

Frequently Asked Questions (FAQ) for the EFI+ software

1. What is the aim of the European Fish Index (EFI+)?

The EFI+ provides a standardised fish-based assessment method to evaluate the ecological status of European rivers. Specialist scientists have developed it over many years.

2. Who developed the EFI+?

The EFI+ software was developed collaboratively by a Consortium of partners (See the [EFI+ project website](#) for further details). Essentially these were the partner institutions of the EU FP6-project called the 'Improvement and Spatial Extension of the European Fish Index' which was the successor project to the 'Development, Evaluation and Implementation of a Standardised Fish-based Assessment Method for the Ecological Status of European Rivers' (FAME) project.

3. Do I need specific software to calculate the EFI+?

No – the EFI+-tool works directly via the dedicated [EFI+ webpage](#)

4. What do the results of the EFI+ tell me?

They show the ecological status of the specified river according to its 'biological quality element' i.e. fish. The data are calculated in relation to the Water Framework Directive (WFD) using five classes (1-5/high-bad). The resulting index, therefore, can be used as an indication of a need for restoration actions to meet the needs of the WFD in respect of ecological integrity.

5. Can I apply the EFI+ on sampling data from rivers anywhere in Europe or the world?

No – the EFI+ can only be used to generate results for countries that were used originally to calibrate the tool. Check to see [a list of countries/ecoregions](#) where the EFI+ can be used.

6. Are there problematic rivers within the applicable range?

Yes – There are two instances that are known to be problematic and the EFI+ should be used in these scenarios with care. They occur where there are:

- (1) Undisturbed rivers with naturally low fish density
- (2) Heavily disturbed sites where fishes are nearly extinct.

It is worth noting that if no fish occur then the EFI+ method is generally not suitable for use.

7. What are the allowed variable ranges?

The EFI+ tool can only be applied to sampling sites within the designated ecoregions that were used to calibrate the tool within the ranges of the following variables:

Variable	Range	Variable	Range
Longitude	-12 to 40	Upstream drainage area	1 to 20000000 km ²
Latitude	35 to 72	Distance from source	0.01 to 8000 km
Day	1 to 31	River slope	0.001 to 200 0/00
Month	1 to 12	Air temperature mean annual	-15 to 35°C
Year	1950 to 2020	Air temperature January	-25 to 30°C
Altitude	0 to 4800 m	Air temperature July	-5 to 45°C
Mediterranean type	Yes/No	Total number of run1	1 to 1100000
Fished area	50 to 100000 m ²	Number Length below 150mm	0 to 1000000
River width	1 to 6000 m	Number Length above 150mm	0 to 1000000

8. What data input formats are possible?

You can input your data manually into the EFI+ [Insert data webpage](#) or upload your file using a pre-populated spreadsheet file in Microsoft Excel .xls-file format. An empty .xls template is provided for you to download and be populated with your own data.

N.B. The .xls-file name must **not** contain any spaces or special characters!

9. Which type of data is necessary?

The EFI+ requires two types of data, namely:

- **Biological data** – i.e. information on the fish assemblage including the number of individuals as well as their individual length. Please remember that the information on the fishing method is also necessary.
- **Environmental data** – i.e. information on the river site that characterises the abiotic conditions

It is also possible to enter some supplementary data related to the current and historical occurrence of diadromous species. This is not obligatory.

10. Do I need to enter calibration and/or validation data?

No – the EFI+ tool is already calibrated for use. A validation process has previously been performed within the tool development.

11. Which type of fish sampling is adequate to calculate the EFI+?

Two sorts of sampling are sufficient: wading or boat

12. Which taxonomic level is necessary?

Each specimen should be identified to species level. Furthermore, the EFI+ tool processes the information on the number of individual specimens that are larger and/or smaller than 150mm in size. The information on fish length (mm), therefore, is also necessary.

13. Can the tool handle old taxonomic names?

The EFI+-tool uses a defined list of taxa names. There are 253 species names listed in point 30 of the [view values section](#) and can be found in the online [help section of the EFI+ website](#). Please use this list to align the species names.

14. What are the known errors in the EFI+ tool?

One of the recognised errors occurs when using Microsoft Excel 2003 with “Service Pack 3 for Office 2003”. An error message “File error: data may have been lost” is likely to appear. In this case simply click ‘OK’ and the file will be available with no data loss.

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