

Database of the MANSCAPE project (Management tools for water bodies in agricultural landscapes)

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der Gucht, Dirk Bauwens, Sara Denayer, Riet Durinck, Renaat
Dasseville, Marie Lionard, Frank van De Meutter, Gerald Louette,
Ann Hulsmans, Koen De Gelas, Isa Schön, Hilde Vrijders, Annelies
Maes, Bertrand Losson, Saadia Lasri, Patrick Kestemont, Wim
Vyverman, Pieter Vanormelingen, Luc Brendonck, Luc De Meester,
Steven A.J. Declerck & Koen Martens*



Freshwater Metadata Journal

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Keywords

farmland ponds, occurrences, environmental conditions, Belgium

Short description of the dataset/summary

The database of the MANSCAPE project (Integrated management tools for water bodies in agricultural landscapes) comprises species occurrence data of seven different organism groups (phytoplankton, diatoms, zooplankton, macro-invertebrates, macrophytes, amphibians and fish) and data on physical, chemical and morphometric variables of 126 small farmland ponds distributed over almost the entire Belgian territory.

General information

| | |
|---|--|
| dataset entry ID: | SF_2 |
| name of the dataset: | |
| full name of the dataset: | Integrated management tools for water bodies in agricultural landscapes |
| dataset short name: | MANSCAPE |
| type of dataset: | species (taxonomic group) per site database including environmental information |
| data type: | point data/observation data |
| science keywords according to GCMD: | |
| topic: | Agriculture, Biosphere, Biological Classification, Land Surface, Terrestrial Hydrosphere |
| ISO topic category according to ISO 19115: | |
| | Farming, Biota, Environment, Inland Waters |
| own science keywords: | farmland ponds, occurrences, environmental conditions, 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/resource?r=manscape |
| 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
completed

update level:

documentation:

| | |
|-----------|------------------|
| type: | scientific paper |
| language: | English |

contact details:

metadata contact person:

| | |
|--------------------|---|
| first, last name: | Koen Martens |
| phone: | +32 (0)2 627 43 15 |
| email: | koen.martens@naturalsciences.be |
| institution: | Royal Belgian Institute of Natural Sciences |
| address: | Vautierstraat 29 |
| postal code, city: | 1000 Brussels |
| country: | Belgium |

technical contact person:

| | |
|-------------------|---------------------------------|
| first, last name: | Koen Martens |
| phone: | +32 (0)2 627 43 15 |
| email: | koen.martens@naturalsciences.be |

scientific contact person:

| | |
|-------------------|---------------------------------|
| first, last name: | Koen Martens |
| phone: | +32 (0)2 627 43 15 |
| email: | koen.martens@naturalsciences.be |

Intellectual property rights and citation

dataset creator (data compiler):

contact name: Pieter Lemmens
contact email: pieter.lemmens@bio.kuleuven.be
contact institution: KU Leuven

data contributors to/owners of this dataset:

multiple
number: 6

data contributor/owner 1:

contact name: Koen Martens
contact email: koen.martens@naturalsciences.be
contact institute: KBIN

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: Wim Vijverman
contact email: wim.vijverman@ugent.be
contact institute: UGent

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: Patrick Kestemont
contact email: patrick.kestemont@unamur.be
contact institute: UNamur

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: Dirk Bauwens
contact email: dirk.bauwens@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: Leo Van Hecke
contact email: leo.vanhecke@skynet.be
contact institute: National Botanical Garden

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: Luc De Meester

contact email: luc.demeester@kuleuven.be
contact institute: KULeuven
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., Hampel, H., De Bie, T., Ercken, D., Van Wichelen, J., Denys, L., Goddeeris, B., Mandiki, S.N.M., van Hecke, L., van der Gucht, K., Bauwens, D., Durinck, R., Dasseville, R., Lionard, M., van De Meutter, F., Louette, G., Hulsmans, A., De Gelas, K., Schön, I., Vrijders, H., Maes, A., Losson, B., Lasri, S., Kestemont, P., Vyverman, W., Vanormelingen, P., Brendonck, L., De Meester, L., Declerck, S.A.J. & Martens, K.

title and journal (name, number, pages): Management tools for waterbodies in agricultural landscapes (MANSCAPE)

year: 2017

doi: <https://doi.org/10.13148/6hacwh>

citation of the metadata:

author(s): Lemmens P., De Wever A., Hampel H., De Bie T., Ercken D., Van Wichelen J., Denys L., Goddeeris B., Mandiki S.N.M, Vanhecke L., van der Gucht K., Bauwens D., Denayer S., Durinck R., Dasseville R., Lionard M., van De Meutter F., Louette G., Hulsmans A., De Gelas K., Schön I., Vrijders H., Maes A., Losson B., Lasri S., Kestemont P., Vyverman W., Vanormelingen P., Brendonck L., De Meester L., Declerck S.A.J. & Martens K.

title and journal (name, number, pages): Database of the MANSCAPE project (Management tools for water bodies in agricultural landscapes). Freshwater Metadata Journal 26: 1-11

year: 2017

doi: <https://doi.org/10.15504/fmj.2017.26>

dataset related references:

reference 1:

author(s): De Bie T., De Meester L., Brendonck L., Martens K., Goddeeris B., Ercken D., Hampel H., Denys L., Vanhecke L., Van der Gucht K., Van Wichelen J., Vyverman W., Declerck S.L., Van der Gucht K., Van Wichelen J., Vyverman W. & Declerck S.A.J.

title: Body size and dispersal mode as key traits determining metacommunity structure of aquatic organisms. Ecology Letters, 15(7), 740-747.

year: 2012

doi: <https://doi.org/doi: 10.1111/j.1461-0248.2012.01794.x>

General data specifications

regional coverage of the dataset:

spatial extent of the dataset: national

continents: Europe

spatial extent (bounding coordinates):

southernmost latitude [°]: 51.42

northernmost latitude [°]: 49.68

westernmost longitude [°]: 2.84

| | |
|---|---|
| easternmost longitude [°]: | 5.95 |
| countries: | Europe: Belgium |
| world climatic regions according to Köppen: | Group C: temperate/mesothermal climates |
| 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: | 2003 - 2004 |

Site specifications

| | |
|-------------------------------------|--|
| coordinate system/grid data: | latitude/longitude, format: DD projected, UTM |
| datum (e.g. WGS84): | WGS84 |
| grid data available: | no |
| site coding: | |
| site coding available: | yes, alphanumerical |
| number of digits: | 7 |
| example: | AnHerEx |
| number of sites: | 100 - 1000 |
| exact number of sites: | 126 |

Climate and environmental data

| | |
|---|--|
| climate related data: | no climate data available |
| environmental data: | no environmental data per catchment available |
| available parameters per site: | maximum depth mean depth substrate composition land use at multiple perimeters around each pond |
| comments: | Data on land use in different perimeters around the pond are available in the main database (see also T. De Bie, L. De Meester, L. Brendonck, K. Martens, B. Goddeeris, D. Ercken, H. Hampel, L. Denys, L. Vanhecke, K. Van der Gucht, J. Van Wichelen, W. Vyverman & S. A. J. Declerck (2012): Body size and dispersal mode as key traits determining metacommunity structure of aquatic organisms. Ecology Letters, 15(7), 740-747.) |
| physico-chemical data: | total P, nitrate, total N, sulphate, hardness, alkalinity, oxygen content, water temperature, pH, conductivity, chlorophyll, Secci disc depth, suspended solids |
| availability of physico-chemical data, if there is more than one sample per site: | per sample |
| stressors influencing the sites: | no stressor data available |
| reference sites available: | no |

Biological data

| | |
|--------------------------------|---|
| biological data origin: | from sampling, MANSCAPE |
| organism group addressed: | amphibians, fish, macro-invertebrates (Mollusca, Ephemeroptera, Odonata, Plecoptera, Coleoptera, Trichoptera, Chironomidae), zooplankton (Cladocera), phytoplankton, (benthic) diatoms, macrophytes |

Sample specifications/sample resolution**amphibians:****sample information:**

| | |
|--|-------------|
| covered timeframe: | 2003 - 2003 |
| historical data: | no |
| season: | summer |
| temporal resolution/frequency of sampling: | per year |
| time series data: | no |

taxonomic resolution:

| | |
|--------|---------|
| level: | species |
|--------|---------|

taxonomic coding:

| | |
|------------------------|--|
| taxalist according to: | Arnold E.N. & Ovenden D.W. (2002) |
| reference(s): | Arnold E.N. & Ovenden D.W. (2002). Reptiles and amphibians of Europe. Princeton University Press, Princeton, NJ. |

sample specifications:

| | |
|--------------------|--|
| type: | presence/absence |
| replicate samples: | no |
| comments: | For details see appendix of T. De Bie, L. De Meester, L. Brendonck, K. Martens, B. Goddeeris, D. Ercken, H. Hampel, L. Denys, L. Vanhecke, K. Van der Gucht, J. Van Wichelen, W. Vyverman & S. A. J. Declerck (2012) Body size and dispersal mode as key traits determining metacommunity structure of aquatic organisms. <i>Ecology Letters</i> , 15(7), 740-747. |

fish:**sample information:**

| | |
|--|-------------|
| covered timeframe: | 2003 - 2003 |
| 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: | Keith P. & Allardi J. (2001) |
| reference(s): | Keith P. & Allardi J. (2001). Atlas des poissons d'eau douce de France. |

Publications Scientifiques du M.N.H.N., Paris.

sample specifications:

type: quantitative (abundance data)
 comments: For details see appendix of T. De Bie, L. De Meester, L. Brendonck, K. Martens, B. Goddeeris, D. Ercken, H. Hampel, L. Denys, L. Vanhecke, K. Van der Gucht, J. Van Wichelen, W. Vyverman & S. A. J. Declerck (2012) Body size and dispersal mode as key traits determining metacommunity structure of aquatic organisms. *Ecology Letters*, 15(7), 740-747.

macro-invertebrates:

sample information:

covered timeframe: 2003 - 2003
 historical data: no
 palaeo data: no
 season: summer
 temporal resolution/frequency of sampling: per year
 time series data: no

taxonomic resolution:

level: species
 comments: Chironomidae, Ephemeroptera, Trichoptera, Heteroptera, Mollusca and Coleoptera were identified to species level.

taxonomic coding:

taxalist according to: see full reference list below
 reference(s): Devriese R., Warmoes T. & Vercoutere B. (1997). Land- en zoetwatermollusken van de Benelux. Jeugdbond voor Natuur en Milieu, Gent.

De Pauw N. & Vannevel R. (1990). Macro-invertebraten en waterkwaliteit. Stichting Leefmilieu vzw., Antwerpen.

Drost M.B.P., Cuppen H.P.J.J., Nieukerken E.J. & Schreijer M. (1992). De waterkevers van Nederland. Uitgeverij K.N.N.V., Utrecht, The Netherlands.

Savage A.A. (1989). Adults of the British aquatic Hemiptera Heteroptera: a key with ecological notes. Freshwater Biological Association, Ambleside (UK).

Wiederholm T. (1983). Chironomidae of the holarctic region: keys and diagnoses, Part 1 - larvae. *Entomologica Scandinavica Supplement* 19.

Moller Pillot H.K.M. (1984a). De larven der Nederlandse Chironomidae (Diptera) (Inleiding, Tanypodinae en Chironomini). *Nederlandse Faunistische Mededelingen*, 1A, 1-227.

Moller Pillot H.K.M. (1984b). De larven der Nederlandse Chironomidae (Diptera) (Orthocladiinae sensu lato). *Nederlandse Faunistische Mededelingen*, 1B, 1-175.

sample specifications:

type: quantitative (abundance data)
 replicate samples: no
 comments: For details see appendix of T. De Bie, L. De Meester, L. Brendonck, K. Martens, B. Goddeeris, D. Ercken, H. Hampel, L. Denys, L. Vanhecke, K. Van der Gucht, J. Van Wichelen, W. Vyverman & S. A. J. Declerck (2012) Body size and

dispersal mode as key traits determining metacommunity structure of aquatic organisms. *Ecology Letters*, 15(7), 740-747.

zooplankton:

sample information:

covered timeframe: 2003 - 2003
 historical data: no
 palaeo data: no
 season: summer
 temporal resolution/frequency of sampling:
 per year
 time series data: no

taxonomic resolution:

level: species
 comments: Cladocera and Rotifera were counted and identified to species and genus level, respectively.

taxonomic coding:

taxalist according to: Nootenboom-Ram E. (1981); Flössner D. (2000); Alonso M. (1996)
 reference(s): Nootenboom-Ram E. (1981). *Verspreiding en Ecologie van de Branchiopoda in Nederland*. In: Arnhem, p. 95.

Alonso M. (1996). *Crustacea Branchiopoda. Fauna Iberica 7*. Museo Nacional de Ciencias Naturales (CSIC) Madrid.

Flössner D. (2000). *Die Haplopoda und Cladocera (ohne Bosminidae) Mitteleuropas*. Backhuys Publishers, Leiden.

sample specifications:

type: quantitative (abundance data)
 replicate samples: no
 comments: For details see appendix of T. De Bie, L. De Meester, L. Brendonck, K. Martens, B. Goddeeris, D. Ercken, H. Hampel, L. Denys, L. Vanhecke, K. Van der Gucht, J. Van Wichelen, W. Vyverman & S. A. J. Declerck (2012) *Body size and dispersal mode as key traits determining metacommunity structure of aquatic organisms. Ecology Letters*, 15(7), 740-747.

phytoplankton:

sample information:

covered timeframe: 2003 - 2003
 historical data: no
 season: summer
 temporal resolution/frequency of sampling:
 per year

taxonomic resolution:

level: genus

taxonomic coding:

taxalist according to: John D.M., Whitton B.A. & Brook A.J. (2002); Tikkanen T. & Willén T. (1992)
 reference(s): John D.M., Whitton B.A. & Brook A.J. (2002). *The freshwater algal flora of the British isles*. Cambridge University Press, Cambridge.

Tikkanen T. & Willén T. (1992). *Växtpflantonflora*. Författarna Natur, Solna

sample specifications:

type: quantitative (abundance data)

replicate samples: no
 comments: For details see appendix of T. De Bie, L. De Meester, L. Brendonck, K. Martens, B. Goddeeris, D. Ercken, H. Hampel, L. Denys, L. Vanhecke, K. Van der Gucht, J. Van Wichelen, W. Vyverman & S. A. J. Declerck (2012) Body size and dispersal mode as key traits determining metacommunity structure of aquatic organisms. *Ecology Letters*, 15(7), 740-747.

(benthic) diatoms:**sample information:**

covered timeframe: 2003 - 2004
 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: see full reference list below

reference(s): Krammer K. & Lange-Bertalot H. (1986). Süßwasserflora von Mitteleuropa 2: Bacillariophyceae. 1. Teil: Naviculaceae. Gustav Fischer Verlag, Stuttgart.

Krammer K. (1997a). Die cymbelloiden Diatomeen. Eine Monographie der weltweit bekannten Taxa. Teil 1. Allgemeines und Encyonema Part. *Bibliotheca Diatomologica* 36, 1-382.

Krammer K. (1997b). Die cymbelloiden Diatomeen. Eine Monographie der weltweit bekannten Taxa. Teil 2. Encyonema part., Encyonopsis and Cymbellopsis. *Bibliotheca Diatomologica* 37, 1-469.

Krammer K. (2000). Diatoms of Europe. Vol. 1. The genus *Pinnularia*. A.R.G. Gantner Verlag K.G., Ruggell.

Krammer K. (2002). Diatoms of Europe. Vol. 3. *Cymbella*. A.R.G. Ganter Verlag K.G., Ruggell.

Krammer K. (2003). Diatoms of Europe. Vol. 4. *Cymbopleura*, *Delicata*, *Navicymbula*, *Gomphocymbellopsis*, *Afrocymbella*. A.R.G. Ganter Verlag K.G., Ruggell.

Krammer K. & Lange-Bertalot H. (2004). Süßwasserflora von Mitteleuropa 2: Bacillariophyceae. 3. Teil: Centrales, Fragilariaceae, Eunotiaceae. Elsevier GmbH, Spektrum Akademischer Verlag, Heidelberg.

Krammer K. & Lange-Bertalot H. (2007). Süßwasserflora von Mitteleuropa 2: Bacillariophyceae. 2. Teil: Bacillariaceae, Epithemiaceae, Surirellaceae. Ergänzter Nachdruck der 1. Auflage. Elsevier GmbH, Spektrum Akademischer Verlag, Heidelberg.

Lange-Bertalot H. (2001). Diatoms of Europe. Vol. 2. *Navicula sensu stricto*, 10

genera separated from *Navicula sensu lato*, *Frustulia*. Gartner Verlag, Ruggel.

Lange-Bertalot H. & Moser G. (1994). *Brachysira*: Monographie der Gattung. *Bibliotheca Diatomologica* 29, 1-212.

Lange-Bertalot H. & Metzeltin D. (1996). Oligotrophie-Indikatoren. 800 Taxa repräsentativ für drei diverse Seen-Typen, kalkreich - oligodystroph - schwach gepuffertes Weichwasser. *Iconographia Diatomologica* 2: 1-390. 9

Lange-Bertalot H., Cavacini P., Tagliaventi N. & Alfinito S. (2003). Diatoms of Sardinia. Rare and 76 new species in rock pools and other ephemeral waters. *Iconographia Diatomologica* 12, 1-438.

Werum M. & Lange-Bertalot H. (2004). Diatoms in springs from Central Europe and elsewhere under the influence of hydrogeology and anthropogenic impacts. *Iconographia Diatomologica* 13, 3-417.

sample specifications:

type: quantitative (abundance data)
replicate samples: no
comments: For details see appendix of T. De Bie, L. De Meester, L. Brendonck, K. Martens, B. Goddeeris, D. Ercken, H. Hampel, L. Denys, L. Vanhecke, K. Van der Gucht, J. Van Wichelen, W. Vyverman & S. A. J. Declerck (2012) Body size and dispersal mode as key traits determining metacommunity structure of aquatic organisms. *Ecology Letters*, 15(7), 740-747.

macrophytes:

sample information:

covered timeframe: 2003 - 2003
historical data: no
palaeo data: no
season: summer
temporal resolution/frequency of sampling: per year

taxonomic resolution:

level: species

taxonomic coding:

taxalist according to: see full reference list
reference(s): Haslam S.M., Sinker C.A. & Wolseley P.A. (1975). *British water plants*. *Field Studies* 4, 243-351.

Casper S.J. & Kraus H.D. (1980). *Süßwasserflora von Mitteleuropa*, Band 23. *Pteridophyta und Anthophyta*, 1. Teil: *Lycopodiaceae bis Orchidaceae* Fischer Verlag, Jena.

Jermy A.C., Chater A.O. & David R.W. (1982). *Sedges of the British Isles* 2 edn. Botanical Society of the British Isles, London.

sample specifications:

type: semi-quantitative
comments: For details see appendix of T. De Bie, L. De Meester, L. Brendonck, K. Martens, B. Goddeeris, D. Ercken, H. Hampel, L. Denys, L. Vanhecke, K. Van der Gucht, J. Van Wichelen, W. Vyverman & S. A. J. Declerck (2012) Body size and dispersal mode as key traits determining metacommunity structure of aquatic

organisms. Ecology Letters, 15(7), 740-747.

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.

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References

De Bie T., De Meester L., Brendonck L., Martens K., Goddeeris B., Ercken D., Hampel H., Denys L., Vanhecke L., Van der Gucht K., Van Wichelen J., Vyverman W., Declerck S.L., Van der Gucht K., Van Wichelen J., Vyverman W. & Declerck S.A.J., 2012. Body size and dispersal mode as key traits determining metacommunity structure of aquatic organisms. Ecology Letters 15(7), 740-747. <https://doi.org/10.1111/j.1461-0248.2012.01794.x>