



# Metadata of European Lake Fishes Dataset

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## Metadata of European Lake Fishes Dataset

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### Keywords

fish assemblage, species list, Palearctic lakes, multi-mesh gillnet fishing, EU Water Framework Directive

### Short description of the dataset/summary

Here we provide the metadata for an overview on fish species presence/absence in 1943 Palearctic (Europe + Turkey) lakes and reservoirs. The data have been obtained by standardized multi-mesh gillnet fishing, primarily to fulfill the requirements of the European Water Framework Directive (WFD). The species list encompasses about 100 species, a few of them split into subspecies. The database has been accumulated for the purpose of intercalibration of the evaluation systems for the WFD, and has systematically been used for research in the EU project WISER.

### General information

dataset entry ID: FWM\_11

**name of the dataset:**

full name of the dataset: Metadata of European Lake Fishes Dataset  
dataset short name: Lake Fish Metadata

**type of dataset:**

species distribution data  
data type: point data/observation data

**science keywords according to [GCMD](#):**

topic: Biosphere, Biological Classification, Climate Indicators

**ISO topic category according to [ISO 19115](#):**

Biota, Inland Waters

own science keywords: fish assemblage, lakes and reservoirs, local records, Pan-European coverage

## Technical and administrative specifications

**data format:** Excel  
**operating system:** all Windows systems  
**data language:** English  
**current access level:** internal  
currently available through [GBIF](#): no  
exchange planned: yes  
data in data repository: no

**Do you plan to publish the data on the Freshwater Biodiversity Data Portal:**

yes

**update level:** completed

**documentation:**

type: scientific paper  
others/details: see dataset related references below  
language: English

**contact details:**

metadata contact person:

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scientific contact person:

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## Intellectual property rights and citation

### dataset creator (data compiler):

contact name: Thomas Mehner  
 contact email: mehner@igb-berlin.de  
 contact institution: Leibniz-Institute of Freshwater Ecology and Inland Fisheries Berlin

### data contributors to/owners of this dataset:

multiple  
 number: 14

### data contributor/owner 1:

contact name: Thomas Mehner  
 contact email: mehner@igb-berlin.de  
 contact institute: Leibniz Institute of Freshwater Ecology and Inland Fisheries  
 criteria for using this part of the dataset:  
 The dataset needs to be requested from dataset creator with specific conditions of use.

### data contributor/owner 2:

contact name: Sandra Bruçet  
 contact email: sandra.bruçet@uvic.cat  
 contact institute: ICREA, Catalan Institution for Research and Advanced Studies, Spain  
 criteria for using this part of the dataset:  
 The dataset is publicly available (data portal, data archive) and can be used without restrictions, but dataset creator/data contributors must be informed prior to publication. Data must be acknowledged and cited correctly.

### data contributor/owner 3:

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 criteria for using this part of the dataset:  
 The dataset needs to be requested from dataset creator with specific conditions of use.

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 The dataset needs to be requested from dataset creator with specific conditions of use.

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 contact email: terferreira@isa.ulisboa.pt  
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 criteria for using this part of the dataset:  
 The dataset needs to be requested from dataset creator with specific conditions of use.

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 criteria for using this part of the dataset:  
 The dataset is publicly available (data portal, data archive) and can be used

without restrictions, but must be acknowledged and cited correctly.

**data contributor/owner 7:**

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criteria for using this part of the dataset:

The dataset needs to be requested from dataset creator with specific conditions of use.

**data contributor/owner 8:**

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contact email: ej@bios.au.dk  
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criteria for using this part of the dataset:

The dataset needs to be requested from dataset creator with specific conditions of use.

**data contributor/owner 9:**

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criteria for using this part of the dataset:

The dataset needs to be requested from dataset creator with specific conditions of use.

**data contributor/owner 10:**

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criteria for using this part of the dataset:

The dataset needs to be requested from dataset creator with specific conditions of use.

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contact institute: Natural Resources Institute Finland, Jyväskylä

criteria for using this part of the dataset:

The dataset needs to be requested from dataset creator with specific conditions of use.

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criteria for using this part of the dataset:

The dataset needs to be requested from dataset creator with specific conditions of use.

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contact email: ijw@ceh.ac.uk  
contact institute: Centre for Ecology & Hydrology, Lancaster, U.K.

criteria for using this part of the dataset:

The dataset needs to be requested from dataset creator with specific conditions of use.

**data contributor/owner 14:**

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 contact email: Samo.Podgornik@zzrs.si  
 contact institute: Fisheries Research Institute of Slovenia  
 criteria for using this part of the dataset:  
 The dataset needs to be requested from dataset creator with specific conditions of use.

**citation of this dataset:**

author(s): Mehner T., Brucet S., Argillier C., Beklioglu M., Ferreira T., Hesthagen T., Holmgren K., Jeppesen E., Kelly F., Krause T., Rask M., Volta P., Winfield I.J. & Podgornik S.  
 title and journal (name, number, pages):  
 European Lake Fish Dataset.  
 year: 2017

**citation of the metadata:**

author(s): Mehner T., Brucet S., Argillier C., Beklioglu M., Ferreira T., Hesthagen T., Holmgren K., Jeppesen E., Kelly F., Krause T., Rask M., Volta P., Winfield I.J. & Podgornik S.  
 title and journal (name, number, pages):  
 Metadata of European Lake Fishes Dataset. Freshwater Metadata Journal 23:  
 1-8  
 year: 2017  
 doi: <https://doi.org/10.15504/fmj.2017.23>

**dataset related references:**

## reference 1:

author(s): Brucet, S., Pedron, S., Mehner, T., Lauridsen, T.L., Argillier, C., Winfield, I.J., Volta, P., Emmrich, M., Hesthagen, T., Holmgren, K., Benejam, L., Kelly, F., Krause, T., Palm, A., Rask, M., Jeppesen, E.  
 title: Fish diversity in European lakes: geographical predictors dominate over anthropogenic pressures?  
 year: 2013  
 doi: <https://doi.org/10.1111/fwb.12167>

## reference 2:

author(s): Argillier, C., Caussé, S., Gevrey, M., Pédrón, S., De Bortoli, J., Brucet, S., Emmrich, M., Jeppesen, E., Lauridsen, T., Mehner, T., Olin, M., Rask, M., Volta, P., Winfield, I. J., Kelly, F., Krause, T., Palm, A. & Holmgren, K.  
 title: Development of a fish-based index to assess the eutrophication status of European lakes  
 year: 2013  
 doi: <https://doi.org/10.1007/s10750-012-1282-y>

## reference 3:

author(s): Emmrich, M., Pédrón, S., Brucet, S., Winfield, I.J., Jeppesen, E., Volta, P., Argillier, C., Lauridsen, T.L., Holmgren, K., Hesthagen, T. & Mehner, T.  
 title: Geographical patterns in the size structure of European lake fish communities along abiotic and biotic gradients  
 year: 2014  
 doi: <https://doi.org/10.1111/jbi.12366>

## reference 4:

author(s): Mehner, T., Keeling, C., Emmrich, M., Holmgren, K., Argillier, C., Volta, P., Winfield, I.J. & Brucet, S.

title: Effects of fish predation on density and size spectra of prey fish communities in lakes  
year: 2016  
doi: <https://doi.org/10.1139/cjfas-2015-0034>  
reference 5:  
author(s): Arranz, I., Mehner, T., Benejam, L., Argillier, C., Holmgren, M., Jeppesen, E., Lauridsen, T.L., Volta, P., Winfield, I.J. & Brucet, S.  
title: Density-dependent effects as key drivers of intraspecific size structure of six abundant fish species in lakes across Europe  
year: 2016  
doi: <https://doi.org/10.1139/cjfas-2014-0508>  
comments: Note that the dataset is not publicly available as such.

## General data specifications

### regional coverage of the dataset:

continents: Asia, Europe

### spatial extent (bounding coordinates):

southernmost latitude [°]: 36

northernmost latitude [°]: 69

westernmost longitude [°]: -10

easternmost longitude [°]: 36

minimum altitude: 0 metres

maximum altitude: 900 metres

countries: Asia: Turkey

Europe: Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Norway, Portugal, Slovenia, Spain, Sweden, United Kingdom

### world climatic regions according to [Köppen](#):

Group C: temperate/mesothermal climates

Group D: continental/microthermal climate

### freshwater ecoregions of the world (FEOW) according to [WWF](#):

Europe: Cantabric Coast - Languedoc, Central & Western Europe, Central Anatolia, Eastern Iberia, Italian Peninsula & Islands, Northern Anatolia, Northern Baltic Drainages, Northern British Isles, Norwegian Sea Drainages, Southern Baltic Lowlands, Southern Iberia, Upper Danube, Western Anatolia, Western Caspian Drainages, Western Iberia

### European ecoregions according to [Illies \(WFD\)](#):

Italy, Corsica and Malta (ER3), Alps (ER4), Western Highlands (ER8), Central Highlands (ER9), Western Plains (ER13), Central Plains (ER14), Baltic Province (ER15), Eastern Plains (ER16), Ireland and Northern Ireland (ER17), Great Britain (ER18), Borealic Uplands (ER20), Fenno-Scandian Shield (ER22)

ecosystem type: lakes/ponds

covered timeframe: 1995 - 2015

comments: Single survey per lake, no temporal replicates.



## Site specifications

<b>coordinate system/grid data:</b>	latitude/longitude, format: DD
grid data available:	no
site coding available:	no
<b>number of sites:</b>	>1000
exact number of sites:	1943

## Biological data

<b>biological data origin:</b>	from sampling, standardized multi-mesh gillnet fishing general compilation, Intercalibration for European Water Framework Directive, EU project WISER
organism group addressed:	fish

## Sample resolution

### fish:

#### taxonomic resolution:

level:	species
other taxonomic levels:	sub-species
percentage of species level data:	100
comments:	Resolution primarily on species level; in few cases (e.g., trout), sub-species records are available.

#### taxonomic coding:

taxalist according to:	Kottelat & Freyhof
reference(s):	Kottelat, M. & Freyhof, J. 2007: Handbook of European Freshwater Fishes. ISBN-13: 9782839902984
coding system:	none

#### sample specifications:

specification of method(s) used for sampling and sorting:	Fish sampling in lakes followed the European Standard (CEN 2015: Water quality. Sampling of fish with multi-mesh gillnets. EN 14757. European Committee for Standardization). In short, lakes were fished with benthic multi-mesh gillnets (30 m long, 1.5 m high, 12 mesh sizes between 5 and 55 mm in geometric row), the number per lake standardized by lake area and lake depth. Fishing has occurred normally in August or September.
comments:	Nomenclature follows primarily Kottelat & Freyhof.

## Other specifications

### GIS layers, shape files related to the dataset:

no data available

**availability of photos:** no

**availability of maps:** no

### quality control procedures:

Were any quality control procedures applied to your dataset?

yes

quality control protocols and comments:

Check of correct coordinates by country-specific data owners;  
local species lists checked for plausibility by country-specific data owners.

## Acknowledgements

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## References

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- Arranz, I., Mehner, T., Benejam, L., Argillier, C., Holmgren, M., Jeppesen, E., Lauridsen, T.L., Volta, P., Winfield, I.J. & Brucet, S. , 2016. Density-dependent effects as key drivers of intraspecific size structure of six abundant fish species in lakes across Europe <https://doi.org/10.1139/cjfas-2014-0508>
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- Emmrich, M., Pédrón, S., Brucet, S., Winfield, I.J., Jeppesen, E., Volta, P., Argillier, C., Lauridsen, T.L., Holmgren, K., Hesthagen, T. & Mehner, T. , 2014. Geographical patterns in the size structure of European lake fish communities along abiotic and biotic gradients <https://doi.org/10.1111/jbi.12366>
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- Mehner, T., Keeling, C., Emmrich, M., Holmgren, K., Argillier, C., Volta, P., Winfield, I.J. & Brucet, S. , 2016. Effects of fish predation on density and size spectra of prey fish communities in lakes <https://doi.org/10.1139/cjfas-2015-0034>

# Appendix

# European lakes with fish data (CCM2, basin level)

