



Contract No. 226874

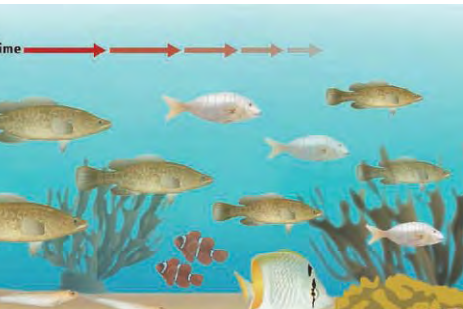


- Biodiversity of Freshwater Ecosystems: Status, Trends, Pressures, and Conservation Priorities

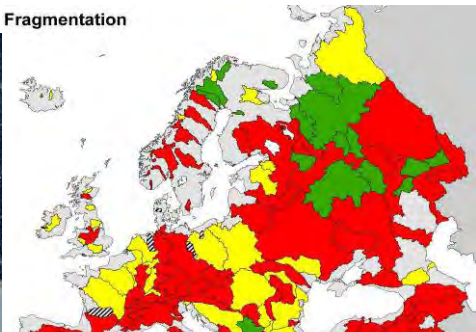
Klement Tockner, Jörg Freyhof, Nike Sommerwerk

www.igb-berlin.de

www.freshwaterbiodiversity.eu



Fragmentation





Freshwater biodiversity

Disproportionate high biodiversity:

Freshwaters cover 0.8% of the earth surface, but contain >10% of all animal species and ~1/3 of all vertebrate species

Key ecosystem services:

Freshwaters and wetlands provide valuable ecosystem services, in most cases more than any other ecosystem type



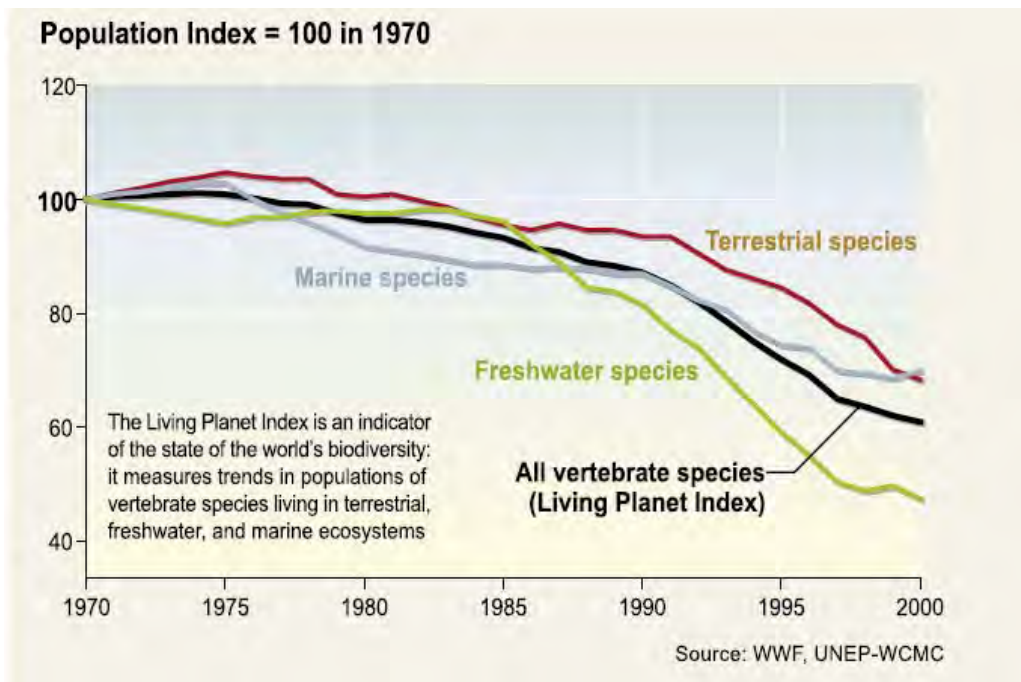
Pivotal landscape functions: E.g., freshwaters play a key role in the global C cycle



The hidden freshwater biodiversity crisis

Most threatened ecosystems:

Freshwater biodiversity decreases much faster than marine and terrestrial diversity



European vertebrates extinct since 1700



Terrestrial

Prolagus sardus about 1800

Haematopus meadewaldoi

about 1940

Freshwater

Eudontomyzon sp. migratory

Romanogobio antipai

Alburnus danubicus

Gasterosteus crenobiontus

Coregonus oxyrinchus

Coregonus bezola

Coregonus fera

Coregonus hiemalis

Coregonus restrictus

Coregonus gutturosus

Salmo schieffermuelleri

Salvelinus neocomensis

Salvelinus profundus

..... more



Marine: *Pinguinus impennis* 1852

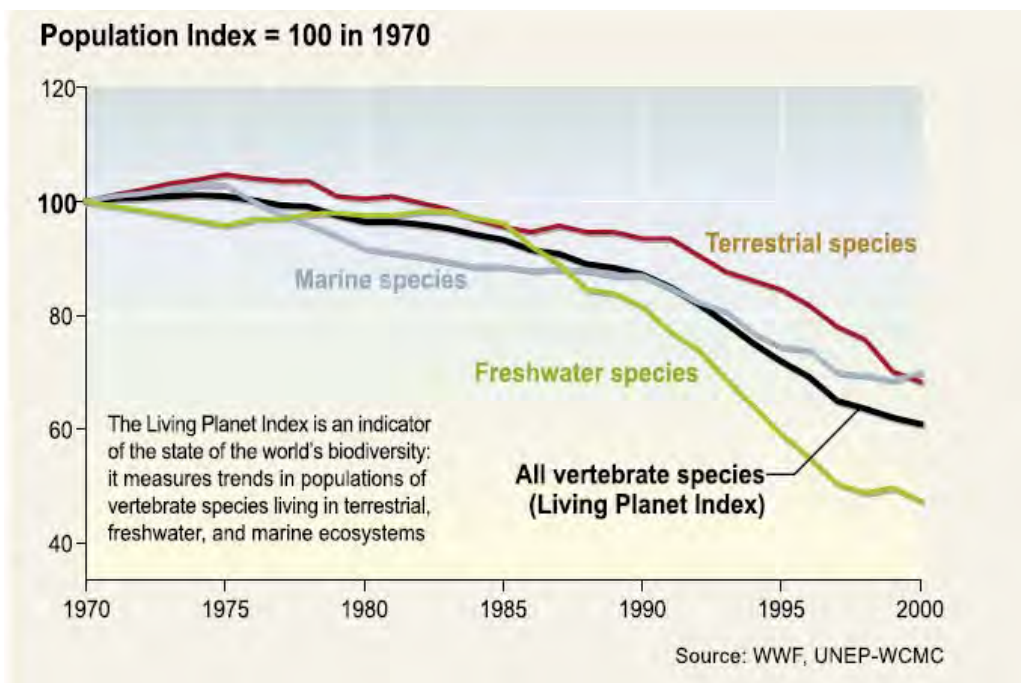


The hidden freshwater biodiversity crisis

Most threatened ecosystems:

Freshwater biodiversity decreases much faster than marine and terrestrial diversity

→ Up to now,
freshwaters are almost
completely neglected in
global biodiversity research and policy



Pontocaspian gobies in the Rhine



IDE, ARTIKEL, FAKTEN

len Themenseiten zu...

tz

ALLE THEMENSEITEN >>**FOTOSTRECKE**

Überfischung: Wie der Mensch die Weltmeere plündert

MEHR AUF SPIEGEL ONLINE

Abkommen: 91 Staaten wollen gegen illegalen Fischfang vorgehen (01.09.2009)

Nordsee: Schollen- und Kabeljau-Bestände erholen sich (31.07.2009)

Verfehlte EU-Politik: Regierung räumt katastrophale Überfischung ein (15.03.2009)

Uno-Report: Meere werden immer stärker überfischt (02.03.2009)

Eingewanderter Fisch**Allesfresser aus dem Osten erobert deutsche Flüsse**

DDP / Frank Hartmann

Neuankömmling im südlichen Rhein: Die Kesslergrundel

Überraschender Fang im südlichen Rhein: Die Kesslergrundel, eigentlich in Südosteuropa heimisch, breitet sich jetzt auch in deutschen Gewässern aus. Heimischen Fischen droht ein harter Konkurrenzkampf - und Anglern eine Plage.

Im südlichen Rhein ist offenbar eine neue Fischart eingezogen. Südlich von Mannheim sei eine Kesslergrundel (Neogobius kessleri) ins Netz gegangen, sagt der Fischereireferent Frank Hartmann von der Abteilung Landwirtschaft des Regierungspräsidiums Karlsruhe. Durch den zugewanderten Fisch, der im Rhein nicht heimisch sei, drohten erhebliche ökologische Konsequenzen.

Rund 50 Fischarten leben im Rhein. Mancher droht nun ein harter Konkurrenzkampf mit dem Neuankömmling. Hartmann geht davon aus, dass sich die

ANZEIGE

präsentiert von **SPiegel ONLINE**

How to find (reliable) data?

Search Results for "Neogobius kessleri" - GBIF Portal - Mozilla Firefox

http://data.gbif.org/search/Neogobius kessleri

search species/country/dataset

free and open access to biodiversity data
GLOBAL BIODIVERSITY INFORMATION FACILITY

Search

HOME SPECIES COUNTRIES DATASETS OCCURRENCES SETTINGS ABOUT

Search Results for: **Neogobius kessleri**

[Scientific names](#) [Common names](#) [Countries](#) [Datasets](#)

Scientific names

Species	<i>Neogobius kessleri</i> (English: <i>Kessler's Goby</i>)	Animalia - Chordata - Actinopterygii - Perciformes - Gobiidae - <i>Neogobius</i>
Subspecies	<i>Neogobius kessleri</i> subsp. <i>gorlap</i>	Animalia - Chordata - Actinopterygii - Perciformes - Gobiidae - <i>Neogobius</i> Synonym for <i>Neogobius gorlap</i>

Common names

No common names matching "Neogobius kessleri"

Countries

No countries with names matching "Neogobius kessleri"

Datasets

No datasets with names matching "Neogobius kessleri"

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Contact us



Biodiversity of Freshwater Ecosystems:
Status, Trends, Pressures, and
Conservation Priorities

FP7-EU-Collaborative Project -
Large-scale integrating project

BioFresh is the largest international project
to explicitly focus on freshwater biodiversity



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Biodiversity of Freshwater Ecosystems:
Status, Trends, Pressures, and
Conservation Priorities

FP7-EU-Collaborative Project - Large-scale integrating project

Duration: 4.5 years (start: 1 Nov. 2009)
Coordinator: Klement Tockner (IGB, Germany)
Partners: 19 Institutes and Organisations
Endorsed: FreshwaterBiodiversity (DIVERSITAS)
Stakeholders: GWSP, GBIF, WWF, TNC, PESI,
FAO, Geo-Bon, Wetlands International,
LifeWatch, and more...



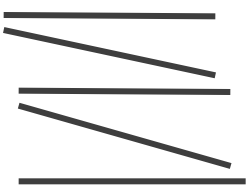
Objectives

Improve capacity to protect and manage freshwater biodiversity in the face of ongoing changes to global climate and socioeconomics.

This will be achieved by:

- (i) building a **freshwater information platform** as a gateway to scientific information on freshwater biodiversity,
- (ii) **predicting the responses** of freshwater biodiversity and its services to multiple stressors at global, European and local scale,
- (iii) **increasing the awareness** on the urgency for freshwater biodiversity conservation among scientists, policy makers and the public, and thereby improving present conservation strategies and supporting the work of the EU and of international environmental agreements.

Focus

Scale		Grain	BD-component
1. Global		1. Ecoregion	1. Ecosystem diversity
2. European		2. Catchment	(rivers, lakes, wetlands, GW)
3. Danube/ Elbe/Ebro		3. Point	2. Species diversity (spatial, temporal trends)

Emerging components:

Functional diversity

Genetic diversity

Key products

1. Freshwater Biodiversity Portal

Currently data is widely dispersed and for the most part inaccessible

→ **open access freshwater biodiversity data portal** that connects global and regional data bases



Biodiversity of Freshwater Ecosystems:
Status, Trends, Pressures, and Conservation
Priorities



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- [Citation](#)
- [Example workflow](#)
- [Provider agreement](#)
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Welcome to the BioFresh data portal

Beta version

This is a preview version of the BioFresh-data portal, which is still in a very early construction phase. This version is mainly intended to demonstrate the future plans and possibilities. If you have any comments or suggestions please contact us at data@freshwaterbiodiversity.eu.

Statistics

Datasources: 1
Species: 110
Records: 159630
Georeferenced
Records: 131130



Biodiversity of Freshwater Ecosystems: Status, Trends, Pressures, and Conservation Priorities



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Metadatabase

More than other research projects, BioFresh largely relies on the quality and quantity of the data that will be included into the BioFresh data portal. BioFresh will make use of all kind of freshwater biodiversity data and will provide free and universal access to information that has been collected within numerous European and worldwide research initiatives, projects and campaigns.

General information that describes each of the background databases of the BioFresh data portal will be stored in a so called metadatabase. This includes information about the data provider and the related intellectual property issues, as well as characterising parameters as regional coverage and spatial extend. To supplement the BioFresh science workpackages the general metadata will be complemented with information about environmental and climate related parameters.

The establishment of the metadatabase started in January 2010. Regarding the collection of the relevant metadata a questionnaire for internal and external data holders was developed. To prioritise data entry, fields are marked as mandatory/conditional, recommended or optional. In terms of clearness and user friendliness fold-out sections as well as tooltips for further data field explanations are on-hand.

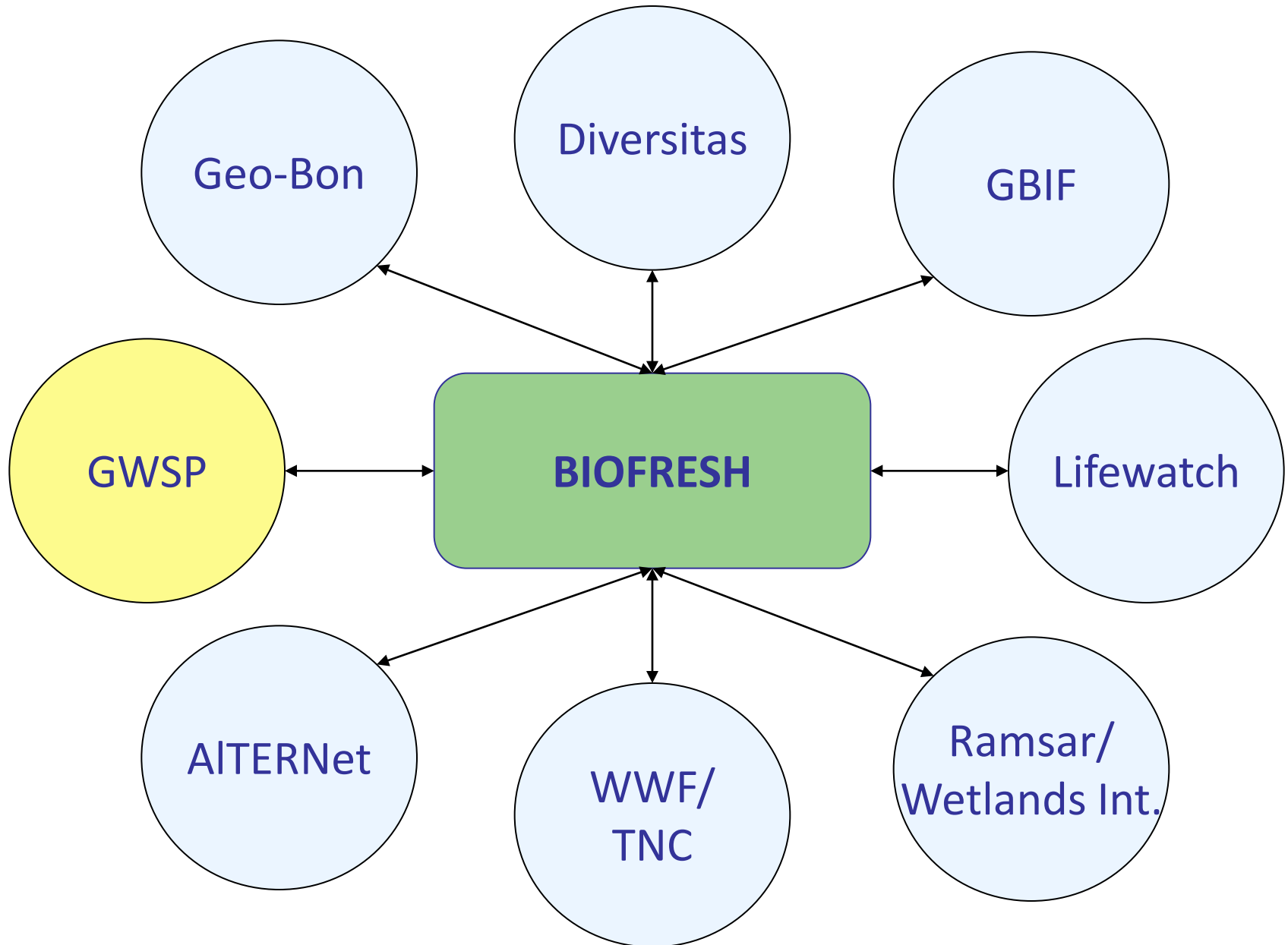
Currently - in its latest version - the metadatabase holds meta information from about 40 background databases. If you are interested to publish your data through the BioFresh data portal and therefore - as a first step - want to submit your metadata to the BioFresh metadatabase, please do not hesitate to contact ^bAstrid Schmidt-Kloiber (BOKU).



Key products

1. Freshwater Biodiversity Portal
2. Digital Freshwater Biodiversity Atlas
3. PhD theses, publications, reviews
4. Improved predictive models
5. Methods, analytical protocols, indicators, standards for BD monitoring
6. Outreach activity products
7. Guidelines for future BD conservation planning (e.g. KBA)
8. BD collaborative networks
9. Nucleus for mutual projects

Linkages & Synergies (selected partners)



KBioFresh <-> GWSP

Vörösmarty et al.

Strengthen the links of BioFresh to other institutions

Global Water Atlas (hydrology, scales)

Visit us:

www.freshwaterbiodiversity.eu



Biodiversity of Freshwater Ecosystems:
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SUPPORTED BY



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Species of the month
Marbled teal
Marmaronetta angustirostris

Freshwater Biodiversity provides important ecosystem services and give billions of people a living

Sorting small fish in Vietnam



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Leibniz-Institute of
Freshwater Ecology and
Inland Fisheries
Müggelseedamm 310,
12587 Berlin, Germany

Events

News

**First Biofresh
modelling
workshop, 12-14th
July 2010**



ECBOL 2: 2-4th

Freshwater Biodiversity – Essential for the livelihood of billions

Welcome to BioFresh

BioFresh is an EU-funded international project that aims to build a global information platform for scientists and ecosystem managers with access to all available databases describing the distribution, status and trends of global freshwater biodiversity. **BioFresh** integrates the freshwater biodiversity competencies and expertise of 19 research institutions.

The project is coordinated by Prof. Dr Klement Tockner and Dr. Jörg Freyhof from the Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB) in Germany. BioFresh is funded by the European Union under the 7th Framework Programme, Theme 6 (Environment including Climate

Links

Publications

[Leibniz-Institut für
Gewässerökologie
und Binnenfischerei
\(IGB\)](#)
[Forschungsverbund
Berlin e. V.](#)
[Leibniz Gemeinschaft](#)

Leibniz-Institute of Freshwater Ecology and Inland Fisheries

