



Metadata

Metadata: MARS multiple stressors and biological dataset of Drava & Mura Basins

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General information

name of the dataset:

full name of the dataset: *Metadata: MARS multiple stressors and biological dataset of Drava & Mura Basins*

dataset short name: *MARS DRAVA/MURA stressors and biological dataset*

type of dataset ([more information](#)): *species (taxonomic group) per site database including environmental information*

specify: *Fish ecological data*

data type: *point data/observation data, vector data (shape files), descriptive data*

short description of the dataset/summary:

This work/dataset addresses human stressors and their impacts on fish assemblages in the Austrian Drava and Mura River Basins. It supports the EU-project MARS (Managing Aquatic ecosystems and water Resources under multiple Stress) by analysing single and multiple stressors, environmental effects and stressor combinations/interactions. Data sources are mainly shape files and MS ACCESS databases.

With the help of point data on connectivity disruptions (barriers) and line data on hydromorphological & water quality stressors (on water body level), six mainly hydromorphological stressors from the national inventory assessment of the EU Water Framework Directive were recoded and aggregated into new variables, i.e. stressor metrics. These then were compared with point data (fish sampling sites) and related information on fish assemblages (Fish Index Austria and related single metrics as well as the WFD biological and total status).

science keywords according to [GCMD](#):

topic: *Biosphere, Biological Classification, Terrestrial Hydrosphere*

keywords: *Fish assemblages, metrics, rivers, stressors, impacts, ecological status, Water Framework Directive, Fish Index Austria, hydromorphological alterations, barriers*

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

Biota, Environment, Inland Waters

Technical and administrative specifications

data format:	<i>others/specify</i>
others/details:	<i>shapefiles and MS ACCESS database</i>
operating system:	<i>all operating systems</i>
data language:	<i>German</i>
current access level:	<i>restricted access</i>
web address (URL):	<i>http://www.bmlfuw.gv.at/en.html</i>
others/details:	<i>River Basin Management Data are public data, but have to be requested from the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (see comment below).</i>
currently available through GBIF :	<i>no</i>
exchange planned:	<i>no</i>
data in data repository:	<i>no</i>
Do you plan to publish the data on the Freshwater Biodiversity Data Portal:	<i>no</i>
comments:	<i>River Basin Management Data (including stressor information and biological quality element monitoring sites) are public data, but have to be requested from the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (see http://www.bmlfuw.gv.at/en.html). The same applies for data on the Fish Index Austria, which have to be requested from the Institute for Water Ecology, Fish Biology and Lake Ecology (IGF; see http://www.baw.at/index.php/igf-home.html).</i>
update level:	<i>update planned</i>
others/details:	<i>River Basin Management Plan data from 2009 and 2015 available (2015 only as draft), next planning circle will be finished in 2021</i>
documentation:	
type:	<i>others/specify</i>
language:	<i>German</i>
others/details:	<i>http://wisa.bmlfuw.gv.at</i>
contact details:	
metadata contact person:	
first, last name:	<i>Helena Muehlmann</i>
phone:	<i>+43 1 71100 7158</i>
email:	<i>helena.muehlmann@bmlfuw.gv.at</i>
institution:	<i>Austrian Federal Ministry of Agriculture, Forestry, Environment & Water Management</i>
address:	<i>Marxergasse 2</i>
postal code, city:	<i>1030 Vienna</i>
province, state:	<i>Vienna</i>
country:	<i>Austria</i>
web address:	<i>http://www.bmlfuw.gv.at/en.html</i>
technical contact person:	
first, last name:	<i>Helena Muehlmann</i>
phone:	<i>+43 1 71100 7158</i>
email:	<i>helena.muehlmann@bmlfuw.gv.at</i>
scientific contact person:	

first, last name: *Rafaela Schinegger*
phone: *+43 1 47654 81216*
email: *rafaela.schinegger@boku.ac.at*

Intellectual property rights and citation

(if the dataset is already published):

dataset creator (data compiler):

contact name: *Rafaela Schinegger*
contact email: *rafaela.schinegger@boku.ac.at*
contact institution: *Institute of Hydrobiology and Aquatic Ecosystem Management (IHG)*

data contributors to/owners of this dataset:

number: *multiple*
number: *2*

provider 1:

provider institute: *Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management*
contact name: *Helena Mühlmann*
contact email: *helena.muehlmann@bmlfuw.gv.at*
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: *Institute for Water Ecology, Fish Biology and Lake Ecology (IGF) Scharfling*
contact name: *Brigitte Sasano*
contact email: *brigitte.sasano@baw.at*
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): *Schinegger, R., Aschauer, C., Mühlmann, H., Schmutz, S.*
title: *MARS stressor and biological dataset on Drava & Mura River Basins (Austria)*
year: *2016*

citation of the metadata:

author(s): *Schinegger R., Aschauer C., Mühlmann H. & Schmutz S.*
title and journal (name, number, pages): *Metadata: MARS multiple stressors and biological dataset of Drava & Mura Basins. Freshwater Metadata Journal 0: 0-0*
year: *0000*
doi (if applicable): *<https://doi.org/10.15504/fmj.0000.0>*

General data specifications

regional coverage of the dataset:

scale of the dataset: *regional*

continents: *Europe*

spatial extent (bounding coordinates):

southernmost latitude [°]: *46.6408*

northernmost latitude [°]: *46.76153*

westernmost longitude [°]: *12.92196*

easternmost longitude [°]: *14.94884*

minimum altitude: *237 metres*

maximum altitude: *3798 metres*

countries: *Europe: Austria*

comments: *Environmental information based on entire Drava/Mura basins in Austria.*

comments: *Timeframe of biotic data 2006-2014, abiotic/stressor data from Austrian River Basin Management Plans 2009 and 2015.*

Site specifications

coordinate system/grid data:	<i>latitude/longitude projected</i>
datum (e.g. WGS84):	<i>31287</i>
grid data available:	<i>no</i>
site coding:	
site coding available:	<i>yes</i>
number of digits:	<i>alphanumerical</i>
example:	<i>9</i>
number of sites:	<i>ATDRAU738</i>
exact number of sites:	<i>100 - 1000</i>
	<i>525</i>

Climate and environmental data

climate related data:	<i>no data available</i>
environmental data:	
available parameters per catchment:	<i>catchment size</i> <i>IHG database:</i>
available parameters per catchment:	<i>presence of barriers/dams/reservoirs (fragmentation)</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per catchment:	<i>hydrological regime/flow regime</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per site:	<i>information on embankment (incl. information on modification)</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per site:	<i>information on channel form (incl. information on modification)</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per site:	<i>information on cross section (incl. information on modification)</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per site:	<i>information on water uses (e.g., irrigation, fish ponds)</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per site:	<i>distance to next migration barrier upstream</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per site:	<i>distance to next migration barrier downstream</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per site:	<i>distance to the next lake upstream</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per site:	<i>river length</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per site:	<i>distance to source</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per site:	<i>distance to mouth</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per site:	<i>stream order (according to Strahler)</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per site:	<i>slope</i> <i>IHG database:</i>
available parameters per site:	<i>altitude</i> <i>IHG database:</i>
available parameters per site:	<i>hydrological regime/flow regime</i> <i>River Basin Management Plans 2009 & 2015</i>
available parameters per site:	<i>information on instream habitat (incl. information on modification)</i> <i>River Basin Management Plans 2009 & 2015</i>
physico-chemistry data:	
other physico-chemical parameters:	<i>Chemical status available from River Basin Management Plans 2009 & 2015. Toxic substances available from River Basin Management Plans 2009 & 2015.</i>
comments:	<i>Detailed physico-chemistry data available upon request from the Federal Ministry of Agriculture, Forestry, Environment and Water Management.</i>
stressors influencing the sites:	
reference sites available:	<i>yes</i>

stressor	restored sites available	data before/after restoration available	stressor gradient available	comments
eutrophication	no	no	yes	chemical status (WFD)
hydromorphological degradation	no	no	yes	hydromorphological status (WFD)
organic pollution	no	no	yes	chemical status (WFD)
toxic stress	no	no	no	toxic substances (WFD)
general degradation	no	no	yes	measured via ecological status (WFD)
hydrologic stress (e.g. impoundment, flow velocity reduction, hydropeaking, water abstraction, flow velocity increase)	no	no	yes	residual flow, hydropeaking, impoundments (WFD)

comments:

Various restoration studies in Upper Drava catchment conducted in the last 20 years, see <http://www.life-drau.at> and Martina Humpel (2012): Metaanalyse von Eingriffen und deren Restaurationsmaßnahmen an der österreichischen Drau. Diplomarbeit / Masterarbeit - Institut für Hydrobiologie, Gewässermanagement (IHG), BOKU-Universität für Bodenkultur, pp 189. <http://permalink.obvsg.at/bok/AC08907751>

Biological data

biological data origin:

specify project:

from sampling

"Fish Database Austria" (FDBA, 2015), which is managed by the Institute for Water Ecology, Fish Biology and Lake Ecology (IGF) of the Federal Office of Water Management (BAW)

organism group addressed:

comments:

fish

<http://www.baw.at/index.php/igf-leistungen/fischdatenbank.html>

Sample specifications/sample resolution

fish:

sample information:

covered timeframe:
year from - to: 2006 - 2014
historical data: no
palaeo data: no
season: spring, summer, autumn, winter
temporal resolution/frequency of sampling:
single date
time series data: no

taxonomic resolution:

percentage of species level data: 100

taxonomic coding:

taxalist according to: Leitbildkatalog (BAW IGF, 2015)
citation: <http://www.baw.at/index.php/igf-download/1693-leitbildkatalog.html>
coding system: full latin name
example: *Thymallus thymallus*

sample specifications:

replicate samples: yes
number of samples: 525
specification of method(s) used for sampling and sorting:
electro fishing, wading
citation: Haunschmid, R., Schotzko, N., Petz-Glechner, R., Honsig-Erlenburg, W., Schmutz, S., Spindler, T., Unfer, G., Wolfram, G., Bammer, V., Hundritsch, L., Prinz, H., Sasano, B. (2010). Leitfaden zur Erhebung der biologischen Qualitätselemente Teil A1 - Fische. Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Wien. ISBN: 978-3-85174-059-2
<http://www.baw.at/index.php/igf-download/1694-leitfaden-zur-erhebung-der-biologischen-qualitaetselemente-teil-a1-fische.html>
comments: The fish based indicators include the Fish Index Austria (FIA) and its single metrics, an IBI that was developed for the assessment of the fish-ecological status in Austria according to the WFD needs. The FIA is composed of a number of core metrics. They include number of dominant species, number of subdominant species, number of rare species, number of habitat guilds (rheophilic, limnophilic, indifferent), number of reproductive guilds (lithophilic, phytophilic, psammophilic), fish region index and population age structure of dominant and subdominant species.

Other specifications

GIS layers, shapes related to the dataset:

*catchments, river-sub-basins
dams/reservoirs/barriers
environmental variables (freshwater or terrestrial)*

availability of photos:

no

availability of maps:

yes

quality control procedures:

Were any quality control procedures applied to your dataset?

yes

quality control protocols and comments:

Datasets were screened and data mining was conducted within a related master thesis and within MARS WP 4 Drava basin analyses.

reference:

Aschauer, C. (2016): Distribution and patterns of multiple human stressors and their impacts on fish assemblages in the Austrian Drava and Mura River Basins. Master thesis, University of Natural Resources and Life Sciences, Vienna.