General information

name of the dataset:
full name of the dataset: Biological and environmental database of the Ruhr catchment (Germany)
type of dataset (more information): species (taxonomic group) per site database including environmental information
data type: point data/observation data
short description of the dataset/summary:
The database of the EU project MARS contains point data of macroinvertebrates, fish and macrophytes including hydromorphological, physico-chemical and land use information. Most biotic and physico-chemical data have been collected as part of an extensive national monitoring survey. Land use information (ATKIS land cover data) was GIS-based generated for fixed buffer strips with different widths and lengths.

science keywords according to GCMD:
topic: Biosphere, Biological Classification
keywords: macroinvertebrates, macrophytes, fish, freshwater, river, hydromorphology, land use, physico-chemical parameters

ISO topic category according to ISO 19115:
Biota, Environment, Inland Waters
Technical and administrative specifications

data format: Access
operating system: all Windows systems
data language: English
current access level: internal
currently available through GBIF: no
exchange planned: no
data in data repository: no
update level: continuously updated
documentation:
type: internal description
language: English
Do you plan to publish the data on the Freshwater Biodiversity Data Portal: no

contact details:

metadata contact person: Alexander Gieswein
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province, state: North Rhine-Westphalia
country: Germany
web address: www.uni-due.de/aquatic_ecology

technical contact person: Alexander Gieswein
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email: alexander.gieswein@uni-due.de

scientific contact person: Alexander Gieswein
phone: +492011833113
email: alexander.gieswein@uni-due.de
Intellectual property rights and citation

(if the database is already published):

dataset creator (data compiler):
  contact name: Alexander Gieswein
  contact email: alexander.gieswein@uni-due.de
  contact institution: University of Duisburg-Essen

data contributors to/owners of this dataset:
  number: multiple

provider 1:
  provider institute: Department of Aquatic Ecology, University of Duisburg-Essen
  contact name: Alexander Gieswein
  contact email: alexander.gieswein@uni-due.de
  criteria for using the data in a publication/scientific analysis:
    The dataset needs to be requested from dataset creator with specific conditions of use.

provider 2:
  provider institute: Landesamt für Natur, Umwelt und Verbraucherschutz NRW
  contact name: Michael Holland
  contact email: Michael.Holland@lanuv.nrw.de
  criteria for using the data in a publication/scientific analysis:
    The dataset needs to be requested from dataset creator with specific conditions of use.

provider 3:
  provider institute: Ruhrverband
  contact name: Petra Podraza
  contact email: petra.podraza@ruhrverband.de
  criteria for using the data in a publication/scientific analysis:
    The dataset needs to be requested from dataset creator with specific conditions of use.

provider 4:
  provider institute: Limares
  contact name: Jelka Lorenz
  contact email: jelka.lorenz@limares.de
  criteria for using the data in a publication/scientific analysis:
    The dataset needs to be requested from dataset creator with specific conditions of use.

citation of this dataset:
  author(s): Alexander Gieswein
  title: Biological and environmental database of the Ruhr catchment (Germany)
  year: 2014

citation of the metadata:
  author(s): Gieswein A.
  title and journal (name, number, pages): Metadata describing the biological and environmental database of the Ruhr catchment (Germany). Freshwater Metadata Journal 0: 0-0
  year: 0000
  doi (if applicable): http://dx.doi.org/10.15504/fmj.0000.0
General data specifications

regional coverage of the dataset:
  scale of the dataset: catchment
  continents: Europe

spatial extent (bounding coordinates):
  southernmost latitude [°]: 50.923073
  northernmost latitude [°]: 51.528715
  westernmost longitude [°]: 6.723155
  easternmost longitude [°]: 8.622136
  minimum altitude: 17 metres
  maximum altitude: 674 metres
  countries: Europe: Germany
Site specifications

**coordinate system/grid data:**
- latitude/longitude
  - projected
- datum (e.g. WGS84):
  - WGS84; GCS_ETRS_1989
- grid data available: no

**site coding:**
- site coding available: yes
- numerical
- number of digits: 4
- example: 0150

**number of sites:**
- >1000
- exact number of sites: 1435
Climate and environmental data

climate related data: no data available

environmental data:

available parameters per catchment: catchment size

GIS data source:

available parameters per site: catchment land use along a buffer strip (100m width on both sides) upstream (10km) of the sampling site

GIS data source:

available parameters per site: distance to source

GIS data source:

available parameters per site: slope

GIS data source:

available parameters per site: altitude

GIS data source:

comments: Catchment land use in buffer strips with different widths and lengths.

physico-chemistry data:

total P, total N

availability of physico-chemical data, if there is more than one sample per site: mean values per site

stressors influencing the sites:

reference sites available: no

<table>
<thead>
<tr>
<th>stressor</th>
<th>restored sites available</th>
<th>data before/after restoration available</th>
<th>stressor gradient available</th>
<th>comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydromorphological degradation</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>no</td>
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</table>
Biological data

biological data origin: from sampling

specify project: compilation of national monitoring and different project survey data

organism group addressed: fish, macro-invertebrates (Mollusca, Crayfish, Ephemeroptera, Odonata, Plecoptera, Coleoptera, Trichoptera, Chironomidae), macrophytes
Sample specifications/sample resolution

**fish:**

**sample information:**
- covered timeframe: 2002 - 2013
- historical data: no
- palaeo data: no
- season: spring, summer, autumn, winter
- temporal resolution/frequency of sampling: sampling frequency is highly variable, varying from single to annual sampling
- time series data: no
- comments: diverse mix of national monitoring and different project sampling data

**taxonomic resolution:**
- genus, species
- percentage of species level data: 99

**taxonomic coding:**
- taxalist according to: Mauch et al. 2003
- coding system: Dv-Nr
- example: 9020

**sample specifications:**
- quantitative (abundance data)
- replicate samples: no
- number of samples: 506
- specification of method(s) used for sampling and sorting: electro fishing, WFD method

**macro-invertebrates:**

**sample information:**
- covered timeframe: 2001 - 2013
- historical data: no
- palaeo data: no
- season: spring, summer, autumn, winter
- temporal resolution/frequency of sampling: sampling frequency is highly variable, varying from single to annual sampling
- time series data: no
- comments: diverse mix of national monitoring and different project sampling data

**taxonomic resolution:**
- family, genus, species
- percentage of species level data: 46

**taxonomic coding:**
**Dataset:** Biological and environmental database of the Ruhr catchment (Germany)

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**macrophytes:**

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**Other specifications**

**GIS layers, shapes related to the dataset:**
- catchments, river-sub-basins
- land use

**others (specify):**
- Hydromorphological data available for each 100m stretch of the streams in the basin (20 parameters per 100m stretch).
- Digital Elevation Model (10m grid size).

**availability of photos:**
- no

**availability of maps:**
- no

**quality control procedures:**
- Were any quality control procedures applied to your dataset?
  - no