

Freshwater fish surveys (NFPD)

This document will help you to understand and use the Freshwater fish surveys dataset held in NFPD.

Dataset description

These products are Approved for Access under AfA347.

NFPD is a database for storing, manipulating, and reporting data from freshwater and transitional and coastal (TraC) water fish monitoring surveys. These samples are collected and analysed by the Environment Agency and by third parties.

All the relevant data associated with NFPD freshwater fish surveys, such as site and survey information, the numbers and species of fish caught, fish lengths, weights and ages (where available) can be obtained from the [Ecology & Fish Data Explorer](#). The data can be accessed by selecting Water Framework Directive (WFD) Operational Catchments or through using the interactive map to produce small downloadable files, or they can be downloaded in bulk, as a set of relational CSVs that can be linked via unique identifiers in each file.

Available datasets/tables (see below for further detail):

- [Freshwater fish counts \(NFPD\)](#)
- [Freshwater fish data types \(NFPD\)](#) (provides information on whether the fish in a survey have been individually, banded or bulk measured)
- [Freshwater fish individual lengths \(NFPD\)](#)
- [Freshwater fish banded measurements \(NFPD\)](#)
- [Freshwater fish bulk measurements \(NFPD\)](#)
- [Freshwater fish sites \(NFPD\)](#)

The tables can be related to each other using any one of the unique identifiers (SITE_ID, SITE_PARENT_ID, SURVEY_ID, SPECIES_ID, SURVEY_SPECIES_ID and SPECIES_RUN_ID).

Third party data and surveys not flagged as 'Completed' are excluded. This dataset includes data from monitoring locations in England only. For Welsh survey data please contact Natural Resources Wales.

Freshwater fish counts

This is a standalone dataset and can be used independently. It provides count (and observed abundance) data for fish species, hybrids, and other taxa (including Carle and Strub population estimates for quantitative surveys) and combines them with equivalent data on freshwater surveys flagged as single catch. Surveys where zero fish were recorded are also included, together with all the relevant site and survey information.

Freshwater fish data types

When a freshwater fish survey is carried out, the numeric (fish count) data can be recorded in one of 3 ways, or as a combination of these:

- individually measured (a count of fish that have been individually measured, for freshwater surveys this is recorded as fork length in mm)
- banded measured (a count of fish within a defined size band, normally recorded within 5mm length bands e.g., 5-9mm, 10-14mm) and/or
- bulk counted (a count of fish that have not been individually measured, often a subsample, where some have been individually or banded measured)

This dataset is available as a bulk download only and provides a breakdown for the counts in the 'Freshwater fish counts' dataset, showing whether they were recorded as individual, banded, or bulk measurements or a combination of these. It should be used to determine which of the 3 fish measurement datasets are required to provide further detail on fish lengths, weights, and ages

The dataset also includes the unique identifiers (ID values) needed to provide full relational integrity with the 'Freshwater fish counts' standalone dataset and the other relational fish records datasets. It should be used in conjunction with the 'Freshwater fish counts' dataset if site and survey information is required.

Freshwater fish individual lengths

This dataset provides the recorded fork length, in millimetres (mm), for all individually measured fish for all freshwater surveys. Individual fish weights, in grams (g), and ages are also included, where available. The dataset also includes the unique identifiers (ID values) needed to provide full relational integrity with the 'Freshwater fish counts' standalone dataset and should be used in conjunction with this for site, survey and/or species information.

Freshwater fish banded measurements

This dataset provides the start and end lengths (in mm) for all banded measured fish for all freshwater surveys. Band ages are also included where available. The dataset includes the unique identifiers (ID values) needed to provide full relational integrity with the 'Freshwater fish counts' standalone dataset and should be used in conjunction with this for site, survey and/or species information.

Freshwater fish bulk measurements

This dataset provides bulk counted data for all freshwater surveys. Start and end lengths (in mm), bulk weights (in g) and ages for the bulk counts are also provided, where available. The dataset also includes the unique identifiers (ID values) needed to provide full relational integrity with the 'Freshwater fish counts' standalone dataset and should be used in conjunction with this for site, survey and/or species information.

Freshwater fish sites

This dataset provides basic site information, including the number of surveys that have been carried out at the site and the first and last survey dates.

Update frequency

This dataset is extracted monthly on the first Sunday of each month. It can then take a week or so for the data to appear on the explorer. Data entered onto NFPD immediately prior to extraction may not have been quality assured and so may not reflect the final version of the data. Detailed data quality checks are carried out quarterly, the data may change following these checks. Recent data can be identified by viewing the SURVEY_INSERT_DATE field in the 'Freshwater fish counts' dataset.

Please note:

1. Some areas have more historic data than others. From 2001, the Fish Monitoring Programme became nationally managed, therefore, data collection became more consistent from this point on.
2. Some historic surveys (particularly in Anglian Central) have incorrect Lengths and Widths in the Survey Information. The Survey Areas are correct, but the Lengths and Widths are incorrect. These can be identified by a Length of 1 and a Width that is equal to the Area. This is due to the migration of old historic data from previous databases into NFPD.
3. Fish surveys are carried out by a range of survey methods, the data from one survey is not necessarily directly comparable to another. For example, the total fish count may be based on multiple or single run surveys or Catch Per Unit Effort (CPUE) surveys. The user is recommended to check the survey method used in the data provided.
4. **We do our best to avoid data quality problems, but as these datasets reflect the data we hold, they may contain errors.**

Dataset Documentation

Dataset Content

Description of column headings

- Unique identifiers: **Site Parent ID**, **Site ID**, **Survey ID**, **Species ID**, **Survey Species ID** and **Species Run ID**
- **Yes**: this attribute is included in the dataset
- *: this attribute is **only** present in data downloaded from the Explorer, i.e., it is **not** included in the bulk download file

Field name	Description	Freshwater fish counts <small>Standalone</small>	Freshwater fish individual lengths <small>Relational</small>	Freshwater fish banded measurements <small>Relational</small>	Freshwater fish bulk measurements <small>Relational</small>	Freshwater fish data types <small>Relational</small>	Freshwater fish sites
Data Owner	This is the owner of the data, i.e., the Environment Agency (EA).	Yes					Yes*
Country	Country where the monitoring site is located, e.g., England, Scotland (border), Wales (border).	Yes					Yes*

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Location name	Name of the EA Area in which the data were collected, this is legacy areas in some instances. Location of the monitoring site.	Yes					Yes*
Region	Name of the EA region where the monitoring site is located. Each Region is sub-divided into Areas (described below).	Yes					Yes*
Area	Name of the EA Area where the monitoring site is located. Multiple Areas belong to each Region (described above).	Yes					Yes*
New Area Name	This is the new name of the EA Area (replacing the combination of Region and Area, as described above). E.g., 'Anglian' Region and 'Central' Area's new name is 'Cambridgeshire and Bedfordshire'.						Yes

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Abc Site	NFPD Site Hierarchy String.	Yes					Yes*
Top Tier Site	NFPD Top Tier Site.	Yes					Yes*
Site Parent ID	System generated number giving a unique ID to the site parent.	Yes					Yes*
Site Parent Name	NFPD Site Parent Name.	Yes					Yes*
Site ID	System generated number giving a unique ID to the site.	Yes					Yes
Site Name	Name of the survey site.	Yes					Yes*
Geo Waterbody	Water Framework Directive water body ID within which the site is located.	Yes					Yes*
Survey ID	System generated number giving a unique ID to the survey.	Yes	Yes	Yes	Yes	Yes	

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N Surveys	Total number of surveys that have been completed at a site.						Yes
Event Date	Date the survey was undertaken.	Yes					
First Survey	Earliest event/survey date at a site.						Yes
Last Survey	Latest event/survey date at a site.						Yes
Event Date Year	Year in which the Survey was undertaken.	Yes					
Sample Code	An optional alphanumeric code used to distinguish between multiple surveys at one site and on one day.	Yes					

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Survey Ranked NGR	10 figure national grid reference (NGR) for the survey. We use a ranking system which is midstream – upstream – downstream, i.e., if there is a midstream NGR this will be the preferential NGR.	Yes					
Survey Ranked Easting	Easting of the survey location (same ranking mechanism as for NGR above).	Yes					
Survey Ranked Northing	Northing of the survey location (same ranking mechanism as for NGR above).	Yes					
Survey Length	The length of the survey site in metres (m).	Yes					
Survey Width	The average wetted width of the survey site (m) i.e., full width of the channel covered in water,	Yes					

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	which includes water lying under overhanging vegetation. It does not mean the width fished.						
Survey Area	The area of the survey site (m ²).	Yes					
Fished Width	The width of river fished (m) (applicable only to part width survey strategies).	Yes					
Fished Area	The fished area (m ²) (length x fished width) of the survey site (applicable only to part width survey strategies).	Yes					
Survey method	The method used to undertake the survey, e.g., seine netting.	Yes					

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Survey strategy	The catch strategy used to undertake the survey e.g., single catch sample.	Yes					
No of Runs	The total number of runs (removals) undertaken by the survey.	Yes					
Run number	The number of the survey run (removal) e.g., Run 2 is the second removal for that survey.		Yes	Yes	Yes	Yes	
Survey Species ID	System generated number giving a unique Id to the record of a species in a survey.	Yes	Yes	Yes	Yes	Yes	
Species Run Id	System generated number giving a unique Id to the record of a species in a survey run.		Yes	Yes	Yes	Yes	

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Species Id	System generated number giving a unique ID to the species, life stage or variety.	Yes	Yes	Yes	Yes	Yes	
Species Name	Common name of the fish species, life stage or variety.	Yes					
Latin Name	Scientific name of the fish species.	Yes					
Run 1	Number of fish (of each species) caught by the 1st (or only) removal. May be given for fish of all ages combined, or by individual age band(s).	Yes					
Run 2	Number of fish (of each species) caught by the 2 nd removal. May be given for fish of all ages combined, or by individual age band(s).	Yes					

Field name	Description	Freshwater fish counts <small>Standalone</small>	Freshwater fish individual lengths <small>Relational</small>	Freshwater fish banded measurements <small>Relational</small>	Freshwater fish bulk measurements <small>Relational</small>	Freshwater fish data types <small>Relational</small>	Freshwater fish sites
Run 3	Number of fish (of each species) caught by the 3 rd removal. May be given for fish of all ages combined, or by individual age band(s).	Yes					
Run 4	Number of fish (of each species) caught by the 4 th removal. May be given for fish of all ages combined, or by individual age band(s).	Yes					
Run 5	Number of fish (of each species) caught by the 5 th removal. May be given for fish of all ages combined, or by individual age band(s).	Yes					
Run 6	Number of fish (of each species) caught by the 6 th removal. May be given for fish of all ages	Yes					

Field name	Description	Freshwater fish counts <small>Standalone</small>	Freshwater fish individual lengths <small>Relational</small>	Freshwater fish banded measurements <small>Relational</small>	Freshwater fish bulk measurements <small>Relational</small>	Freshwater fish data types <small>Relational</small>	Freshwater fish sites
	combined, or by individual age band(s).						
All Runs or Total Nos (All Runs)	Total number of fish (of each species) caught by the survey (all runs, recording methods, combined).	Yes					
SPCSNO	Population estimate (Carle and Strub MWL) by species on survey.	Yes					
SPCSNO_SE	Standard error of the Carle and Strub MWL population estimate.	Yes					
SPCSPV	Catch efficiency estimate (Carle and Strub MWL) by species on survey.	Yes					
SPCSPV_SE	Standard error of the catch efficiency.	Yes					

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Observed Abundance	Fish (of each species) observed by the survey but recorded on a log abundance scale only.	Yes					
Zero Catch	A Yes / No indicator to show if the survey caught any fish. A 'yes' indicates that the survey was carried out but there were no fish (i.e., Zero Catch).	Yes					
LW Measured Id	System generated number giving a unique Id to the record of an individual fish length.		Yes				
Fish Length	The recorded total length of an individual (LW Measured) fish (mm).		Yes				
Fish Weight	The recorded weight of an individual (LW Measured) fish (g).		Yes				

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Age Band	The age band of a fish e.g., 0+ fish in first full year of life; 1+ fish in second full year of full life; >1+ minimum possible age of fish. A hyphen signifies all ages combined, whilst 'Age?' signifies that the age is unknown.		Yes	Yes	Yes		
Nall Age	Age notation of a migratory salmonid, as described by G. H. Nall. Including freshwater, marine, and spawning history. E.g., a '3+.1+3SM+' fish migrated after 3 years in freshwater, showing growth after the last parr winter (3+.1+3SM+). It first matured after 1 year post smolt growth (3+.1+3SM+), spawned in the next 3 winters and showed growth since last spawning (3+.1+3SM+). The total age of the fish is 7+ years. (See: Nall, G.H.		Yes				

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	(1930). <i>The life cycle of the sea trout</i> . (London: Seeley Service, 335pp.)						
LW Measured Total	Total number of fish (of each species) that were recorded as individually measured fish by a survey (run).					Yes	
Banded Measured Id	System generated number giving a unique Id to the record of a count of fish within a defined size band.			Yes			
Band Length Start	The lower boundary of a defined size band (mm). These will normally follow the pattern 40, 45, 50, 55 and so on.			Yes			
Band Length End	The upper boundary of a defined size band (mm). These will			Yes			

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	normally follow the pattern 44, 49, 54, 59 and so on.						
Band Fish Count	A count of fish within a defined size band.			Yes			
Banded Measured Total	Total number of fish (of each species) that were recorded as banded measured fish by a survey (run).					Yes	
Bulk Measured Id	System generated number giving a unique Id to the record of a count of fish.				Yes		
Bulk Length Start	The lower size (length (mm)) boundary of a count of fish.				Yes		
Bulk Length End	The upper size (length (mm)) boundary of a count of fish.				Yes		

Field name	Description	Freshwater fish counts <small>Standalone</small>	Freshwater fish individual lengths <small>Relational</small>	Freshwater fish banded measurements <small>Relational</small>	Freshwater fish bulk measurements <small>Relational</small>	Freshwater fish data types <small>Relational</small>	Freshwater fish sites
Bulk Fish Count	A count of fish.				Yes		
Bulk Fish Weight	The combined weight (g) of fish included in a count.				Yes		
Bulk Measured Total (or Counted Fish Total)	Total number of fish (of each species) that were recorded as bulk measured fish by a survey (run).					Yes	
Fish Count	Total number of fish (of each species) caught by the survey (run) (all recording methods combined).					Yes	
Survey Status	The status of the survey. When data entry for a survey is complete and checked, the status is recorded as completed.	Yes					

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Is Third Party	Data that has been collected by someone other than an EA employee. There is no Third Party data in this dataset.	Yes					
Is Species Selective	A Yes / No indicator to show if the survey used methods specifically targeting one species and therefore cannot produce accurate results for all species.	Yes					
Survey Insert Date	The date that the survey was entered onto NFPD.	Yes					
Site Ranked NGR	10 figure NGR for the site. We use a ranking system which is midstream – upstream – downstream, i.e., if there is a midstream NGR this will be the preferential NGR.						Yes

Field name	Description	Freshwater fish counts <small>Standalone</small>	Freshwater fish individual lengths <small>Relational</small>	Freshwater fish banded measurements <small>Relational</small>	Freshwater fish bulk measurements <small>Relational</small>	Freshwater fish data types <small>Relational</small>	Freshwater fish sites
Site Ranked Easting	Easting of the site location (same ranking mechanism as for NGR above).						Yes
Site Ranked Northing	Northing of the site location (same ranking mechanism as for NGR above).						Yes