statement:</b> © Natural England 2020 “Contains, or is based on, information supplied by Natural England”. Contains, or is derived from, information supplied by Ordnance Survey. © Crown copyright and database right [2022]. Ordnance Survey Licence number AC0000851168.” Based upon LCM2015 © NERC (CEH) 2017. Contains Ordnance Survey data © Crown Copyright 2007, Licence number 100017572. Based on digital spatial data licensed from the UK Centre for Ecology &amp; Hydrology, © UKCEH; Contains Ordnance Survey data © Crown Copyright 2007, Licence number 100017572. © 2015 Getmapping plc and Bluesky International Ltd Generated using European Union's Copernicus Land Monitoring Service information Data from the UK National River Flow Archive</p>	
<p><b>Brief description of the data layer</b></p> <p>The BDC data layer describes the spatial distribution of the likelihood of beaver damming. This BDC layer has been informed by the Beaver Foraging Index (BFI) data layer. The BDC layer is therefore intrinsically linked to the BFI layer, both of which are drawn from the same dataset, the Beaver Network layer (Graham <i>et al.</i> 2020).</p> <p>Beavers will construct dams across watercourses to create networks of ponds and channels to access foraging areas where the existing water depth does not provide them with what they require. Dams can only be built successfully in areas where there is slow flow, a gentle gradient, and an abundance of construction materials. Beaver dams can vary greatly in their characteristics, size, height, length, and type of construction material used. Their presence can, in the right areas, create species rich wetland habitats with a multitude of benefits. In other areas beaver presence can result in negative effects such as flooding of land and property. Beavers may construct more than one dam, with a network of dams occurring in the territory.</p> <p>The BDC model is designed to estimate the capacity of river systems to support dams at the reach scale, which is approximately 110 metres. In addition, this model identifies reaches that are more likely to be dammed by beavers and provides an estimate of the number of beaver dams that could occur for a catchment at population carrying capacity.</p> <p>The BDC data layer combines several datasets such as the vegetation fuzzy inference system (FIS), flow stream power (Q2), and slope. These are combined using a second FIS to create the BDC data layer.</p>	
<p><b>What can it tell you?</b></p> <p>The BDC data layer covers England on a national scale. The BDC covers all main water ways, tributaries, and waterbodies, and provides an estimation of where beavers are likely to create a dam and how many dams over a given area. The BDC provides simplified dam capacity</p>	

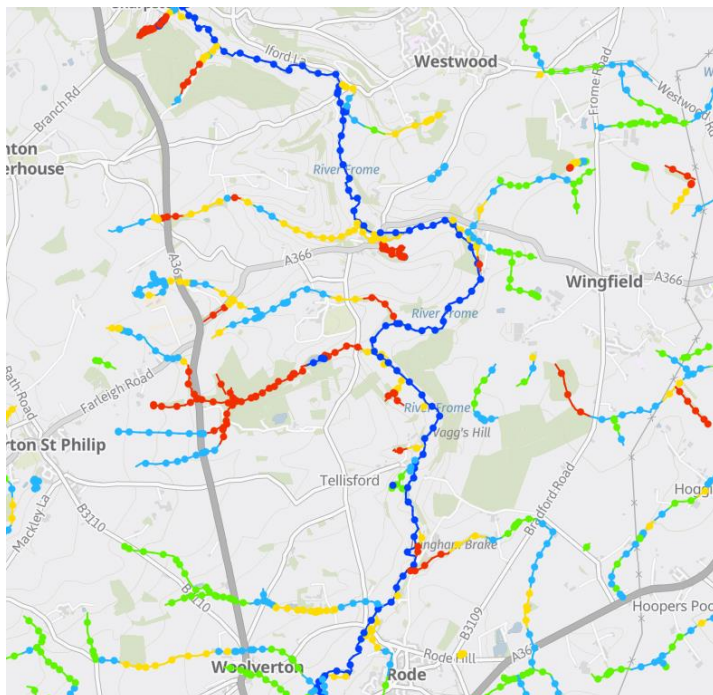
categories that are each assigned a unique colour (Figure A1). BDC has been categorised as the following:

- Reaches with a capacity of 0 dams/km were categorised as 'None',
- 0–1 dams/km as 'Rare'
- 1–4 dams/km as 'Occasional'
- 5–15 dams/km as 'Frequent'
- 16–30 dams/ km as 'Pervasive'.

An example of the BDC as displayed within the BCAT can be found in Figure A2.



**Figure A1.** Legend indicating the colours that the BDC represents, each category represents a certain number of dams per km: Pervasive = 16-30 dams/km; Frequent = 5-15 dams/km; Occasional = 1-4 dams/km; Rare = 0-1 dams/km; None = 0 dams/km.



**Figure A2.** Image of the BDC on the river Frome catchment. Blue along the main channel of the Frome indicates 'none' and thus is a region where no damming is likely due to the high river flow.

### What can it not tell you?

This data layer cannot tell you any details about the height, length, and construction material of a dam. Moreover, the BDC does not give an exact location the dam could be built on a watercourse or waterbody, nor does it provide any locations of present beaver dams.

This data layer does not provide any hydrological impacts that beaver dams may create.

**Other information**

This data layer constitutes a model and therefore is only as reliable as the data used within the model. Therefore, it is important this data layer is used alongside local knowledge and scientific expertise. Moreover, beavers act as ecosystem engineers and dynamically change their surrounding landscapes, as a result the data that fed into such models may be altered on the ground and have future implications for such models. For further details on the limitations and caveats of the BDC please refer to the original publication relating to the BDC and BFI data layers produced by the University of Exeter ([Graham et al. 2020](#)).

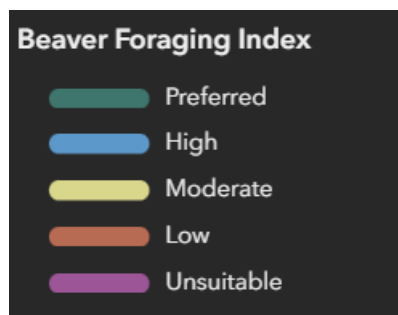
<b>Data layer name</b>	<b>Beaver Foraging Index (BFI)</b>
<b>Layer name in the BCAT</b>	Beaver Foraging Index
<b>Date last updated</b>	07 May 2020
<b>Link to metadata</b>	<a href="#">Graham et al. (2020)</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<p><b>Attribution statement:</b> © Natural England 2020 “Contains, or is based on, information supplied by Natural England”. Contains, or is derived from, information supplied by Ordnance Survey. © Crown copyright and database right [2022]. Ordnance Survey Licence number AC0000851168.” Based upon LCM2015 © NERC (CEH) 2017. Contains Ordnance Survey data © Crown Copyright 2007, Licence number 100017572. Based on digital spatial data licensed from the UK Centre for Ecology &amp; Hydrology, © UKCEH; Contains Ordnance Survey data © Crown Copyright 2007, Licence number 100017572.</p> <p>© 2015 Getmapping plc and Bluesky International Ltd Generated using European Union's Copernicus Land Monitoring Service information Data from the UK National River Flow Archive</p>	
<p><b>Brief description of the data layer</b></p> <p>The BFI data layer describes the spatial distribution of beaver foraging habitat. This information is used to inform the BDC model. The BFI layer is therefore intrinsically linked to the BDC layer, both of which are drawn from the same dataset, the Beaver Network layer (Graham <i>et al.</i> 2020).</p> <p>BFI describes the preference of a beaver towards a particular land cover type such as broadleaf or deciduous woodland. Beavers have a preference of areas where there is abundance of woody forage material, such as willow, poplar, aspen, and birch. These tree species are often associated with broadleaf and deciduous woodland habitat types. Beavers preferentially feed on these tree species if present. However, it is noted that beavers are extremely adaptable to their surroundings and will forage on a number of different aquatic plants, shrubs, trees, weeds, and flowers depending on what is available. This data layer includes data which describes other sources of forage such as discontinuous shrub, rough grassland, reeds, arable fields and narrow linear woody features such as hedgerows, which corresponds to other descriptions of beaver foraging (Rosell and Campbell-Palmer, 2022). To support a beaver family for many generations, their territory must have abundant foraging potential. A scale is utilised in this layer to describe the suitability of foraging habitat.</p>	
<p><b>What can it tell you?</b></p> <p>The BFI data layer covers England on a national scale. It tells you the suitability of beaver foraging habitat within a 40-metre buffer zone of a watercourse. An inference system is used to combine the four raster datasets (further detail provided below in the Other Information section) to create a continuous description of the suitability of land cover for beaver foraging at 5-metre resolution.</p> <p>In the BFI data layer, vegetation datasets have been assigned a suitability value ranging from 0-5 (see Table A1, taken from Table 1 in <a href="#">Graham et al., 2020</a>) depending on the preference of beavers for foraging in different habitat types.</p>	

**Table A1.** BFI value descriptions, including input data land classes attributed to each BFI value.

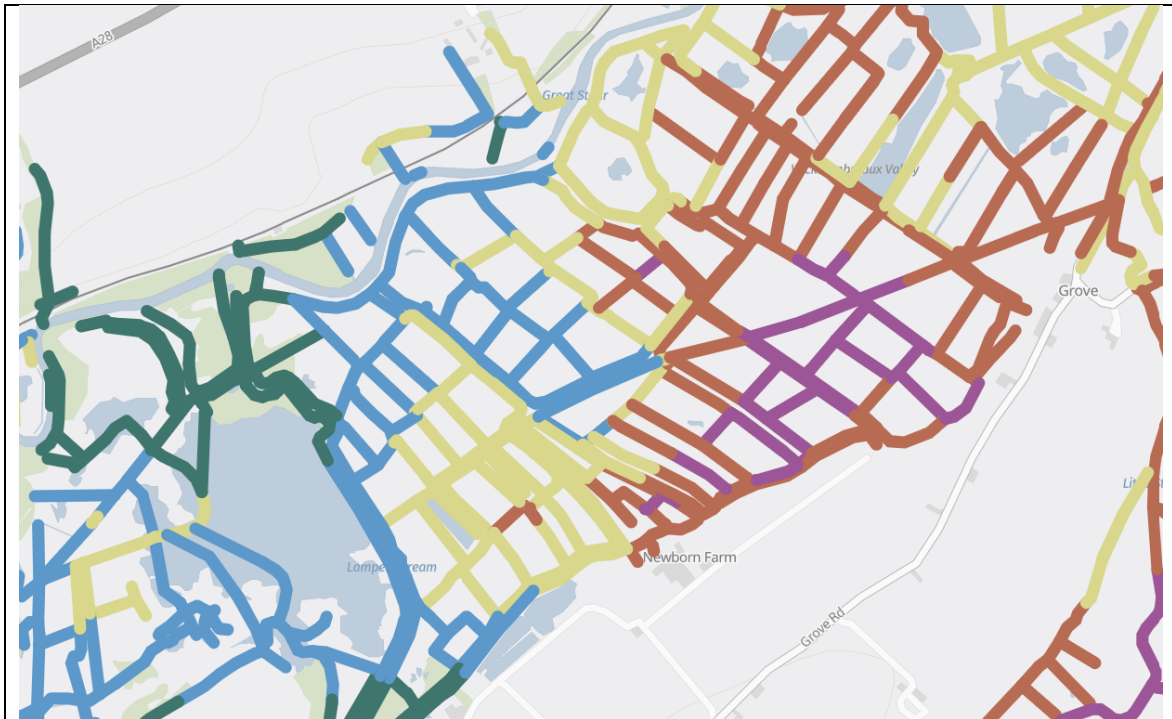
BFI value	Value description	OS vector classification	CEH LCM 2015 classification	Copernicus tree cover density range (%)	CEH woody linear features framework (WLFF)
0	No vegetation	Boulders, sand, shingle, building, water	Water, rock, saltmarsh, (sub) urban	0	–
1	Unsuitable	Heathland, unimproved grass, marsh	Acid grassland, calcareous grassland, heather, improved grassland, bog	1–3	–
2	Barely suitable	Reeds, shrub and heathland	Arable and horticulture, neutral grassland	4–10	–
3	Moderately suitable	Coniferous woodland, shrub and marsh, shrub and unimproved	Coniferous woodland	11–50	–
4	Suitable	–	–	51–100	WLFF present
5	Preferred	Broad-leafed woodland, shrub, mixed woodland, orchard	Broadleaf woodland	–	–

In the BFI data layer, vegetation assigned a BFI value of 0, 1, and 2 are foraging areas containing vegetation that is not preferred by beavers and include boulders, sand, shingle, building, heathland, unimproved grass, marsh, and reeds. In comparison vegetation types with a BFI value of 4, 5, and 6 are preferred by beavers. These BFI values include coniferous woodland, shrub and marsh, shrub and unimproved, broadleaf woodland, mixed woodland, shrub, and orchard.

BFI values for each section of watercourse and the surrounding buffered area are assigned a unique colour based on the foraging preference (Figure A3). Figure A4 demonstrates the BFI data layer for an area of the Stour in Kent (Stodmarsh National Nature Reserve (NNR)) and the availability of beaver foraging habitat.



**Figure A3.** Legend for the colours assigned to the BFI index, showing the range of beaver foraging preferences.



**Figure A4.** BFI, as in the BCAT, on an area of the Stour in Kent (Stodmarsh NNR) and the availability of beaver foraging habitat. Green and blue shows areas of the main channel of the river Stour and surrounding areas where there is an abundance of preferred foraging habitat (e.g., willow).

#### What can it not tell you?

The BFI data layer cannot tell you the value of vegetation outside of the 40-metre buffer around the watercourse.

This data layer cannot tell you a single vegetation type as the vegetation types have been combined to represent a specific BFI value. Therefore, the data layer cannot tell you the individual species of tree, shrub, plant, or flower within the vegetation dataset.

#### Other information

Layers which have been combined to make up the BFI include:

- OS VectorMap Local data (OS 2018b)
- The Centre for Ecology and Hydrology (CEH) 2015 land cover map
- Copernicus 2015 20 metre tree cover density
- The CEH woody linear features framework.

This data layer constitutes a model and therefore is only as reliable as the data used within the model. Therefore, it is important this data layer is used alongside local knowledge and scientific expertise. For further details on the limitations and caveats of the BFI please refer to the original publication relating to the BDC and BFI data layers produced by the University of Exeter ([Graham et al. 2020](#)).

<b>Data layer name</b>	<b>National Natural Reserves (NNR) in England</b>
<b>Layer name in the BCAT</b>	National Nature Reserves (England)
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">National Nature Reserves (England)</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Natural England copyright 2023. Contains Ordnance Survey data.	
<b>Brief description of the data layer</b>	
<p>This data layers shows the locations of all NNR in England.</p> <p>NNR were established to protect some of our most important habitats, protected species, and geology, and to provide ‘outdoor laboratories’ for research. The designation and management of NNR falls within the remit of Natural England.</p>	
<b>What can it tell you?</b>	
<p>This data layer can tell you the site name, location, area covered (ha), status, and boundaries of the NNR.</p>	
<b>What can it not tell you?</b>	
<p>It cannot tell you the qualifying features of the NNR. Further information relating to the NNR, including qualifying features, can be found on the <a href="#">Designated Sites View</a>.</p>	
<b>Other information</b>	
<p>This dataset can be visualised online via the Natural England Open Data Publication site: <a href="#">National Nature Reserves (England)</a>.</p>	

<b>Data layer name</b>	<b>Ramsar Sites in England</b>
<b>Layer name in the BCAT</b>	Ramsar (England)
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">Ramsar (England)</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Natural England copyright. Contains Ordnance Survey data. © Crown copyright and database right.	
<b>Brief description of the data layer</b>	
<p>The Ramsar site data layer displays the locations of all Ramsar sites across England.</p> <p>Ramsar Sites are wetlands of international importance designated under the Ramsar Convention, also known as the Convention on Wetlands. The <a href="#">Joint Nature Conservation Committee</a> (JNCC) provides a list of Ramsar sites across England.</p>	
<b>What can it tell you?</b>	
<p>This data layer can tell you the Ramsar name and site code, its location, area covered (ha), status, and boundaries of the Ramsar site.</p>	
<b>What can it not tell you?</b>	
<p>It cannot tell you what the qualifying features of the Ramsar site are. Further information on the qualifying features of the Ramsar site can be found on the <a href="#">Designated Sites View</a> and a master list can be found on the <a href="#">Protected Sites Launchpad</a>.</p>	
<b>Other information</b>	
<p>This dataset can be visualised online via the Natural England Open Data Publication site: <a href="#">Ramsar (England)</a>.</p>	

<b>Data layer name</b>	Sites of Special Scientific Interest (SSSI) in England
<b>Layer name in the BCAT</b>	Sites of Special Scientific Interest (England)
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">SSSI sites of England</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right.	
<b>Brief description of the data layer</b>	
<p>This data layer shows the locations of all SSSI across England.</p> <p>SSSI are designated areas within England. They are designated to maintain and protect specific interest features. These features can be wide ranging from individual species of interest, both plant and animal, to habitats and geological formations of national or historical landscape importance.</p>	
<b>What can it tell you?</b>	
<p>This data layer can tell you the site name, location, area covered (ha), status, and boundaries of the SSSI site.</p>	
<b>What can it not tell you?</b>	
<p>It cannot tell you the condition score of the SSSI or the nature of the qualifying features. Further information on the condition assessment and qualifying features of the SSSI can be found on the <a href="#">Designated Sites View</a>.</p> <p>For sites that are compiled of multiple locations, these are not merged within this layer. However, such SSSI can be visualised in their entirety on the <a href="#">Designated Sites View</a>.</p>	
<b>Other information</b>	
<p>This dataset can be visualised online via the Natural England Open Data Publication site: <a href="#">Sites of Special Scientific Interest (England)</a>.</p>	

<b>Data layer name</b>	<b>Special Areas of Conservation (SAC) in England</b>
<b>Layer name in the BCAT</b>	Special Areas of Conservation (England)
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">Special Areas of Conservation (England)</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Natural England copyright 2023. Contains Ordnance Survey data.	
<b>Brief description of the data layer</b>	
<p>This data layer shows the locations of all SAC in England.</p> <p>A SAC is the land designated under Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, known as the Habitats Directive. SAC aim to protect and conserve the habitats and species within annex I and annex II of the directive, which are considered to be most in need of conservation at a European level.</p>	
<b>What can it tell you?</b>	
<p>This data layer can tell you the site name, site code, location, area covered (ha), status and boundaries of the SAC.</p>	
<b>What can it not tell you?</b>	
<p>It cannot tell you the qualifying features of the SAC. Further information on the qualifying features can be found on the <a href="#">Designated Sites View</a>.</p>	
<b>Other information</b>	
<p>This dataset can be visualised online via the Natural England Open Data Publication site: <a href="#">Special Areas of Conservation (England)</a>.</p>	

<b>Data layer name</b>	<b>Special Protection Areas (SPA) in England</b>
<b>Layer name in the BCAT</b>	Special Protection Areas (England)
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">Special Protection Areas (England)</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Natural England copyright 2023. Contains Ordnance Survey data.	
<b>Brief description of the data layer</b>	
<p>This data layer shows the locations of all the SPA in England.</p> <p>A SPA is the land designated under Directive 2009/147/EC on the Conservation of Wild Birds. SPA are strictly protected sites classified in accordance with Article 4 of the EC Birds Directive, which came into force in April 1979. They are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.</p>	
<b>What can it tell you?</b>	
<p>This data layer can tell you the site name, site code, location, area covered (ha), status, and boundaries of the SPA.</p>	
<b>What can it not tell you?</b>	
<p>It cannot tell you the qualifying features of the SPA. Further information on the qualifying features of the SPA can be found on the <a href="#">Designated Sites View</a>.</p>	
<b>Other information</b>	
<p>This dataset can be visualised online via the Natural England Open Data Publication site: <a href="#">Special Protection Areas (England)</a>.</p>	

<b>Data layer name</b>	<b>Areas of Outstanding Natural Beauty (AONB) in England</b>
<b>Layer name in the BCAT</b>	Areas of Outstanding Natural Beauty (England)
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">Areas of Outstanding Natural Beauty (England)</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2025.	
<b>Brief description of the data layer</b>	
<p>Areas of Outstanding Natural Beauty (AONBs) are designated areas where protection is afforded to protect and manage the areas for visitors and local residents. AONBs are also known as National Landscapes.</p> <p>Under the Countryside and Rights of Way Act 2000, Natural England has the power to designate AONBs in England that are outside national parks and that are considered to have such natural beauty it is desirable they are conserved and enhanced; as well as issue a variation order to change an existing AONB boundary.</p> <p>There are 46 AONBs in the UK, of which 34 are in England. These are places with national importance, protected for the nation's benefit, but cared for by local teams with a deep understanding of the distinctive web of interconnecting factors that make these places special. As these areas are not nature designations caring for the natural beauty of these places involves more than habitat restoration. The unique combination of landform, climate and geology determines which species thrive, which industries grow, and therefore the heritage, language and culture of the individual place.</p>	
<b>What can it tell you?</b>	
<p>This data layer can tell you the location of the AONB, its name, date of designation, and the statutory area. A link to the national landscape website of each AONB is also provided, where further information can be obtained.</p>	
<b>What can it not tell you?</b>	
<p>It cannot tell you the reason for designating the area an AONB nor can it provide details on the strategy for management. Further information on, for example, the landscape strategy, details on the distinctiveness of the area, and a character map can be obtained from the associated national landscape website.</p>	
<b>Other information</b>	
<p>This dataset can be visualised online via the Natural England Open Data Publication site: <a href="#">Areas of Outstanding Natural Beauty (England)</a>. For more information visit: <a href="#">National Landscapes</a>.</p>	

<b>Data layer name</b>	<b>Orchards and Deciduous Woodland</b>
<b>Layer name in the BCAT</b>	Priority Habitats Inventory Orchard & Deciduous Woodland
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">Priority Habitats Inventory (England)</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right.	
<b>Brief description of the data layer</b>	
<p>An orchard is an intentional plantation of trees or shrubs that is maintained for food production, typically consisting of nut or fruit trees. Traditional orchards are defined, for priority habitat purposes, as orchards managed in a low intensity way. In contrast with orchards managed intensively for fruit production by the input of chemicals such as pesticides and inorganic fertilisers, frequent mowing of the orchard floor rather than grazing or cutting for hay, and planting of short-lived, high-density, dwarf or bush fruit trees. Traditional orchards can easily be distinguished from other wooded habitats based on the prevalence of domestic fruit and nut species, such as apple, plum, pear, damson, cherry, walnut, and cobnut. Only in very few cases will there be a significant number of other tree species in a traditional orchard, unless the orchard is becoming woodland via neglect.</p> <p>For the purpose of the inventory, traditional orchards are defined as sites where at least five fruit trees are present with no more than 20 metres between their crown edges. Traditional orchards are managed in a low intensity way. The orchard floor may be grazed or mown for hay and will have little or no chemical input.</p> <p>In the Priority Habitats Inventory, deciduous woodland includes upland oakwood, lowland beech and yew woodland, upland mixed ashwoods, wet woodland, lowland mixed deciduous woodland, upland birchwoods, ancient and seminatural woodland, and plantations on ancient woodland.</p> <p>The Priority Habitats Inventory is a spatial dataset that describes the geographic extent and location of priority habitats identified in the UK Biodiversity Action Plan (BAP) and listed as being of principal importance for the purpose of conserving or enhancing biodiversity, under Section 41 of the Natural Environment and Rural Communities Act (2006).</p>	
<b>What can it tell you?</b>	
<p>This data layer shows the location of traditional orchards and deciduous woodland across England. The legend for this layer indicates several other habitat types. However, these are not included within the layer displayed in the BCAT. Only traditional orchards and deciduous woodlands are displayed within this layer.</p> <p>The layer includes details as to whether the selected area is traditional orchard or deciduous woodland, as well as data on the area (ha) they occupy and the boundaries of the traditional orchard or deciduous woodland.</p>	

**What can it not tell you?**

This data layer cannot tell you the tree species present in each orchard or the age and spatial distribution of trees within the orchard.

**Other information**

This dataset has been derived using aerial photography, OS MasterMap, external datasets compiled from historic surveys, and ground survey (“ground-truthing”). It can be visualised online via the Natural England Open Data Publication site: [Traditional Orchards \(HAP\) England](#).

<b>Data layer name</b>	<b>Ancient Woodland in England</b>
<b>Layer name in the BCAT</b>	Ancient Woodland (England)
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">Ancient Woodland (England)</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2024.	
<b>Brief description of the data layer</b>	
<p>This is a spatial dataset that describes the geographic extent and location of ancient woodland habitat in England (excluding the Isles of Scilly).</p> <p>Ancient woodland refers to land that has maintained continuous woodland cover since at least 1600 AD. This includes Ancient Semi-Natural Woodland (ASNW), which has native tree and shrub cover, Plantation on Ancient Woodland Sites (PAWS), where original trees have been replaced by new plantings (often conifers), and Ancient Wood Pasture (AWP), where tree management is combined with a long-established grazing tradition, typically including veteran trees or shrubs.</p> <p>The inventory identifies over 22,000 ancient woodland sites in England. Ancient woodland is identified using old maps, information about the woodland's name, shape, internal boundaries, location relative to other features, ground survey, and aerial photography. The information recorded about each woodland is stored in the Inventory Database and includes its grid reference, area (ha), and how much is semi-natural or replanted. In total the dataset includes 53,633 polygons, which cover approximately 364,914 hectares of ancient woodland.</p>	
<b>What can it tell you?</b>	
<p>This data layer provides the locations of ancient woodland across England and whether these locations are either ASNW, PAWS, or AWP. For each woodland, detail is provided on its grid reference and area in hectares.</p>	
<b>What can it not tell you?</b>	
<p>Only ancient woodland sites that were over two hectares on the 1920s base maps are included on the inventory. Therefore, ancient woodland that was less than two hectares on the base maps are not included in this data layer even though some of these are ancient. Some of these sites included in the inventory, greater than two hectares, may now be less than two hectares due to subsequent clearance.</p> <p>The inventory is classed as "provisional" because it is under a constant system of review and update as new information is received or actual changes are recorded.</p>	
<b>Other information</b>	
<p>This dataset can be visualised online via the Natural England Open Data Publication site: <a href="#">Ancient Woodland (England)</a>.</p>	

<b>Data layer name</b>	<b>Principal Salmonid Catchments for England</b>
<b>Layer name in the BCAT</b>	Principal Salmonid Catchments (England)
<b>Date last updated</b>	This layer is drawn directly from source link, although is based on data collected in 2021.
<b>Link to metadata</b>	<a href="#">Principal Salmonid Catchments (England)</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right [2025].	
<p><b>Brief description of the data layer</b></p> <p>There are 49 rivers in England and 31 rivers in Wales that regularly support Atlantic salmon (<i>Salmo salar</i>), although some of the stocks are very small and support minimal catches. Of these, 64 rivers are designated ‘principal salmon rivers’ on the basis of the prospect of annual rod catches of at least 50 salmon around the time (~1996) of the development of Salmon Action Plans (SAPs).</p> <p>This data layer indicates the catchments containing principal salmon rivers and principal sea trout rivers. It does not indicate all catchments where rivers have salmon and sea trout presence, only the principal rivers their catchments.</p> <p>This dataset has been recreated from a joint Cefas, Environment Agency, and National Resources Wales publication (2022) on the <a href="#">Assessment of Salmon Stocks and Fisheries in England and Wales in 2021</a>. The dataset was recreated based on Figure 1 using original data from the Environment Agency collected in 2021.</p> <p>This dataset is intended for visualisation only and should not be used for statutory purposes or connectivity modelling.</p>	
<p><b>What can it tell you?</b></p> <p>This data layer can be used to visualise catchments that contain either principal salmon rivers (PSR) or principal sea trout rivers (PSTR). Within the data layer, this information can be obtained from the Status field for each catchment.</p> <p>This data layer can provide information on the catchments that are considered important for Atlantic salmon and sea trout. Within the BCAT this data layer provides information on whether the catchment contains principal salmon rivers, principal sea trout rivers, or both, as well as the name of the catchment, and its area.</p>	
<p><b>What can it not tell you?</b></p> <p>This data layer does not include information on:</p> <ul style="list-style-type: none"> <li>• How successful spawning is or the condition of the spawning habitat</li> <li>• How much of an impact existing man-made barriers (small or large) are having on migration, and in some instances, predation</li> <li>• Which rivers create the most opportunity for restoration of natural processes</li> <li>• All catchments that contain salmon and sea trout, only the catchments containing principal salmon rivers and principal sea trout rivers.</li> </ul>	

Overlap between the BDC layer and the presence of Atlantic salmon or sea trout does not directly indicate the need for management. However, it can indicate where the management of damming activity may be required to ensure the free migration of fish at specific stages of their life cycles.

#### **Other information**

It is useful to note here that many migratory fish (particularly brown and sea trout) typically spawn in smaller streams, some of which only flow seasonally. Therefore, it is important that the whole catchment, including the upper reaches, are considered when interpreting fish datasets.

Interactions between beavers and migratory fish populations are of concern given the status of sea trout and salmon stocks in England. Trout, shads, smelt, and river and sea lamprey should also be considered as there is potential for loss of connectivity between feeding and spawning grounds resulting from the construction of beaver dams.

Where the impacts of beaver activity on aquatic habitats are considered at a suitably broad temporal and spatial (catchment) scale, the increase in habitat diversity and dynamism brought about by beavers is likely to result in more diverse fish populations with greater ability to sustain themselves, particularly in the face of climate change. Ensuring there is adequate space for restoring more natural river and lake ecosystem function will help to ensure that benefits to fish assemblages are maximised.

Given the complexity of this topic, it is important that users of this dataset understand fish ecology or consult with those who are able to support with specialist and local knowledge, and work with experts on beaver ecology to reach decisions on release locations.

When being used in relation to beaver release project proposals the projects should be screened for management options and resourcing in relation to fish migration requirements.

This data layer is included due to its public availability to provide users of the BCAT with a salmon layer in the absence of access to highly sensitive EA fish passage data. However, EA colleagues have expressed concern over the accuracy of this data layer. Therefore, where salmonid watercourses are of concern externally, NE and EA staff may be able to provide support in for local priorities.

<b>Data layer name</b>	<b>Chalk Rivers in England</b>
<b>Layer name in the BCAT</b>	Chalk Rivers (England)
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">Chalk Rivers EA</a> (Link available for internal Natural England use only)
<b>Licence type</b>	<a href="#">Non-Commercial Government Licence</a>
<b>Attribution statement:</b> Contains, or is derived from, information supplied by Natural England and the Ordnance Survey. © Crown copyright and database rights 2021. Ordnance Survey 100022021	
<b>Brief description of the data layer</b>	
<p>This data layer is based on the EA DRN version 3. All fields from the DRN have been retained. This subset of chalk rivers uses the old 1:50,000 BAP chalk river data, British Geological Society geology, WWF report <a href="#">The State of England's Chalk Streams</a>, and stakeholder knowledge to produce an updated chalk river network for England.</p> <p>Chalk streams are characterised by their crystal-clear waters, alkalinity, minerality, and cool stable gentle flows.</p>	
<b>What can it tell you?</b>	
<p>This data layer gives the geographic location and extent of the chalk river and includes details on:</p> <ul style="list-style-type: none"> <li>• ID of the chalk stream</li> <li>• Name of the river</li> <li>• Length (km)</li> <li>• Catchment ID</li> <li>• Width (m)</li> <li>• Type of river</li> <li>• Flow source</li> <li>• Scale</li> <li>• Flow source</li> <li>• Area</li> <li>• Designation</li> </ul>	
<b>What can it not tell you?</b>	
<p>This data layer does not provide information on the individual characteristics of the river, such as the species and habitats present.</p>	
<b>Other information</b>	
<p>For further details on chalk streams, see the information from <a href="#">The Chalk Stream Restoration Strategy</a>.</p> <p>This dataset can be visualised online via the Natural England Open Data Publication site: <a href="#">Chalk Rivers (England)</a>.</p>	

<b>Data layer name</b>	<b>Freshwater Pearl Mussel (FWPM) Presence</b>
<b>Layer name in the BCAT</b>	<b>Fresh Water Pearl Mussel Catchments</b>
<b>Date last updated</b>	June 2024
<b>Link to metadata</b>	Catchment data: <a href="#">WFD River Waterbody Catchments Cycle 2</a> FWPM records: <a href="#">National Biodiversity Network (NBN) Atlas</a> ; Kerney, 1976; Kerney, 1999; and Natural England species experts
<b>Licence type</b>	Catchment data: <a href="#">Open Government Licence</a> FWPM records: <a href="#">Creative Commons with attribution non-commercial</a> and <a href="#">Creative Commons Attribution 4.0 International (CC BY 4.0) licence</a>
<b>Attribution statement:</b> © Natural England copyright. © Environment Agency copyright and/or database right 2015. All rights reserved. © National Biodiversity Network Trust 2025.	
<b>Brief description of the data layer</b>	
<p>This data layer contains <i>Margaritifera margaritifera</i> records publicly available from NBN Atlas and records available from published records (Kerney, 1976; Kerney, 1999). These records have been cross referenced with Natural England species experts and presented here at the catchment scale to reduce uncertainty around point locations. Data in this layer is derived from published records and survey data of gathered FWPM populations throughout England, as well as from knowledge of protected sites of which FWPM are a qualifying feature. The oldest record in the database dates from circa 1800, although most of the records date from the mid-1990s onwards. Since 2000, most extant rivers have positive records of FWPM.</p>	
<b>What can it tell you?</b>	
<p>This data layer indicates locations where FWPM are historically present in England. This includes both historic populations where FWPM have always been present in a catchment and also catchments where reintroductions or population reinforcement is occurring. The layer provides details on the waterbody name, river basin district name, and the area (ha) of the location.</p> <p>This data layer can be overlaid with the surface water management catchments layer to identify catchments containing FWPM.</p>	
<b>What can it not tell you?</b>	
<p>The data layer does not give any details of the population size of the FWPM, the exact location of FWPM within the waterbody, or the date at which FWPM were last recorded at that location.</p>	
<b>Other information</b>	
<p>FWPM are incredibly rare and exists in only a small number of river systems within the UK. FWPM are listed as an endangered species by IUCN. FWPM are extremely sensitive to changes in sedimentation rates of rivers, because of this their relationship with beavers is extremely complex.</p> <p>The layer was created by using data provided by Gavin Measures (Senior Officer Invasive Non-native Species and Biosecurity at Natural England).</p>	

<b>Data layer name</b>	Reduction in Risk of Flooding from Rivers and Sea due to Defences
<b>Layer name in the BCAT</b>	Reduction in Risk of Flooding from Rivers and Sea due to Defences
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">Reduction in Risk of Flooding from Rivers and Sea due to Defences</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Environment Agency copyright and/or database right 2023. All rights reserved. Some features of this map are based on digital spatial data from CEH, © NERC (CEH) © Crown Copyright and Database Rights 2023 OS AC0000807064.	
<b>Brief description of the data layer</b>	
<p>A spatial dataset that indicates where areas have reduced flood risk from rivers and sea due to the presence of flood defences. The dataset has been created to help initiate conversations about the impact EA flood defences have on the risk of flooding from the rivers and sea, and as a prompt to find out more about the flood defences in a particular area of interest. It does not replace any local, more detailed information.</p>	
<b>What can it tell you?</b>	
<p>The reduction in flood risk of flooding from rivers and sea due to flood defences layer is binary (e.g., ‘does this flood in a 1:100/200/1000 event?’ yes/no dataset). It shows if an area will get wet or not in one of those scenarios.</p>	
<b>What can it not tell you?</b>	
<p>As the dataset is binary it cannot provide any further detail other than ‘yes/no’ under certain scenarios. It only represents undefended risk and doesn’t reflect presence of any defences that may be nearby. This product is based on a corresponding dataset “Risk of Flooding from Rivers and Sea”. There is likely to be situation where this data (i.e., areas that benefit from defences) could be hard to interpret without access to some understanding of the underlying flood risk. Therefore, assessors will need to apply some level of judgement in interpreting this data.</p> <p>This data layer does not show where assets are actually located. To establish where assets are located instead use the AIMS Structure Points and AIMS Channel data layers.</p>	
<b>Other information</b>	
<p>This data layer should be used in conjunction with AIMS Channel and AIMS Structure Points data layers.</p>	

<b>Data layer name</b>	<b>Internal Drainage Districts (IDD)</b>
<b>Layer name in the BCAT</b>	Internal Drainage Districts
<b>Date last updated</b>	02 March 2015
<b>Link to metadata</b>	<a href="#">Internal Drainage Districts</a> (Link available for internal Natural England use only)
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> This data has been published by the Environment Agency on behalf of the Association of Drainage Authorities. © Association of Drainage Authorities copyright and/or database right 2020. All rights reserved.	
<b>Brief description of the data layer</b>	
<p>Under the Land Drainage Act 1991, IDD are areas defined as deriving benefit or avoiding danger as a result of drainage operations. Each Internal Drainage Board (IDB) is a local independent public body that manages water levels in the corresponding IDD. IDBs undertake works to reduce flood risk to people and property and manage water levels for agricultural needs and for the protection and enhancement of the environment within their district. IDBs are defined as a type of Risk Management Authority under the Flood and Water Management Act 2010. Whilst indicative, the data is the most comprehensive and consistent national dataset of IDD boundaries in England.</p> <p>Today, IDBs in England districts cover 1.2 million hectares (9.7% England’s landmass). These IDBs play a key role in reducing flood risk to over 600,000 people and nearly 900,000 properties. They operate and maintain over 500 pumping stations, 22,000 km of watercourse, 175 automatic weed screen cleaners, and numerous sluices and weirs.</p>	
<b>What can it tell you?</b>	
This data layer gives the geographical extent and boundaries of each IDD and includes the name and code of the IDD.	
<b>What can it not tell you?</b>	
It cannot tell you the size or area of the IDD, any issues, or the associated infrastructure used by the IDD for flood defence.	
<b>Other information</b>	
Please find further details on <a href="#">Internal Drainage Boards</a> , including a detailed list of all IDBs.	

<b>Data layer name</b>	<b>Groundwater Recharge Potential</b>		
<b>Layer name in the BCAT</b>	Ground Water Recharge Potential		
<b>Date last updated</b>	29 March 2022		
<b>Link to metadata</b>	<a href="#">Water Resources Recharge Potential &amp; Consultation Mapping</a> Individual data layers are available upon request.		
<b>Licence type</b>	<a href="#">Environment Agency's Conditional Licence Agreement</a> .		
<b>Attribution statement:</b> © Environment Agency copyright. Contains British Geological Survey and Natural England data.			
<b>Brief description of the data layer</b>			
<p>Groundwater recharge is the process by which water moves from surface water to groundwater, replenishing the aquifer. Recharge is the primary method through which water enters an aquifer. The Groundwater Recharge Potential layer spatially targets the optimal potential recharge areas across the country where different types of measures (features or modifications that could be installed to provide water resource benefits, e.g., runoff infiltration ponds, peatland restoration, land use changes, raised hedgerows, hedgerow and tree planting, soils work) could be installed to provide maximum water resource benefits by increasing soil infiltration rates, groundwater recharge rates, aquifer storage, and summer baseflows.</p> <p>This data layer has been created by combining the following datasets, further details of each dataset can be found in Table A2:</p> <ul style="list-style-type: none"> <li>A. A simplified and modified National Soils Map (NATMAP) 'Aquifer Classification'. This dataset links the hydraulic connectivity of the soil surface to the depth of the underlying groundwater</li> <li>B. A simplified Groundwater Vulnerability layer (GWV).</li> <li>C. The Q70 WR Availability Map. This dataset identifies areas across the country where water resources are most stressed and where the greatest benefits will be provided. Q70 was selected as it shows a more representative surface water and groundwater abstraction impact compared to the Q95 WR Availability Map, which is influenced in addition to Hands of Flow and Stream Support conditions designed to protect low flow regimes.</li> </ul> <p><b>Table A2.</b> The scoring system used to identify minimal and optimal potential recharge areas across the country.</p>			
<b>Data type</b>	<b>Data Source</b>	<b>Category</b>	<b>Class</b>
Aquifer Classification	NATMAP_HOST	Prop_1to6 & 13to15 (deep gw/aquifer present)	3
		Prop_7to12 (shallow gw/aquifer present)	2
		Prop_16to29 (no sign gw/aquifer present)	1
Ground water vulnerability (GWV)	GWV_2017	High	3
		Medium-High	3
		Medium	2
		Medium-Low	2
		Low	1

		Unproductive	0
Water Resource Availability	Camscdsq70	Red	4
		Yellow	3
		Green	2
		Grey	0
		Non-reportable waterbodies	0

**What can it tell you?**

The Groundwater Recharge Potential layer can be used to obtain the EA waterbody ID for the area, as well the prioritisation level for the selected area. Areas with high priority are indicated in green, these may benefit from beavers naturally allowing ground water recharge (Figure A5). Therefore, the layer can be used to target optimal potential recharge areas across the country where different types of nature-based solutions measures could be provided to support maximum water resource benefits.



**Figure A5.** Groundwater Recharge Potential layer within the BCAT. Green indicates high prioritisation areas, and yellow indicates medium prioritisation areas.

### **What can it not tell you?**

The Groundwater Recharge Potential Layer only identifies areas of minimal opportunity through to the optimal opportunity for water resource benefits. It does not identify the type of measure that should be installed so this will need to be assessed by the landowner in collaboration with local expertise and Environmental Land Manager Advisors.


The mapping layers are static and therefore may not be accurate. Moreover, the layer may not show all sites of potential historical pollution.

### **Other information**

Such measures should only operate on 'greenfield' agricultural sites that have not had any history of previous non-agricultural activity. Specifically, no tipping, landfilling or industrial activity without a detailed site investigation in line with the [land contamination risk management](#) to ensure any enhanced recharge does not mobilise legacy contaminants in the soil and/or unsaturated zone. These layers are identified in the consultation zone data layer (not included within the BCAT) and should be used alongside the groundwater recharge potential data layer.

Any works should be designed to minimise flow across the land surface to minimise the potential to pick up fugitive contaminants before infiltration. The installation of sacrificial bunds/settlement ponds upstream of recharge areas is also recommended to allow sediment and nitrates to be stripped out of surface water runoff prior to groundwater recharge.

The exclusion of urban areas (and a 250m buffer zone), 1km coastal buffer strip and the geohazards layers should reduce the risks of land slippage but this should be assessed before work commences.

<b>Data layer name</b>	<b>Modified and Artificial Water Bodies</b>
<b>Layer name in the BCAT</b>	Modified and Artificial Water Bodies
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">WFD River, Canal and Surface Water Transfer Water Bodies Cycle 2 Classification 2019</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Environment Agency copyright and/or database right 2015. All rights reserved. © Crown copyright.	
<b>Brief description of the data layer</b>	
<p>This data layer contains details on both heavily modified water bodies (HMWB) and artificial water bodies (e.g., canals). It includes river water bodies managed under the Water Framework Directive (WFD).</p> <p><b>HMWB:</b> HMWB are bodies of water which, due to physical alterations by human activity, are substantially changed in character and cannot, therefore, meet "good ecological status". River Basin Planning under the WFD identifies where these designated water bodies exist and the mitigation measures that can be put in place to achieve as high a status as possible whilst it is acknowledged they cannot meet "good ecological" status. Modifications can include alterations to the water flow, structure, or other physical characteristics. A requirement of the WFD is to report physical modifications and uses that have resulted in a HMWB. This dataset lists the physical modifications and uses that have resulted in designation. It was produced for the 2016 River Basin Management Plans data reporting to the European Commission (EC) known as WISE.</p> <p><b>Artificial water bodies:</b> Artificial water bodies within this dataset includes canals and surface water transfers which are reported to Europe as artificial rivers.</p>	
<b>What can it tell you?</b>	
<p>This data layer provides the location of water bodies that have been designated as either heavily modified or artificial. These water bodies can be distinguished using the legend (Figure A6). For both HMWB and artificial water bodies details can be obtained for the following features: water body name and ID, river basin district name, management catchment name, operational catchment name, ecological classification (e.g., good, moderate, poor, bad), chemical classification (e.g., good or fail), topology, and water body length.</p>	
	
<p><b>Figure A6.</b> Colour legend for the Modified and Artificial Water Bodies layer, to distinguish between HMWB and artificial water bodies across England.</p>	

**What can it not tell you?**

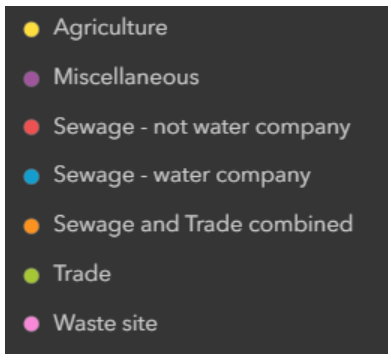
HMWB designations relate to extensive modifications and so there will be modifications that are not classified as HMWB on most watercourses and thus are not highlighted within this data layer. This layer does not provide the exact location of the extensive modifications, only that a waterbody has been heavily modified. The data layer also does not tell you whether mitigations are in place to deal with poor status.

**Other information**

This data layer offers useful applications for Local Nature Recovery Strategies, as it shows where the waterbody has an assigned purpose that cannot be changed, for example navigation or reduction in flood risk. The layer could be useful when focussing on restoration and retention of natural features within the HWMB, which could act as ecological corridors to reduce fragmentation and improve connectivity.

The [Catchment Based Approach](#) provides lots of information that will help to better understand the catchment of interest, including specific pressures within the catchment.

For further information on canals and their associated infrastructure please see the various data layers from the [Canal and River Trust Open Data Portal](#).

<b>Data layer name</b>	<b>Consented Discharges to Controlled Waters in England</b>
<b>Layer name in the BCAT</b>	Consented Discharges to Controlled Waters (England)
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">Consented Discharges to Controlled Waters (England)</a>
<b>Licence type</b>	<a href="#">Environment Agency Conditional Licence</a>
<b>Attribution statement:</b> © Environment Agency copyright and/or database right 2020. All rights reserved.	
<p><b>Brief description of the data layer</b></p> <p>Discharges are when sewage, trade effluent, and clean uncontaminated water are pumped through pipes or outlets into watercourses or waterbodies. Consented discharges are those where permission has been granted to discharge effluent into the sea, surface waters or groundwater.</p> <p>This data was extracted from the Environment Agency’s Public Register in March 2024 and republished by The Rivers Trust. Catchment Based Approach identifiers were added using a spatial join to allow easy filtering. Some fields from the original dataset have been removed, resulting in this layer only containing Tier 1 Site and General information for all active permits. Where Tier 1 provides the site and general information on the consent holder that has a consent to discharge into controlled waters. For Tier 2 and Tier 3 information on discharges, this can be obtained from the full <a href="#">Consented Discharges to Controlled Waters with Conditions</a> database.</p>	
<p><b>What can it tell you?</b></p> <p>This data layer provides details on the object ID, site code, name of company holding the permit, name of the site where discharge is occurring, a description of the site type (e.g., sewage treatment, wholesale trade, domestic property), site location, EA region, receiving water type, date of permit issue and effectiveness, outlet type, effluent type, and effluent sampling point. Each colour on the layer is associated with a different discharge site type (Figure A7). Further details on the site type can be obtained by selecting the site location and identifying these details from the pop-up window.</p>  <p><b>Figure A7.</b> Types of discharge sites.</p>	
<p><b>What can it not tell you?</b></p> <p>This data layer does not provide any details on the water quality testing results or any indication of water contaminants.</p>	

**Other information**

Beaver dams may cause sediments and pollutants held in these dams to drop out behind dams, reducing the levels of pollutants downstream of their dams. Nevertheless, it should be noted that addressing pollution at the source is still a vital action and not replaced by beaver activity. Damming may block discharge pipes causing water levels to rise at the discharge point, potentially affecting the discharge and treatment.

<b>Data layer name</b>	<b>Nutrient Vulnerable Zones (NVZ)</b>
<b>Layer name in the BCAT</b>	Nutrient Vulnerable Zones (NVZ) Surface Waters
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update. This dataset was published on 24 July 2018.
<b>Link to metadata</b>	<a href="#">Nutrient Vulnerable Zones (NVZ) Surface Waters – 2017 Final Designations</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<p><b>Attribution statement:</b> © Environment Agency copyright and/or database right. Derived in part from geological mapping data provided by the British Geological Survey © NERC. Derived in part from data provided by the National Soils Research Institute © Cranfield University. Contains Ordnance Survey data © Crown copyright and database rights. Derived in part from data provided by the Department for the Environment, Farming and Rural Affairs © Crown 2018 copyright Defra. Derived in part from data provided by the Centre for Ecology and Hydrology © NERC. Derived in part from data provided by UK Water Companies.</p>	
<p><b>Brief description of the data layer</b></p> <p>Nitrate Vulnerable Zones (NVZ) are areas designated as being at risk from agricultural nitrate pollution. The designations are made in accordance with the Nitrate Pollution Prevention Regulations 2015. Waters are defined within the Nitrates Directive as polluted if they contain or could contain, if preventative action is not taken, nitrate concentrations greater than 50mg/l.</p> <p>This dataset sets out the NVZ surface water designations, following appeals that came into force in 2017.</p>	
<p><b>What can it tell you?</b></p> <p>This data layer indicates NVZ that are considered to be at risk from agricultural nitrate pollution. For each at risk NVZ the layer provides details on the NVZ type, name, ID, and area. The data layer can also be used to visualise the extent of each NVZ.</p>	
<p><b>What can it not tell you?</b></p> <p>This data layer does not tell the user where beaver dispersal may occur following a release and whether this is within or across NVZ. This data layer does not provide information on nitrate concentrations and therefore whether one NVZ is more at risk than another from agricultural nitrate pollution, nor does it provide details on areas where measures are in place to reduce existing nitrate pollution. The source of the nitrate pollution is not provided by this dataset.</p>	
<p><b>Other information</b></p> <p>Excess nutrients, such as nitrates, can cause algae growth which reduces oxygen levels and sunlight within watercourses threatening the health of these systems. Beavers are known to help improve water quality through the trapping of nitrates in beaver ponds and by reducing pollution downstream of dams. Beavers may provide an opportunity to improve water quality in NVZ.</p>	

<b>Data layer name</b>	OS Open Rivers
<b>Layer name in the BCAT</b>	OS Open Rivers
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">OS Open Rivers</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> Contains Ordnance Survey data © Crown Copyright and database right 2024.	
<b>Brief description of the data layer</b>	
OS Open Rivers is an open water network showing the flow and locations of rivers, streams, lakes, and canals across the whole of Great Britain.	
<b>What can it tell you?</b>	
<p>This data layer can be used to better visualise water networks and connectivity compared to using the watercourses visible on the basemaps. As a result, watercourses can be better visualised within catchment areas or areas of interest. This enhanced visibility of watercourses may provide the user with a more detailed overview of the river network to better understand where beaver dispersal might occur from the point of release. Moreover, the river course can be identified along its full length.</p> <p>Used alongside the 'Elevation Profile' tool within the BCAT, the topology surrounding the watercourse can be better understood. This understanding may be used to determine whether an area is likely to flood following beaver damming. It should be noted that such information is not provided by the BCAT and is left to the user to analyse and determine, based on the data layers available.</p>	
<b>What can it not tell you?</b>	
This data layer does not tell the user where beaver dispersal may occur following a release or from an existing wild population. Any inference on beaver dispersal using this data layer is down to the user.	
<b>Other information</b>	
N/A	

<b>Data layer name</b>	<b>National Grid Towers</b>
<b>Layer name in the BCAT</b>	Electricity Towers This data layer is stored within the National Grid – Electricity dropdown.
<b>Date last updated</b>	February 2025
<b>Link to metadata</b>	<a href="#">Network Route Maps</a>
<b>Licence type</b>	<a href="#">Non-commercial licence</a>
<b>Attribution statement:</b> © National Grid copyright 2025.	
<b>Brief description of the data layer</b>	
<p>An electrical tower is a reticular structure made of steel that functions as an aerial support for transmission lines for electrical power distribution, whether high or low voltage. Depending on its use or the voltage of the distributed energy, it can vary in shape and size.</p> <p>The height of an electrical tower can range from 15 metres to 55 metres, though there are some types, usually for distributing high voltage currents, that can reach 300 metres. Its height and robustness enable the electrical tower to cope with the environmental adversities to which it is subjected, without the power lines being impacted, nor the safety of the people, animals, or objects around it.</p>	
<b>What can it tell you?</b>	
<p>This data layer covers England, indicating the geographic locations of electric towers which support the distribution of electricity for the national grid, as well as the tower height.</p>	
<b>What can it not tell you?</b>	
<p>This data layer does not provide details on the type of electricity tower.</p>	
<b>Other information</b>	
<p>Beavers have the potential to affect the national grid infrastructure through tree felling. National grid infrastructure needs to be kept clear of trees for functional use.</p>	

<b>Data layer name</b>	<b>National Grid Over Head Lines</b>
<b>Layer name in the BCAT</b>	Electricity Over Head Lines This data layer is stored within the National Grid – Electricity dropdown.
<b>Date last updated</b>	February 2025
<b>Link to metadata</b>	<a href="#">Network Route Maps</a>
<b>Licence type</b>	<a href="#">Non-commercial licence</a>
<b>Attribution statement:</b> © National Grid copyright 2025.	
<b>Brief description of the data layer</b>	
<p>An overhead power line is a structure used in electric power transmission and distribution to transmit electrical energy across large distances. It consists of one or more uninsulated electrical cables (commonly multiples of three for three-phase power) suspended by towers or poles.</p> <p>Since most of the insulation is provided by the surrounding air, overhead power lines are generally the least costly method of power transmission for large quantities of electric energy.</p>	
<b>What can it tell you?</b>	
<p>This data layer covers England, indicating the geographic locations of overhead power lines which support the distribution of electricity for the national grid. It provides details on the length, circuit name, and status.</p>	
<b>What can it not tell you?</b>	
<p>This data layer cannot provide you with details on the voltage of electric power transmission.</p>	
<b>Other information</b>	
<p>Overhead power lines need to be kept clear of trees for functional use. Beavers have the potential to affect the national grid infrastructure through tree felling, resulting in trees falling onto cable lines.</p>	

<b>Data layer name</b>	<b>National Grid Substations</b>
<b>Layer name in the BCAT</b>	Electricity Substations This data layer is stored within the National Grid – Electricity drop down.
<b>Date last updated</b>	February 2025
<b>Link to metadata</b>	<a href="#">Network Route Maps</a>
<b>Licence type</b>	<a href="#">Non-commercial licence</a>
<b>Attribution statement:</b> © National Grid copyright 2025.	
<b>Brief description of the data layer</b>	
<p>One of the main roles of substations is to convert electricity into different voltages. This is needed so that electricity can be transmitted across the country, into our homes, businesses, and buildings.</p> <p>Substations contain specialist equipment that allows the voltage of electricity to be transformed (or ‘switched’). The voltage is stepped up or down through pieces of equipment called transformers, which sit within a substation’s site.</p> <p>The two most common types of substations are transmission substations and distribution substations.</p> <p>Transmission substations are found where electricity enters the power grid. Since the output from power generators, such as power stations or wind farms, varies in voltage (between 130 kilovolt (kV) and 400kV in the UK, and up to 600kV in the US) it must be converted to a level that suits its means of transmission. Electricity is then commonly transmitted through the high-voltage, overhead power lines and can travel vast distances. In the UK, these run at either 275kV or 400kV. Increasing or decreasing the voltage to suit will ensure that it reaches local distribution networks safely and without significant energy loss.</p> <p>Distribution substations are found where the electricity is routed from the transmission system into a distribution substation, which will lower the voltage to around 11kV in the UK so that it can enter homes and businesses at a usable level. This is carried through a distribution network of smaller overhead lines or underground cables into buildings at 240V.</p>	
<b>What can it tell you?</b>	
This data layer covers England, indicating the geographic locations of electric substations which support the distribution of electricity for the national grid. This layer provides details on the operating voltage, area, substation name.	
<b>What can it not tell you?</b>	
This data layer does not provide details on the type of electricity substation.	
<b>Other information</b>	
N/A	

<b>Data layer name</b>	<b>Channels and Culverts</b>
<b>Layer name in the BCAT</b>	Channels and Culverts
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">AIMS Channel</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Environment Agency copyright. Contains Ordnance Survey data © Crown copyright and database right.	
<b>Brief description of this data layer</b>	
<p>The EA releases a range of flood asset information as Open Data. These datasets are the only comprehensive and up-to-date group of datasets in England that show flood defences currently owned, managed, or inspected by the EA. This layer contains linear data for assets that convey water, e.g., simple and complex culverts.</p> <p>A defence is any asset that provides flood defence or coastal protection functions and includes both manmade and natural defences. Natural defences may include manmade elements to make them more effective. A number of assets will be used together to manage the risk in a particular area, working in combination within a risk management system. The “system” layer AIMS Flood Risk Management Systems (FRMS) (not available within the BCAT) is not available to NE staff but EA staff can help inform on this during potential beaver release assessments.</p>	
<b>What can it tell you?</b>	
<p>The dataset shows the location and metadata of our flood defences, specifically it provides you with the location of simple and complex culverts. Combined with other EA datasets it can give a better understanding of flood risk (e.g., Reduction of Flooding from Rivers and Sea data layer). This data layer also provides detail on the asset types (e.g., fluvial and coastal).</p> <p>All assets on main rivers and around the coast are selected from AIMS where the following apply:</p> <ul style="list-style-type: none"> <li>• EA has operational powers to maintain or operate (whether or not they exercise those powers)</li> <li>• There is a liability on Flood and Coastal Risk Management (FCRM)</li> <li>• Should be attached to FRMS</li> </ul> <p>This includes:</p> <ul style="list-style-type: none"> <li>• Asset sub-type 'high ground'</li> <li>• Assets we may operate for FCRM in an incident</li> </ul> <p>Explanation of 'Condition Grades':</p> <ol style="list-style-type: none"> <li>1 – Very Good – Cosmetic defects that will have no effect on performance.</li> <li>2 – Good – Minor defects that will not reduce the overall performance of the asset.</li> <li>3 – Fair – Defects that could reduce performance of the asset.</li> <li>4 – Poor – Defects that would significantly reduce the performance of the asset. Further investigation needed.</li> <li>5 – Very Poor – Severe defects resulting in complete performance failure.</li> </ol> <p>Explanation of 'Quality Flags':</p> <ol style="list-style-type: none"> <li>1 = Good</li> <li>2 = Adequate</li> </ol>	

3 = Suspect  
4 = Poor  
5 = Missing  
0 / 6 = Unchecked

**What can it not tell you?**

This data layer does not contain all AIMS defences, such as:

- Point data for structures such as outfalls or linear features such as earth embankments which can be found on other data sets
- Non main river assets
- Coastal protection assets/schemes that another operating authority is responsible for
- Assets solely funded by non-FCRM (EA) funding streams with no FCRM purpose.

This dataset only contains defences owned, managed, or inspected by EA. This data does not show the location of linear assets, such as raised earth embankments.

**Other info**

N/A

<b>Data layer name</b>	<b>Water Control Structures</b>
<b>Layer name in the BCAT</b>	Water Control Structures
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">AIMS Structure</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Environment Agency copyright. Contains Ordnance Survey data © Crown copyright and database right.	
<b>Brief description of the data layer</b>	
<p>The EA releases a range of flood asset information as Open Data. This data is the only comprehensive and up-to-date group of datasets in England that show flood defences currently owned, managed, or inspected by the EA. The Open Data asset types are listed below:</p> <ul style="list-style-type: none"> <li>• Aids to navigation</li> <li>• Beach structure</li> <li>• Buildings and compounds</li> <li>• Channel crossing</li> <li>• Channel</li> <li>• Defence (Spatial Flood Defences)</li> <li>• Instrument</li> <li>• Land</li> <li>• Structure</li> </ul> <p>A flood defence is any asset that provides flood defence or coastal protection functions. This includes both manmade and natural defences. Natural defences may include manmade elements to make them more effective or protect them from erosion. Flood defences can be structures, buildings, or parts of buildings. Typically, these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding. Normally several assets will be used together to manage the risk in a particular area, working in combination within a risk management system.</p> <p>The Environment Agency releases a range of flood asset information as Open Data. They are the only comprehensive and up-to-date group of datasets in England that show flood defences currently owned, managed, or inspected by the EA.</p> <p>This layer contains point data for structures such as outfall, fish pass, screen, and stilling basin.</p>	
<b>What can it tell you?</b>	
<p>All assets on main rivers and around the coast are selected from AIMS where the following apply:</p> <ul style="list-style-type: none"> <li>• EA has operational powers to maintain or operate (whether we exercise those powers)</li> <li>• There is a liability on FCRM</li> <li>• Should be attached to FRMS.</li> </ul> <p>This includes:</p> <ul style="list-style-type: none"> <li>• Assets EA may operate for FCRM in an incident</li> <li>• Assets used to protect the coast from erosion or provide access</li> <li>• This layer contains point data for structures such as outfall, fish pass, screen, stilling basin.</li> </ul>	

Explanation of 'Condition Grades'

- 1 - Very Good - Cosmetic defects that will have no effect on performance
- 2 - Good - Minor defects that will not reduce the overall performance of the asset
- 3 - Fair - Defects that could reduce performance of the asset
- 4 - Poor - Defects that would significantly reduce the asset performance, investigation needed.
- 5 - Very Poor - Severe defects resulting in complete performance failure.

Explanation of spatial data 'Quality Flags':

- 1 = Good
- 2 = Adequate
- 3 = Suspect
- 4 = Poor
- 5 = Missing
- 0 / 6 = Unchecked

Further details on the asset ID, asset maintainer, asset name, asset operator, asset owner, asset start date, asset type, current condition, FMRS code, last inspection date, next inspection date, local authority, primary purpose, flood protection type, structure height, target condition, and water management area can be obtained where available for this layer.

**What can it not tell you?**

This layer does not contain all AIMS flood defences, such as

- Non main river assets
- Coastal protection assets/schemes that another operating authority is responsible for
- Assets solely funded by non-FCRM (EA) funding streams with no FCRM purpose

The layer only contains defences owned, managed, or inspected by EA. This data does not show the location of linear assets, such as raised earth embankments. There may be other assets across England that are not owned, managed, or inspected by the EA and thus are not included within this data layer.

**Other information**

N/A

<b>Data layer name</b>	<b>Spatial Flood Defences</b>
<b>Layer name in the BCAT</b>	Spatial Flood Defences
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">AIMS Spatial Flood defences (including standardised attributes)</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Environment Agency copyright. Contains Ordnance Survey data © Crown copyright and database right.	
<p><b>Brief description of this data layer</b></p> <p>The EA releases a range of flood asset information as Open Data. These datasets are the only comprehensive and up-to-date group of datasets in England that show flood defences currently owned, managed, or inspected by the EA. This data layer contains linear data for structures such as raised earth embankments.</p> <p>A defence is any asset that provides flood defence or coastal protection functions and includes both manmade and natural defences. Natural defences may include manmade elements to make them more effective. A number of assets will be used together to manage the risk in a particular area, working in combination within a risk management system. The “system” layer AIMS FRMS is not available to NE staff, but EA can help inform this in the assessment.</p>	
<p><b>What can it tell you?</b></p> <p>The data layer shows the location and metadata of our flood defences. Specifically, this data layer shows the location of linear assets, such as raised earth embankments. It is combined with other data in EA flood models to help better understand flood risk (e.g., Reduction of Flooding from Rivers and Sea data layer).</p> <p>All assets on main rivers and around the coast are selected from AIMS where the following apply:</p> <ul style="list-style-type: none"> <li>• EA has operational powers to maintain or operate (whether or not they exercise those powers)</li> <li>• There is a liability on FCRM</li> <li>• Should be attached to FRMS</li> </ul> <p>This includes:</p> <ul style="list-style-type: none"> <li>• Asset sub-type 'high ground'</li> <li>• Assets we may operate for FCRM in an incident</li> </ul> <p>Asset types (fluvial and coastal) are included in this data layer, for example: Embankment.</p> <p>Explanation of 'Condition Grades':</p> <ol style="list-style-type: none"> <li>1 – Very Good – Cosmetic defects that will have no effect on performance.</li> <li>2 – Good – Minor defects that will not reduce the overall performance of the asset.</li> <li>3 – Fair – Defects that could reduce performance of the asset.</li> <li>4 – Poor – Defects that would significantly reduce the performance of the asset. Further investigation needed.</li> <li>5 – Very Poor – Severe defects resulting in complete performance failure.</li> </ol> <p>Explanation of 'Quality Flags':</p> <p>1 = Good</p>	

2 = Adequate  
3 = Suspect  
4 = Poor  
5 = Missing  
0 / 6 = Unchecked

**What can it not tell you?**

This dataset does not contain all AIMS defences, such as:

- Point data for structures such as outfalls
- Non main river assets
- Coastal protection assets/schemes that another operating authority is responsible for
- Assets solely funded by non-FCRM (EA) funding streams with no FCRM purpose.

This dataset only contains defences owned, managed, or inspected by EA. This data shows the location of linear assets, such as raised earth embankments.

**Other info**

N/A

<b>Data layer name</b>	<b>Railways</b>
<b>Layer name in the BCAT</b>	Railways Main England
<b>Date last updated</b>	February 2025
<b>Link to metadata</b>	<a href="#">Open Street Map</a>
<b>Licence type</b>	<a href="#">Open Data Commons Open Database License</a>
<b>Attribution statement:</b> © OpenStreetMap Foundation. The full list of contributors and their attributions can be found <a href="#">here</a> .	
<b>Brief description of the data layer</b>	
<p>Open Street Map is a global dataset of roads, trails, cafés, railway stations, and much more. This railways layer has been created by extracting the railways from Open Street Map, undertaken in February 2025. Consequently, this layer shows the location of railways in England, including both active and decommissioned lines, as of February 2025.</p>	
<b>What can it tell you?</b>	
<p>The layer shows the location, name, and length of railways in England, as of February 2025. Usage of the railway is indicated, providing details on whether this is main or tourism.</p>	
<b>What can it not tell you?</b>	
<p>Information on the infrastructure around the railway (e.g., embankments) is not provided. This layer does not indicate how likely the construction is to be affected by beaver activity.</p>	
<b>Other information</b>	
N/A	

<b>Data layer name</b>	<b>OS Open Roads</b>
<b>Layer name in the BCAT</b>	OS Open Roads
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">OS Open Roads</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> Contains Ordnance Survey data © Crown Copyright [and database right] (2023).	
<b>Brief description of the data layer</b>	
OS Open Roads is a high-level view of the road network, from motorways to country lanes in Great Britain. The links represent an approximate central alignment of the road carriageway and includes roads classified by the National or Local Highway authority.	
<b>What can it tell you?</b>	
This data layer provides details on the location of roads, their name, status (e.g., motorway, A road, or B road), and length of selected segment (m).	
<b>What can it not tell you?</b>	
This data layer cannot tell you where smaller tracks, not classified by the national or local highway authority are located. Furthermore, it does not provide details about the infrastructure around the road or whether the road is likely to be affected by beaver activity.	
<b>Other information</b>	
N/A	

<b>Data layer name</b>	<b>Listed Buildings</b>
<b>Layer name in the BCAT</b>	Listed Building points This data layer is stored within the National Heritage List for England (NHLE) dropdown.
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update. Data is updated daily.
<b>Link to metadata</b>	<a href="#">Listed Building points</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Historic England. © Crown Copyright 2025. Contains Ordnance Survey data © Crown copyright and database right 2025.	
<b>Brief description of the data layer</b>	
<p>The NHLE is the only official, up to date register of all nationally protected historic buildings and sites in England. Listed Building are buildings of special architectural or historic interest with legal protection, covering a range of different buildings including castles, stately homes, banks, garden walls, shops, mills, bridges, synagogues, factories, and more. Listing buildings of special architectural or historical interest began in the 1940s, with the Town and Country Planning Acts of 1944 and 1947. On the NHLE, there are over 370,000 entries for listed buildings.</p> <p>Listed buildings a given one of three grades (I, II, or III):</p> <ul style="list-style-type: none"> <li>• Grade I listed buildings are deemed to be of exceptional interest.</li> <li>• Grade II listed buildings are deemed to be of special interest. 86% of all listed buildings fall within the grade II listed building category.</li> <li>• Grade III listed buildings are awarded to grade II listed buildings with some additional merit.</li> </ul>	
<b>What can it tell you?</b>	
<p>This data layer contains point locations for listed buildings and provides the British National Grid spatial reference for each. The data layer provides the name of the listed building, the year it was listed, and the grade of the listed building. A NHLE link is provided for each listed building that can be used to obtain a short description of the listed building, as well as a photograph of the site.</p>	
<b>What can it not tell you?</b>	
<p>This data layer does not provide any details on the condition or management of the site. It also cannot tell you how likely the listed building is to be affected by beaver activity.</p>	
<b>Other information</b>	
<p>The record of each listed building can be found on the <a href="#">NHLE</a>.</p>	

<b>Data layer name</b>	<b>Scheduled Monuments</b>
<b>Layer name in the BCAT</b>	Scheduled Monuments This data layer is stored within the National Heritage List for England (NHLE) dropdown.
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">Scheduled Monuments</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Historic England. © Crown Copyright 2025. Contains Ordnance Survey data © Crown copyright and database right 2025.	
<b>Brief description of the data layer</b>	
<p>There are over 200 categories of monuments on the schedule, ranging from prehistoric standing stones and burial mounds to various types of medieval sites such as castles, monasteries, abandoned farmsteads, and villages, as well as more recent results of human activity, such as collieries (Historic England, 2024). Such scheduled monuments are not always ancient or visible above ground.</p> <p>Scheduling is applied only to sites of national importance, and even then, only if it is the best means of protection (see 'Alternatives to Scheduling' below). Only deliberately created structures, features, and remains can be scheduled. There are almost 20,000 scheduled monuments on the list. Scheduling is reserved for carefully selected sites, which create a representative sample of sites from different epochs.</p> <p>This dataset provides scheduled monument sites across England that are considered to be of national importance. The limit of each site is recorded as a polygon within the data layer.</p>	
<b>What can it tell you?</b>	
<p>This data layer contains points and polygons for scheduled monuments and provides the British National Grid (EPSG:27700) spatial reference for each. The data layer provides the name, area in hectares, list entry number, and schedule date. A NHLE link is provided for each site that can be used to obtain a short description of what is present at the site, as well as the reason for its designation.</p>	
<b>What can it not tell you?</b>	
<p>This data layer does not provide any details on the condition or management of the site. It does not give any details about the history of the site. However, in many instances site history is available via the NHLE link for each site.</p>	
<b>Other information</b>	
<p>This dataset can be visualised online at Historic England's Open Data Publication site: <a href="#">Scheduled Monuments</a>.</p>	

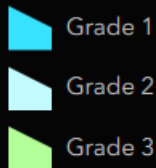
<b>Data layer name</b>	<b>Registered Parks and Gardens</b>
<b>Layer name in the BCAT</b>	Registered Parks and Gardens This data layer is stored within the National Heritage List for England (NHLE) dropdown.
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">Registered Parks and Gardens</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Historic England © Crown Copyright 2025. Contains Ordnance Survey data © Crown copyright and database right 2025.	
<b>Brief description of the data layer</b>	
<p>The NHLE is the only official, up to date, register of all nationally protected historic buildings and sites in England. The 'Register' of Historic Parks and Gardens was established in 1983, with the emphasis placed on protecting 'designed' landscapes rather than those with botanical importance. The Register safeguards a broad range of planned open spaces, including public parks, cemeteries, the grounds of private houses, and town squares. The register includes listed buildings, scheduled monuments, protected wrecks, registered parks and gardens, and battlefields.</p> <p>Like listed buildings, parks and gardens are assigned one of three grades to indicate their significance. This dataset uses the British National Grid (EPSG:27700) spatial reference. It contains points and polygons for listed buildings, building preservation notices, and certificates of immunity.</p>	
<b>What can it tell you?</b>	
<p>Within the standalone Registered Parks and Gardens data layer, details are available on the park or garden name, area in hectares, national grid reference, easting and northing, registration date, and grade of the park or garden. A NHLE link is provided for each registered park or garden that can be used to obtain a description of the site, as well as a photograph of each site.</p>	
<b>What can it not tell you?</b>	
<p>This data layer cannot be used to determine the current condition of park or garden, nor can it be used to identify the owner of the land.</p>	
<b>Other information</b>	
<p>Beavers have the potential to affect registered parks and gardens via tree felling or flooding from damming activities, if a park is situated near to a waterbody where beavers are present.</p>	

<b>Data layer name</b>	<b>World Heritage Sites</b>
<b>Layer name in the BCAT</b>	World Heritage Sites This data layer is stored within the National Heritage List for England (NHLE) dropdown.
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update. Data is updated daily.
<b>Link to metadata</b>	<a href="#">World Heritage Sites</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Historic England. © Crown Copyright 2025. Contains Ordnance Survey data © Crown copyright and database right 2025.	
<b>Brief description of the data layer</b>	
<p>World Heritage Sites are part of the World Heritage Convention, established in 1972 by United Nations Educational, Scientific and Cultural Organisation (UNESCO). They consist of landscapes, cities, monuments, or buildings of exceptional natural or cultural value. The World Heritage List includes the Great Wall of China, the Pyramids, the Great Barrier Reef and the City of Venice. World heritage sites in England include Stonehenge and Avebury, Canterbury Cathedral, the Tower of London, Hadrian’s Wall, the City of Bath, and others. For England, this dataset currently contains 19 entries, nine of which have ‘buffer’ zones.</p> <p>Please note: this dataset represents Historic England’s interpretation of the UNESCO World Heritage Site boundaries for sites wholly in or crossing into England.</p>	
<b>What can it tell you?</b>	
<p>This data indicates the extent of the world heritage site and provides the British National Grid spatial reference for each. The data layer provides the name of the world heritage site, the year of inscription, and the area (ha) covered by the site. A NHLE link is provided for each world heritage site that can be used to obtain a short description and photograph of each site, as well as the associated criteria and legal information.</p>	
<b>What can it not tell you?</b>	
<p>This data layer does not provide any details on the condition or management of the site. It also cannot tell you how likely the world heritage site is to be affected by beaver activity.</p>	
<b>Other information</b>	
<p>A full list of all world heritage sites, including those within the UK, can be found on the <a href="#">UNESCO World Heritage List</a>. This dataset can be visualised online at Historic England’s Open Data Publication site: <a href="#">World Heritage Sites</a>.</p>	

<b>Data layer name</b>	<b>Public Rights of Way</b>
<b>Layer name in the BCAT</b>	Public Rights of Way England
<b>Date last updated</b>	2023
<b>Link to metadata</b>	<a href="#">Rights of way</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Crown copyright and database right.	
<b>Brief description of the data layer</b>	
<p>Public rights of way made available by local authority websites, collated by the Rivers Trust from <a href="#">rights of way data</a>. Rights of way data for the 139 authorities have been released with an open licence, details of the 139 local authorities that have released data can be found on <a href="#">rights of way data</a>.</p>	
<b>What can it tell you?</b>	
<p>The public rights of way routes present within the boundaries of 139 local authorities. Detail on the type of right of way (e.g., national trail, bridleway, footpath) is also available.</p>	
<b>What can it not tell you?</b>	
<p>An authority's Definitive Map is the authoritative source of their rights of way. The details of the public rights of way network contained in an authority's data are for information only, and are an interpretation of the Definitive Map, not the Definitive Map itself, and should not be relied on for determining the position or alignment of any public right of way. For legal purposes, an authority's data does not replace their Definitive Map. And changes may have been made to the Definitive Map that are not included in their data. Attempting to view this data with more detail than 1:10,000 may produce an inaccurate rendering of the route of a public right of way.</p>	
<b>Other information</b>	
N/A	

<b>Data layer name</b>	<b>Agricultural Land Classifications</b>
<b>Layer name in the BCAT</b>	Provisional Agricultural Land Classifications (ALC) 1 & 2
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">Provisional Agricultural Land Classification (ALC) (England)</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right 2025.	
<b>Brief description of the data layer</b>	
<p>This map shows the best available estimate of agricultural land quality. Agricultural Land Classification (ALC) has several grades (1-5) indicating the quality of the land for agricultural purposes, with 1 indicating excellent quality and 5 indicating very poor quality. Further details are available in the <a href="#">Agricultural Land Classification of England and Wales: Revised criteria for grading the quality of agricultural land (ALC011)</a> (revised 1988).</p> <p>The most productive and flexible lands falls into three grades, also referred to collectively as ‘best and most versatile’ agricultural land:</p> <p><b>Grade 1 – excellent quality agricultural land</b> Land with no or very minor limitations. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, for example tree fruit such as apples and pears soft fruit, such as raspberries and blackberries, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.</p> <p><b>Grade 2 – Very good quality agricultural land</b> Land with minor limitations that affect crop yield, cultivations, or harvesting. A wide range of agricultural and horticultural crops can usually be grown. On some land in this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops, such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than grade 1.</p> <p><b>Grade 3a – Good quality agricultural land</b> Land with moderate limitations that affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in grades 1 and 2. Specifically grade 3a is land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of crops including cereals, grass, oilseed rape, potatoes, sugar beet, and less demanding horticultural crops.</p>	
<b>What can it tell you?</b>	
<p>This data layer provides the area of each polygon across England, alongside its ALC grade. It indicates areas of good or higher agricultural land quality derived from the ALC grades 1, 2, and 3a (Figure A8).</p>	

### Provisional Agricultural Land Classification (ALC) 1 & 2



**Figure A8.** The colour scale used to display the locations of the highest quality land across England.

This layer shows the highest quality agricultural land across England in which a combination of topography, soil characteristics, and their interactions determines the grade of the land in which:

- A wide range of crops can be grown
- A high yield of crops or output
- A high consistent crop yield
- Requires less input

#### **What can it not tell you?**

This data layer cannot tell you which crops are grown on an area of land or particular holding, nor can it tell you the crop yield of an area of land.

There are a number of further limitations to this dataset. The Strategic Map data is best suited for strategic planning rather than detailed site assessment purposes, due to several limitations. These limitations are:

- The soil association data at 1:250,000 scale is a relatively crude indicator of agricultural land quality.
- The relative lack of (post-1988) ALC site data for some soil associations and its uneven spatial distribution means the allocation to 'best and most versatile' agricultural land categories cannot be completely objective.
- The combination of different data in the production of the Strategic Map, some with different resolutions, means that there may be some compromises with the presentation.

Where post-1988 field survey data is available, allocation to one of the three categories of 'best and most versatile' agricultural land likelihood is depicted based on the actual grades determined from the field survey work. In these areas, the 'best and most versatile' agricultural land category is not a prediction of the likelihood of 'best and most versatile' agricultural land, but a generalized representation of the actual land quality in the surveyed area.

When recent (post-1988) Ministry of Agriculture Fishers and Food ALC field survey data is available, it is the most reliable source of information on land quality. If this data is not available, predictive data provides the best available information on land quality. The data is most useful at national and regional levels for indicating the general land quality within that region, such as comparing counties and districts with each other. It can also provide an understanding of the relative land qualities within districts and around major settlements at a basic level. However, it is not suitable for specific site appraisals. Site-specific studies, including new ALC field surveys, will be necessary to obtain definitive information on ALC grades for individual sites.

### **Other information**

Beavers may cause damage to agricultural land through the damming of nearby drainage channels or watercourses which can flood nearby farmland, farm buildings, or obstruct access to tracks. This can result in direct damage and loss of crops or injury and illness and disease of livestock through wetter land conditions. Moreover, beavers may also forage on crops such as maize and carrots.

There are a number of additional sources included within this dataset:

- Soil information from the National Soil Map (1983) produced by the National Soil Resources Institute of Cranfield University. The National Soil Map is copyright Cranfield University.
- Detailed Defra ALC field survey results for local areas.
- The Defra 1:250,000 scale ALC maps of England.
- Climatic Data derived from Met Office Sources.
- Extent of non-agricultural land use derived from the Defra 1:250,000 scale ALC maps of England.

This dataset can be visualised online via the Natural England Open Data Publication site:


[Provisional Agricultural Land Classification \(ALC\) \(England\)](#).

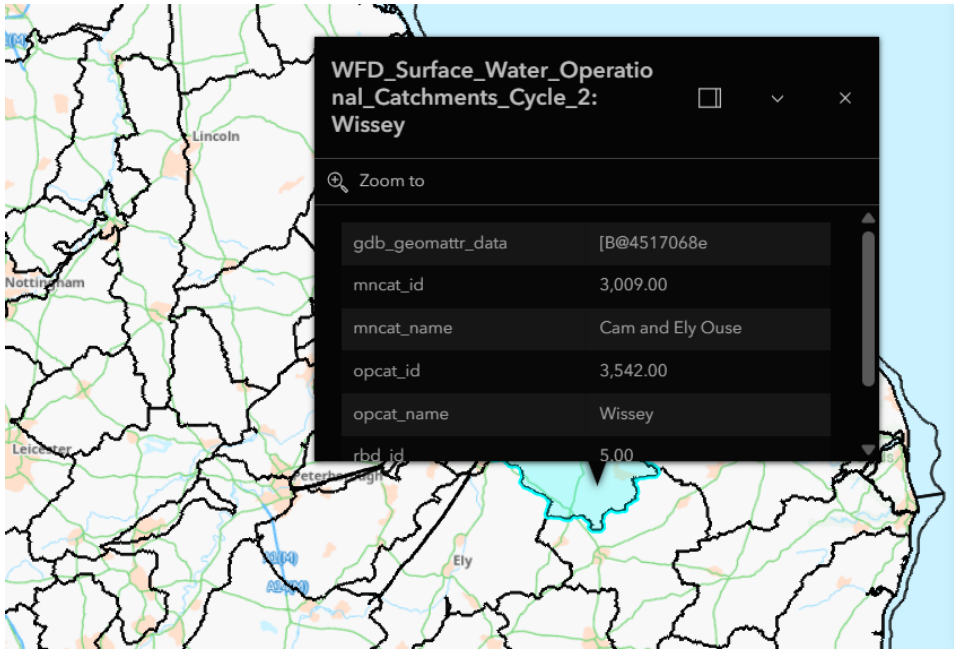
<b>Data layer name</b>	<b>Historic Landfill Sites</b>
<b>Layer name in the BCAT</b>	Historic Landfill Sites
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">Historic Landfill Sites</a>
<b>Licence type</b>	<a href="#">Environment Agency Conditional Licence</a>
<b>Attribution statement:</b> © Environment Agency copyright and/or database right. Contains information © Local Authorities. © Crown copyright.	
<b>Brief description of the data layer</b>	
<p>A landfill site is an area of land that is used to dump waste, either directly on the ground or into a purposefully dug hole. The Authorised Landfill Polygon dataset is a subset of the EA Waste Management Licensing data, stored on the Regulation Information System (REGIS). The Authorised Landfill Polygon dataset consists of a digital map layer which shows landfill sites in England.</p> <p>The Authorised Landfill Polygon records are created from all waste management licences that have a licence type of LF, A01, A02, A04, A05, A06, A07, L04, L05, S0901, 5.2 A(1)b.</p> <p>Landfill records contained within this data layer date from 1961 to present and are sites that have been licensed by the EA or its predecessors. Landfills remain in this layer until their licence is surrendered, revoked, or expires.</p>	
<b>What can it tell you?</b>	
<p>The data layer contains core fields extracted from the REGIS and Permit Administration System for all the landfill sites granted Waste Management Licences by the EA and its predecessor organisations. Details can be accessed for the landfill name, type, licence holder, site and licence holder address details, grid reference, and site area.</p>	
<b>What can it not tell you?</b>	
<p>This data layer does not include surrendered, expired, and revoked licences. This data layer contains landfill records from 1961 to present and therefore records prior to 1961 are not available in this data layer.</p>	
<b>Other information</b>	
<p>Landfill can contain pollutants that are harmful to the aquatic environment and may affect beaver habitats if released near landfill sites.</p> <p>This data layer can also be visualised online via the Natural England Open Data Publication site: <a href="#">Historic Landfill Sites</a>.</p>	

<b>Data layer name</b>	<b>Urban Areas and Gardens</b>
<b>Layer name in the BCAT</b>	Living England Urban and Gardens
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update. Data is updated daily.
<b>Link to metadata</b>	This dataset is an extraction of Urban and Gardens from <a href="#">Living England</a> .
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<p><b>Attribution statement:</b> © Natural England 2024. Contains: OS data © Crown copyright and database rights 2023 OS AC0000851168; Natural England Licence No. 2011/052 British Geological Survey © NERC. All rights reserved; © Environment Agency 2023. All rights reserved; © Rural Payments Agency 2022; NERC EDS Environmental Information Data Centre; National Plant Monitoring Scheme and survey data (2015-2023) organised and funded by the UKCEH, BSBI, Plantlife and JNCC, indebted to all volunteers who contribute data to the scheme; Modified Copernicus Sentinel data 2023; © Forestry Commission 2022; Soils Data © Cranfield University (NSRI) and for the Controller of HMSO 2005; © Carlos Bedson &amp; Manchester Metropolitan University 2019; British Geological Survey materials © UKRI 2016; HadUK-Grid data © Met Office 2018; Modified Copernicus Climate Change Service information 2023; © Bluesky International Ltd 2024; Map services and data available from U.S. Geological Survey, National Geospatial Program; © Department for Energy Security and Net Zero; © OpenStreetMap 2024.</p>	
<p><b>Brief description of the data layer</b></p> <p>Living England is a Natural England project producing a broad habitat map for the entirety of England. The map is created using satellite imagery, field data records, and other geospatial data using a machine learning framework. The habitat map shows the extent and distribution of broad habitats across England.</p> <p>Living England has been used within the BCAT to obtain a layer containing urban areas and gardens. To do so, areas with the primary habitat prediction of "Built-up Areas and Gardens" were extracted from the Living England map and included within this standalone layer.</p>	
<p><b>What can it tell you?</b></p> <p>The data layer shows the different areas of England that are classified as built-up urban and gardens within the Living England map. For each built-up area and gardens polygon, details can be obtained for the source for each area, the dates of the satellite imagery in spring and autumn, the polygon area (m<sup>2</sup>), and polygon perimeter (m).</p> <p>When a specific area is selected the data layer will tell you the Lower Super Output Area, Local Authority of that area, Government Region, and the settlement type.</p>	
<p><b>What can it not tell you?</b></p> <p>This data layer cannot tell you the Local Authority of the area, the corresponding government region, settlement type (e.g., city, town, village, hamlet), population size, or the name of the location.</p>	

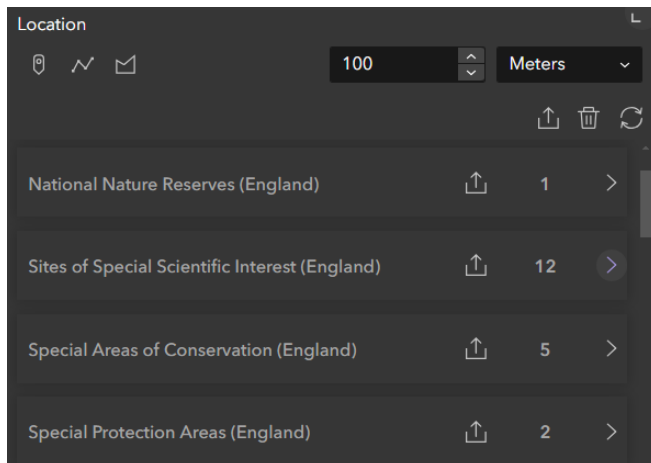
**Other information**

Beavers can reside in both urban and rural areas however this is dependent on the availability of forage (Ciach *et al.* 2023). Both urban and rural areas can be built of floodplains and therefore both may rely upon flood defences.

<b>Data layer name</b>	<b>Mines and Quarries</b>
<b>Layer name in the BCAT</b>	Mines and Quarries
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	This dataset is taken from the Mineral Resources layer from the <a href="#">GeoIndex Web Map Services</a> from the British Geological Survey.
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> Contains British Geological Survey materials © UKRI 2025	
<b>Brief description of the data layer</b>	
<p>This dataset is taken from the Mineral Resources layer from the GeoIndex Web Map Services from the British Geological Survey, which provides spatial data on the distribution of onshore mineral workings across Great Britain.</p> <p>Mineral workings are areas where minerals are present in the earth for extraction or mining.</p>	
<b>What can it tell you?</b>	
<p>This data layer tells you where mineral extraction sites are and the status of the sites (Figure A9).</p>	
	
<p><b>Figure A9.</b> Status of mineral workings across England.</p>	
<b>What can it not tell you?</b>	
<p>This data layer cannot tell you whether the site is liable to any changes from beavers or if these changes would be detrimental to operations or the stability of the site in question. Nor can the layer provide details on the size of the site, mineral extracted, or historic details of the site, such as the date of establishment or owner.</p>	
<b>Other information</b>	
<p>Mineral extraction can result in the contamination of soil, groundwater or surface water. Beavers may affect mineral workings located close to watercourses (as shown by this dataset) through burrowing or damming and flooding, which may lead to the release of contaminants and pollutants into the surrounding environment, which may then be harmful to beaver habitats.</p>	

<b>Data layer name</b>	<b>Surface Water Operational Catchments</b>
<b>Layer name in the BCAT</b>	WFD Operational Catchments
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update.
<b>Link to metadata</b>	<a href="#">WFD Surface Water Operational Catchments Cycle 2</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Environment Agency copyright and/or database right 2014. All rights reserved.	
<b>Brief description of the data layer</b>	
<p>WFD waterbodies are grouped together into operational catchments for the purposes of economic appraisal. Across England, every waterbody is assigned to an operational catchment. These operational catchments are not always hydrologically correct catchments as the river waterbodies may have been grouped based on pressures and measures rather than hydrology. This operational catchment dataset extends to cover transitional and coastal water bodies but excludes the underlying groundwater, and linear artificial waters. Operational catchments fall within management catchments, each of which have action plans to implement the WFD.</p> <p>Across England, there are 433 surface water operational catchment that fall into 10 river basin districts: Anglian, Dee, Humber, North West, Northumbria, Severn, Solway Tweed, South East, South West, and Thames.</p>	
<b>What can it tell you?</b>	
<p>This data layer can be used to identify the geographical boundaries of surface water operational catchments (Figure A10). Within each catchment this includes details on the operational catchment ID and name, the management catchment ID and name, and the river basin district ID and name.</p>	
	
<p><b>Figure A10.</b> Surface water management catchments as shown in the BCAT. The blue highlighted catchment is the Cam and Ely Ouse Catchment.</p>	

This layer can be used to identify considerations present within a catchment area. To do so, the polygon drawing tool can be used to draw an outline of the catchment and collate a list of all the considerations present within that area (Figure A11). This compiled list can be exported from the BCAT for further exploration in excel. Furthermore, a summary of BFI and BDC for each catchment can also be obtained in this way, by drawing an outline of the catchment of interest. The length of waterways with each BFI and BDC category are indicated in the 'BFI Summary' and 'BDC Summary' tabs respectively. A pie chart is used to display the proportion of waterways in each category.



**Figure A11.** All considerations present within a self-drawn catchment on the BCAT. This image shows the first few considerations only and the number of each consideration present within the user-drawn catchment. To see all the considerations the scroll bar on the right can be used.

### What can it not tell you?

In order to identify the number of considerations present within each catchment and compare the number of considerations across catchments, each catchment of interest must be drawn using the polygon drawing tool and then compared. Catchments cannot be selected, and the number of considerations present be automatically identified. However, as catchment boundaries are arbitrary to beavers it is perhaps best to create a scientifically driven region of interest, rather than relying on surface water catchment boundaries.

Surface water operational catchments are arbitrary to beavers, especially as these are not designed based on hydrology; therefore, this data layer cannot be used to identify where beavers may disperse to following release. It is likely that beavers may disperse beyond the catchment boundaries shown within this data layer.

This data layer cannot be used to obtain the economic appraisal of each operational catchment, nor can it be used to obtain the water quality of each waterbody within the catchment. Moreover, the area of catchment is not available via this data layer.

### Other information

River basin districts and the surface water management catchments within these can be visualised on the EA [Explore catchment data](#) tool.

<b>Data layer name</b>	<b>Wild Beavers in Catchment Based Approach Partnerships 2025 (England)</b>
<b>Layer name in the BCAT</b>	Wild Beavers in Catchment Based Approach Partnerships 2025 (England)
<b>Date last updated</b>	This layer is drawn directly from source link, please refer to metadata link for latest update. It is updated on an annual basis with the last update made in November 2025.
<b>Link to metadata</b>	<a href="#">Wild Beavers in Catchment Based Approach Partnerships 2025 (England)</a>
<b>Licence type</b>	<a href="#">Open Government Licence</a>
<b>Attribution statement:</b> © Natural England copyright. Contains Ordnance Survey data © Crown copyright and database right [2025].	
<p><b>Brief description of the data layer</b></p> <p>This data layer shows the locations of Catchment Based Approach (CaBA) partnerships where beavers are thought to be living in the wild. The data layer indicates catchment partnerships (available from the <a href="#">CaBA Catchment Partnerships</a> layer) where wild beaver populations are either:</p> <ul style="list-style-type: none"> <li>• confirmed established population,</li> <li>• establishing population,</li> <li>• population of unknown status,</li> <li>• unconfirmed or low numbers,</li> <li>• no known population.</li> </ul> <p>Since 10<sup>th</sup> February 2025 beavers are <a href="#">legally permitted to be released into the wild in England</a> under licence. However, there are already wild beaver populations in some areas that stem from illegal releases or escapes from enclosure, as well as beavers already released under licence.</p> <p>The data layer has been assembled using beaver survey data that has been gathered by experts from Natural England, Beaver Trust, Environment Agency, Devon Wildlife Trust, Wildcru, and Kent Wildlife Trust. The survey data that has been gathered to inform this data layer includes verified sightings of beavers, feeding signs, lodges, dams, burrows, food caches, and canals. The data has been gathered by experts conducting field surveys on foot or by canoe following a standardised methodology (see Campbell <i>et al.</i> 2012, Campbell-Palmer <i>et al.</i> 2018, Campbell-Palmer <i>et al.</i> 2020, and Campbell-Palmer <i>et al.</i> 2021) but also includes confirmed ad hoc records where no formal survey has been carried out.</p> <p>These beaver records are overlaid onto the CaBA Catchment Partnerships data layer to indicate the catchment partnerships where beavers are thought to be living in the wild.</p> <p>CaBA is an inclusive, civil society-led initiative that works in partnership with Government, Local Authorities, Water Companies, businesses and more, to maximise the natural value of our environment. CaBA partnerships are actively working in all 100+ river catchments across England and cross-border with Wales, to directly support the achievement of many of the targets under the Government’s 25 Year Environment Plan. CaBA embeds collaborative working at a river catchment scale, delivering a range of environmental, social and economic benefits and protecting our precious water environments for the benefit of us all. The catchment partnerships drive cost-effective practical delivery on the ground, resulting in multiple benefits including improvements to water quality, enhanced biodiversity, reduced flood risk, resilience to climate change and greater community engagement with their local river.</p>	

### What can it tell you?

The data layer tells you which [catchment partnerships](#) beavers are thought to be currently present and living in. Here, beaver presence is split into several sub-categories (Figure A12):

- **Confirmed established population** refers to a population of beavers that have successfully reproduced and maintained a stable presence over a wide proportion of a catchment for a sustained period, typically several years. This indicates that they have adapted to the local environment and are thriving, not just temporarily inhabiting a location.
- **Establishing population** refers to areas where beavers have recently been introduced to the area either through licensed releases or as a result of illegal releases. These populations often have a small number of beaver families that have formed territories that spread across a catchment with evidence of breeding but significant parts of the catchment remain to be colonised.
- **Population of unknown status** refers to areas where a population of beavers has been released to a catchment and their presence has been confirmed through sightings and limited surveys however there is little information on their distribution and population number. These populations are thought to be a small number of beavers, and it is uncertain if there is any breeding.
- **Unconfirmed or low numbers** refers to areas where we have confirmed records of beavers in an area, but current evidence suggests it is a low or unconfirmed number with no evidence of breeding, and it is therefore uncertain whether a population is likely to become established without further releases.
- **No known populations** refers to areas where there are no known sightings or reporting's recorded.



**Figure A12.** Wild beaver population presence categories.

### What can it not tell you?

As this layer displays wild beaver populations at the catchment-scale, from visual inspection the extent of wild beaver populations may appear exaggerated. If wild beaver populations exist within a specific water body within a catchment, the entire catchment will be displayed as having wild beaver populations, despite beavers not necessarily existing across the entirety of the catchment. It is therefore not possible to obtain the exact locations of where beavers exist within the catchment. Moreover, as the layer provides several different categories for wild beavers, care should be taken when interpreting the category for a catchment. Whilst Cornwall may appear at

first inspection to have widespread wild beaver populations, when referencing the legend, it is clear that this assumption is overinflated, and the catchment has unconfirmed or low numbers. Therefore, the utmost care should be taken when interpreting this layer.

Whilst some indication of the population is provided by the legend, the layer does not provide a clear picture as to the population size or territory size. Furthermore, no information is provided on dam, lodge, or burrow locations. Finally, the results of the various surveys used to assemble this layer are not provided as point locations to indicate beaver sightings or beaver activity.

Populations that are rumoured to exist but where no evidence has been seen of such populations have not been included as wild populations within this data layer. Beavers that are known, or suspected to have escaped from a licensed enclosure, where there are licence conditions requiring their recapture, have also not been included as wild populations within this data layer.

### **Other information**

Please note that the nature of beaver activity and wild release projects means that this dataset will not always be up to date, it is only up to date at the point of collation and publication. Therefore, efforts should be made to ensure that current beaver status is identified from appropriate data sources from local understanding.

For further information beaver populations in England, several surveys have been undertaken and published for the following catchments:

- [Otter catchment \(Devon\)](#)
- [Bristol Avon catchment \(Somerset/Wiltshire\)](#)
- [Exe and Taw catchments \(Cornwall/Devon\)](#)
- [Stour catchment \(Kent\)](#)

For further information on beaver sightings in England, please see the [NBN beaver atlas](#).

Data layer name	Data Layers not Included within the BCAT
Date last updated	January 2026
<p><b>Reasoning for data layer exclusions from the BCAT</b></p> <p>The BCAT does not provide a comprehensive list of all data layers or considerations that beavers may interact with. Nevertheless, the included considerations and data layers have been identified from the <a href="#">Natural England Evidence Review exploring the interactions between beavers and the natural and human environment</a> (Howe, 2020), as well as expert led workshops and testing with internal and external stakeholders.</p> <p>Several data layers have been suggested during user testing of the BCAT, many of which have been added to the BCAT to improve its functionality. However, some data layers suggested during testing have not been included within the BCAT for the following reasons:</p> <ul style="list-style-type: none"> <li>• <i>Broad use</i>: While certain layers may be useful to individual users, their inclusion must benefit a broad audience. Adding too many layers can significantly slow down the performance of the BCAT. Therefore, there is a careful balance between including additional layers and the performance of the BCAT that must be considered.</li> <li>• <i>Limited relevance</i>: In some cases, the potential impact of beavers on the features represented by a data layer was thought to be minimal, making inclusion unnecessary.</li> <li>• <i>Locally available</i>: If the data layer was not available at a national scale it was excluded from the BCAT.</li> <li>• <i>Data availability</i>: Some of the suggested data layers are currently unavailable. These will be monitored, and if they become publicly accessible in the future, they may be included into the BCAT.</li> </ul>	
<p><b>List of user-suggested data layers excluded from the BCAT</b></p> <p>Data layers not included within the BCAT for the reasons stated above, where data layers are available for these layer suggestions we have included links below for user reference:</p> <ul style="list-style-type: none"> <li>• Soil type – available from the <a href="#">Soilscapes Viewer</a> from LandIS</li> <li>• Solar farms – available from the <a href="#">Renewable Energy Planning Database</a> alongside other renewable energy infrastructure</li> <li>• Water supply pipelines</li> <li>• Agricultural land classification displaying all grades – available from the <a href="#">Provisional Agricultural Land Classification (ALC) (England)</a> map</li> <li>• Tree protection orders – available for England from the <a href="#">Tree Preservation Order</a> dataset</li> <li>• Class licence expertise across local authorities</li> <li>• Canal features (e.g., aqueducts, locks, tunnels, slipways) – each layer is available from the <a href="#">Canal and River Trust Open Data Portal</a>. Canal locations across England can be found within the BCAT using the Modified and Artificial Waterbodies layer.</li> <li>• Reservoirs – available from the <a href="#">Canal and River Trust Open Data Portal</a></li> <li>• Invasive and non-native species – available from <a href="#">INNS Mapper</a>. For primarily aquatic and riparian invasive non-native species a data layer is available from the EA and has been collated using <a href="#">EA Non-Native Species Surveys</a>.</li> <li>• Countryside stewardship management areas – available from the <a href="#">Land App</a>, a free account is required to access data layers via the Land App.</li> <li>• White claw crayfish – no known compiled data layer available. However, records could be accessed using the National Biodiversity Network Atlas or Local Records Centre data.</li> </ul>	

If any of these datasets are important to your area when assessing the landscape for wild release potential, or when assessing wild release applications, we recommend accessing these datasets through their original layer publication, instead of relying on the BCAT.

## Appendix 2: Glossary

<b>AGOL</b>	ArcGIS Online
<b>AIMS</b>	Asset Information Management System
<b>ALC</b>	Agriculture Land Classification
<b>AONB</b>	Area of Outstanding Natural Beauty
<b>ASNW</b>	Ancient Semi-Natural Woodland
<b>AWP</b>	Ancient Wood Pasture
<b>BAP</b>	Biodiversity Action Plan
<b>BDC</b>	Beaver Dam Capacity
<b>BFI</b>	Beaver Foraging Index
<b>BCAT</b>	Beaver Considerations Assessment Toolkit
<b>CEH</b>	Centre for Ecology and Hydrology
<b>DRN</b>	Detailed River Network
<b>EA</b>	Environment Agency
<b>EC</b>	European Commission
<b>FCRM</b>	Flood and Coastal Erosion Risk Management
<b>FIS</b>	Fuzzy Inference System
<b>FRMS</b>	Flood Risk Man System
<b>FWPM</b>	Freshwater Pearl Mussel
<b>GIS</b>	Geographic Information System
<b>GWV</b>	Ground Water Vulnerability
<b>ha</b>	Hectares
<b>HMWB</b>	Heavily Modified Water Bodies
<b>IDB</b>	Internal Drainage Board
<b>IDD</b>	Internal Drainage District
<b>JNCC</b>	Joint Nature Conservation Committee
<b>km</b>	Kilometres
<b>kV</b>	Kilovolts
<b>m</b>	Metres
<b>NATMAP</b>	National Soils Map
<b>NBN</b>	National Biodiversity Network
<b>NE</b>	Natural England

<b>NHLE</b>	National Heritage List for England
<b>NNR</b>	National Nature Reserve
<b>NVZ</b>	Nutrient Vulnerable Zones
<b>OS</b>	Ordnance Survey
<b>PAWS</b>	Plantation on Ancient Woodland Sites
<b>REGIS</b>	Regulation Information System
<b>SAC</b>	Special Areas of Conservation
<b>SAP</b>	Salmon Action Plan
<b>SPA</b>	Special Protection Area
<b>SSSI</b>	Site of Special Scientific Interest
<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organisation
<b>WFD</b>	Water Directive Framework
<b>WWF</b>	World Wide Fund for Nature

## Appendix 3: Key Definitions

<b>Beaver Dam Capacity</b>	The BDC layer is designed to estimate the capacity of river systems to support dams at the reach scale, which is approximately 110 metres. The model that has produced the BDC identifies reaches that are more likely to be dammed by beavers. Sections of watercourses across England are consequently split into sections based on the likelihood of beaver damming: none, rare, occasional, frequent, pervasive.
<b>Beaver Foraging Index</b>	The BFI data layer describes the spatial distribution of beaver foraging habitat. BFI describes the preference of a beaver towards a particular land cover type such as broadleaf or deciduous woodland. The BFI data layer provides details on the suitability of beaver foraging habitat within a 40-metre buffer of any watercourse in England, and is depicted as unsuitable, low, moderate, high, or preferred.
<b>Beaver Considerations Assessment Toolkit</b>	An interactive application which shows the location of considerations (e.g., designated sites, habitats and species, hydrological, infrastructure and land use considerations) that beaver activity might impact, as well as indicating BFI and BDC for watercourses across England.
<b>Catchment</b>	A specific layer within the BCAT that displays surface water catchments, showing their geographical boundaries and catchment name.
<b>Considerations</b>	A consideration is identified as factors attributed to beavers from the Natural England evidence review of the interactions between beavers and the natural and human environment. These are present in the BCAT as standalone data layers. Within the BCAT these have been grouped thematically (designated sites, habitats and species, hydrological, infrastructure and land use considerations). A list of the considerations and their groupings within the BCAT can be found in Section 2.2 of this guidance.
<b>Data Layer</b>	A data layer is a geospatial map layer which contains specific information around a given subject, and may include polygons, grid references and other features. Within the BCAT a data layer is the datasets that have gone into producing the BCAT.

## References

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