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Keywords

fish ponds, occurrences, pond managment, Belgium

Short description of the dataset/summary

The Midden-Limburg pond dataset contains data on local habitat conditions and taxonomic community composition of multiple aquatic organism groups (phytoplankton, zooplankton, aquatic vegetation, macro-invertebrates and fish) from 38 interconnected fish ponds in the fish pond complex Midden-Limburg (Limburg, Belgium). The selection of fish ponds represents five different pond management types.

General information

dataset entry ID:	SF_12
name of the dataset:	
full name of the dataset:	Midden-Limburg Fish Ponds Survey
dataset short name:	Midden-Limburg Survey
type of dataset:	species (taxonomic group) per site database including environmental information
data type:	point data/observation data
science keywords according to GCMD:	
topic:	Biosphere, Biological Classification, Land Surface, Terrestrial Hydrosphere
ISO topic category according to ISO 19115:	
	Biota, Environment, Inland Waters
own science keywords:	fish ponds, occurrences, environmental conditions, pond management, Belgium

Technical and administrative specifications

data format: Excel
operating system: all operating systems
data language: English
current access level: web (public)
web address: http://data.freshwaterbiodiversity.eu/ipt/manage/resource?r=midden-limburg
currently available through GBIF: yes
exchange planned: no
data in data repository: no
Do you plan to publish the data on the Freshwater Biodiversity Data Portal: already published through the Freshwater Biodiversity Data Portal
update level: completed
documentation:
type: manual
language: English

contact details:
metadata contact person:
first, last name: Luc De Meester
email: luc.demeester@kuleuven.be
institution: KU Leuven
address: Ch. Deberiotstraat 32
postal code, city: 3000 Leuven
province, state: Vlaams Brabant
country Belgium
technical contact person:
first, last name: Luc De Meester
email: luc.demeester@kuleuven.be
scientific contact person:
first, last name: Luc De Meester
email: luc.demeester@kuleuven.be

Intellectual property rights and citation

dataset creator (data compiler):
contact name: Pieter Lemmens
contact email: pieter.lemmens@kuleuven.be
contact institution: KU Leuven
data contributors to/owners of this dataset: multiple
number: 6
data contributor/owner 1:
contact name: Pieter Lemmens
contact email: pieter.lemmens@kuleuven.be
contact institute: KU Leuven
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 2:

contact name: Joachim Mergeay
contact email: joachim.mergeay@inbo.be
contact institute: INBO
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:

contact name: Tom De Bie
contact email: tom.debie@kuleuven.be
contact institute: KU Leuven
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 4:

contact name: Jeroen Van Wichelen
contact email: jeroen.vanwichelen@inbo.be
contact institute: INBO
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 5:

contact name: Luc De Meester
contact email: luc.demeester@kuleuven.be
contact institute: KU Leuven
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 6:

contact name: Steven A.J. Declerck
contact email: S.Declerck@nioo.knaw.nl
contact institute: NIOO
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.

citation of this dataset:

author(s): Lemmens, P., De Wever, A., Mergeay, J., De Bie, T., Ercken, D., Van Wichelen, J., Declerck, S.A.J. & De Meester, L.
title and journal (name, number, pages):
Biodiversity in interconnected Belgian man-made fish ponds representing different pond management types
year: 2017
doi: https://doi.org/10.13148/fzynim

citation of the metadata:

author(s): Lemmens, P., Mergeay, J., Ercken, D., De Bie, T., Van Wichelen, J., Declerck, S.A.J. & De Meester, L.

title and journal (name, number, pages): Database on local environmental conditions and biodiversity in fish ponds in Midden-Limburg, Belgium. Freshwater Metadata Journal 27: 1-8
year: 2017
doi: https://doi.org/10.15504/fmj.2017.27

dataset related references:

reference 1:
author(s): Lemmens, P., Declerck, S.A.J, Mergeay, J., De Bie, T., Van Wichelen, J. & De Meester, L.
title: How to maximally support local and regional biodiversity in applied conservation? Insights from pond management. PLoS ONE 8(8): e72538
year: 2013
doi: https://doi.org/doi:10.1371/journal.pone.0072538

reference 2:
author(s): Lemmens, P., Mergeay, J., Van Wichelen, J., De Meester, L. & Declerck, S.A.J
title: The impact of conservation management on the community composition of multiple organism groups in eutrophic interconnected man-made ponds. PLoS ONE 10(9): e0139371.
year: 2015
doi: https://doi.org/doi:10.1371/journal. pone.0139371

General data specifications

regional coverage of the dataset:
spatial extent of the dataset: regional
continents: Europe

spatial extent (bounding coordinates):
southernmost latitude [°]: 51801.47
northernmost latitude [°]: 52315.24
westernmost longitude [°]: 505824.47
easternmost longitude [°]: 505969.98
countries: Europe: Belgium

world climatic regions according to Köppen:
Group D: continental/microthermal climate

freshwater ecoregions of the world (FEOW) according to WWF:
Europe: Central & Western Europe

European ecoregions according to Illies (WFD):
Western Plains (ER13)

ecosystem type: lakes/ponds

covered timeframe: 2006 - 2007

Site specifications

coordinate system/grid data: latitude/longitude, format: DMS
projected, UTM
datum (e.g. WGS84): WGS84
grid data available: no

site coding:
site coding available: yes, alphanumerical

number of digits: 3
example: BK7, K1
number of sites: <100
exact number of sites: 38

Climate and environmental data

climate related data: no climate data available
environmental data:
no environmental data per catchment available

available parameters per site: management type
data source: Lemmens et al., 2013
comments: See Lemmens et al. (2013) or more details on the different pond management types.
physico-chemical data: total P, total N, oxygen content, water temperature, pH, conductivity, chlorophyll, Secci disc depth, suspended solids, substrate
other physico-chemical parameters:
Percentage of pond surface covered with submerged, floating and emergent vegetation, and pond size.
availability of physico-chemical data, if there is more than one sample per site:
mean values per site
stressors influencing the sites: no stressor data available
reference sites available: no

Biological data

biological data origin: from sampling,
TWOL research project (LIM/AMINAL/AN/LIM/2004/10)
organism group addressed: fish, macro-invertebrates (Mollusca, Ephemeroptera, Trichoptera, Chironomidae), zooplankton (Cladocera), phytoplankton, macrophytes

Sample specifications/sample resolution

fish:
sample information:
covered timeframe: 2006 - 2007
historical data: no
palaeo data: no
season: summer
temporal resolution/frequency of sampling:
per year
taxonomic resolution:
level: species
taxonomic coding:
taxalist according to: FishBase

sample specifications:

type:	quantitative (abundance data)
replicate samples:	no
comments:	For details see Lemmens P., Declerck S.A.J, Mergeay J., De Bie T., Van Wichelen J. & De Meester L., 2013. How to Maximally Support Local and Regional Biodiversity in Applied Conservation? Insights from Pond Management. PLoS ONE 8(8): e72538. doi:10.1371/journal.pone.0072538

macro-invertebrates:

sample information:

covered timeframe:	2006 - 2007
historical data:	no
palaeo data:	no
season:	spring, summer
temporal resolution/frequency of sampling:	per year
time series data:	no

taxonomic resolution:

level:	other
comments:	Ephemeropterans, Hemiptera and Mollusca were identified to species level. Determination of Diptera was done up to family level. Other organisms were only sorted to higher taxomic levels and counted (Acari and Hirudinea to subclass, Trichoptera and Lepidoptera to order).

taxonomic coding:

taxalist according to:	De Pauw N. & Vannevel R. (1991)
reference(s):	De Pauw N. & Vannevel R., 1991. Macro-invertebraten en waterkwaliteit. Antwerpen: Stichting Leefmilieu.

sample specifications:

type:	quantitative (abundance data)
comments:	For details see Lemmens P., Declerck S.A.J, Mergeay J., De Bie T., Van Wichelen J. & De Meester L., 2013. How to Maximally Support Local and Regional Biodiversity in Applied Conservation? Insights from Pond Management. PLoS ONE 8(8): e72538. doi:10.1371/journal.pone.0072538

zooplankton:

sample information:

covered timeframe:	2006 - 2007
historical data:	no
palaeo data:	no
season:	summer
time series data:	no

taxonomic resolution:

level:	other
comments:	Cladocera were identified to species level using Flössner (2000) and counted. Daphnia galeata (Sars) and D. longispina (Müller) were considered as one taxon. Copepoda were divided in two main groups (Cyclopoids and Calanoids) and counted.

taxonomic coding:

taxalist according to:	Flössner D. (2000)
reference(s):	Flössner D., 2000. Die Haplopoda und Cladocera Mitteleuropas Leiden. Backhuys Publishers.

sample specifications:

type:	quantitative (abundance data)

replicate samples: no
comments: For details see Lemmens P., Declerck S.A.J, Mergeay J., De Bie T., Van Wichelen J. & De Meester L., 2013. How to Maximally Support Local and Regional Biodiversity in Applied Conservation? Insights from Pond Management. PLoS ONE 8(8): e72538. doi:10.1371/journal.pone.0072538

phytoplankton:

sample information:

covered timeframe: 2006 - 2007
historical data: no
season: summer
time series data: no

taxonomic resolution:

level: genus

taxonomic coding:

taxalist according to: John et al. (2002)
reference(s): John D.M., Whitton B.A., Brook A.J., 2002. The freshwater algal flora of the British isles. Cambridge: Cambridge University Press.

sample specifications:

type: semi-quantitative
comments: For details see Lemmens P., Declerck S.A.J, Mergeay J., De Bie T., Van Wichelen J. & De Meester L., 2013. How to Maximally Support Local and Regional Biodiversity in Applied Conservation? Insights from Pond Management. PLoS ONE 8(8): e72538. doi:10.1371/journal.pone.0072538

macrophytes:

sample information:

covered timeframe: 2006 - 2007
historical data: no
palaeo data: no
season: summer
temporal resolution/frequency of sampling: per year
time series data: no

taxonomic resolution:

level: species

taxonomic coding:

taxalist according to: Lambinon et al. (1983)
reference(s): Lambinon J., De Langhe J.-E. , Delvosalle L., Duvigneaud J., 1983. Flora van België, het Groothertogdom Luxemburg, Noord-Frankrijk en de aangrenzende gebieden (Pteridofyten en Spermatofyten). Een uitgave van het Patrimonium van de Nationale Plantentuin van België.

sample specifications:

type: semi-quantitative
comments: For details see Lemmens P., Declerck S.A.J, Mergeay J., De Bie T., Van Wichelen J. & De Meester L., 2013. How to Maximally Support Local and Regional Biodiversity in Applied Conservation? Insights from Pond Management. PLoS ONE 8(8): e72538. doi:10.1371/journal.pone.0072538

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: Species names were checked using the GBIF species list. In addition, the quality of data has been checked with the phwhip validator.

Acknowledgements

The authors acknowledge the Agency for Nature and Forests for funding the Midden-Limburg Fish Ponds Survey via a national TWOL project (LIM/AMINAL/AN/LIM/2004/10), and the Belgian Science Policy (Belspo) for funding the SAFRED project (Saving freshwater biodiversity research data - 2015-2018) that allowed processing and publishing the data.

References

Lemmens P., Declerck S.A.J, Mergeay J., De Bie T., Van Wichelen J. & De Meester L., 2013. How to Maximally Support Local and Regional Biodiversity in Applied Conservation? Insights from Pond Management. PLoS ONE 8(8): e72538 https://doi.org/10.1371/journal.pone.0072538

Lemmens P., Mergeay J., Van Wichelen J., De Meester L. & Declerck S.A.J, 2015. The impact of conservation management on the community composition of multiple organism groups in eutrophic interconnected man-made ponds. PLoS ONE 10(9): e0139371. https://doi.org/10.1371/journal. pone.0139371