

Deliverable D3.4

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Projects and proposals submitted to various donors to fill knowledge gaps (M51)

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Call and Contract: FP7-ENV-2008-1
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Project Duration: 01/11/2009 – 30.04.2014 (54 months)
Co-ordinator: Leibniz-Institute of Freshwater Ecology and Inland Fisheries at Forschungsverbund Berlin e.V., Germany

Partners: RBINS, Royal Belgian Institute of Natural Sciences, Belgium
BOKU, Universität für Bodenkultur Wien, Austria
ICLARM, International Center for Living Aquatic Resources Management, Malaysia
IRD, Institut de Recherche pour le Développement, France
UDE, Universität Duisburg-Essen, Germany
IUCN, International Union for Conservation of Nature, Switzerland
UOXF.AC, Oxford University, UK
UB, Universitat de Barcelona, Spain
UFZ, Helmholtz Zentrum für Umweltforschung, Germany
UCL, University College of London, UK
UCBL, Université Claude Bernard - Lyon 1, France
UPS, Université Paul Sabatier- Toulouse 3, France
ECOLOGIC, Ecologic GmbH Institut für Internationale und Europäische Umweltpolitik, Germany
EC-ERC, Commission of the European Communities - Directorate General Joint Research Centre, Italy
UD, University of Debrecin, Hungary
NRM, Naturhistoriska riksmuseet, Sweden
FIN, FishBase Information and Research Group, Inc



BIOFRESH

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

Project no. 226874


Large scale collaborative project

Deliverable number	D3.4
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Lead Beneficiary (full name and Acronym)	Leibniz-Institute of Freshwater Ecology and Inland Fisheries at Forschungsverbund Berlin e.V., FVB.IGB
Nature	Report
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PU	Public	✓
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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Name of the Authors	Name of the Partner	Logo of the Partner
All Partners		

In case the report consists of the delivery of materials (guidelines, manuscripts, etc)

Delivery name	Delivery name	From Partner	To Partner

Introduction

Deliverable 3.4 “Projects and proposals submitted to various donors to **fill the knowledge gaps**” is related to Task 3.4. The goal of this deliverable is to initiate novel spin-off research projects, in collaboration with partners within and outside the BioFresh consortium to address data needs resulted from the gap analyses in task 3.1 and 3.2.

Below is a list of all submitted collaborative projects by the Consortium, most of which aim not only to mobilize data sources for the platform and respond to major scientific questions, but as well at guaranteeing the continuation of the BioFresh data platform beyond the termination of the project.

BioFresh Partners have been successful in this endeavour: 16 projects have been submitted of which 6 are successfully funded and 8 proposals are awaiting results.

In this respect, it needs to be noted that three partners, namely IGB, RBINS and BOKU, have agreed to pool own resources to maintain the portal, the meta-database and the Global Freshwater Biodiversity Atlas well beyond the termination of the BioFresh-project. Funding is secured for at least 2 years; and it is expected that additional external support will be raised during this time to continue the support of the infrastructure.

Title of Project/Proposal (Link)	BioFresh Partner	Abstract	Funding Organisation	Status
Assessing Global Biological resources: the European contribution to GEO BON	Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB); International Union for the Conservation of Nature (IUCN); Joint Research Center (EC-JRC);	This proposed project aimed to promote and set up a frame for the global harmonisation of biodiversity monitoring systems and data collection protocols to detect changes in biodiversity, through supporting GEO BON as a global Community of Practice. It would have stimulated national Biodiversity Observation Networks (BONs), as already started in Europe through EBONE (The European Biodiversity Observation Network), as well as in the marine and freshwater domains. It will also aimed to develop common protocols for cost-effective monitoring. It would have addressed the GEO BON challenge to bring together marine freshwater and terrestrial monitoring and modelling communities.	European Union - 7th Framework Programme	rejected
AquaCROSS	Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB); University of Natural Resources and Life Sciences (BOKU); Royal Belgian Institute of Natural Sciences (RBINS); ECOLOGIC	AQUACROSS aims to support EU efforts to enhance the resilience and stop the loss of biodiversity of aquatic ecosystems as well as to ensure the ongoing and future provision of aquatic ecosystem services. It focuses on advancing the knowledge base and application of the ecosystem-based management concept for aquatic ecosystems by developing cost effective measures and integrated management practices. AQUACROSS considers the EU policy framework (i.e. goals, concepts, time frames) for aquatic ecosystems and builds on knowledge stemming from different sources (i.e. WISE, BISE, Member State reporting, modelling) to develop innovative management tools, concepts, and business models (i.e. indicators, maps, ecosystem assessments, participatory approaches,	EC, Horizon 2020, type RIA, Call SC5-06-2014	1st stage proposal submitted

		mechanisms for promoting the delivery of ecosystem services) for aquatic ecosystems at various scales. It thereby provides an unprecedented effort to unify policy concepts, knowledge, and management concepts of freshwater, coastal, and marine ecosystems to support the cost-effective achievement of the targets set out by the EU 2020 Biodiversity Strategy.		
Aquatic species Register Exchange and Services (AquaRES)	Royal Belgian Institute of Natural Sciences (RBINS)	Main objective: ensure and enhance the interoperability and public availability of these aquatic species databases through the development of a set of web services. Such services can guarantee the automatic and timely exchange of data between WoRMS, RAMS and FADA, but also expose the data for use in other initiatives and applications such as Encyclopedia of Life (EoL), Catalogue of Life (CoL), Global Biodiversity Information Facility (GBIF) and e-Science initiatives such as Biodiversity Virtual e-Laboratory (BioVeL) and LifeWatch. Relevance for BioFresh: enhance taxonomic backbone of the BioFresh data portal.	Belgian Science Policy Office (Belspo)	funded
Biogeography, trait distribution patterns, and assembly processes of riparian ground beetles in Europe	Universität Duisburg-Essen (UDE) (submitted by Michael Gerisch, currently employed at UFZ)	This project intends to disentangle the effects of multiple environmental variables and anthropogenic stressors on riparian carabid assemblages across Europe. It specifically aims to evaluate the mechanisms that maintain or compromise diversity and elucidate the role that spatial scale plays in structuring assemblages. To achieve these aims, the project will assess how the distribution, composition, and diversity of riparian carabids depend on the way in which species traits are molded by multiple, (non-) hierarchical sets of anthropogenic and geoclimatic variables. It will capitalise on the ground beetle database compiled as a contingency fund project in the framework of BioFresh.	Deutsche Forschungsgemeinschaft (DFG)	Proposal submitted
CLITEMP— Climate	Leibniz-Institute of	Temporary stream functioning and biodiversity	EU (Marie Curie)	funded

change effects on aquatic and terrestrial invertebrate assemblages	Freshwater Ecology and Inland Fisheries (IGB)			
Entwicklung der Biodiversität von Flussauen (Development of floodplain biodiversity)	Universität Duisburg-Essen (UDE), Helmholtz Centre for Environmental Research (UFZ)	Compilation and assessment of floodplain biodiversity data throughout Germany. Amongst others, the project uses the BioFresh meta-database and will analyse the ground beetle database compiled as a contingency fund project in the framework of BioFresh.	Bundesamt für Naturschutz	funded
Future hydropower dam construction	Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB)	A global synthesis of future hydropower schemes over 1 MW capacity.	Freie Universität Berlin and Leibniz-Institute of Freshwater Biology and Inland Fisheries (IGB)	In Progress
Future of Alpine Rivers	University of Natural Resources and Life Sciences (BOKU); Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB)	A data base on freshwater biodiversity of Alpine rivers	WWF & MAVA-Foundation	funded
Global Inventory of Biological Field Stations (BFSs)	Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB)	A global database of Biological Field Stations with information on location, research domain, affiliation and contact details.	Freie Universität Berlin and Leibniz-Institute of Freshwater Biology and Inland Fisheries (IGB)	In Progress
Implementing the Water Framework Directive to temporary rivers: tools for the assessment of their ecological status (TRIVERS)	University of Barcelona (UB)	The main objective of the project is to improve the management of the temporary streams and rivers (TRs), by providing the European River Basin Authorities and relevant stakeholders with an operationally tested software tool (TREHS, Temporary Rivers Ecological and Hydrological Status) designed for the sound implementation of the Water Framework Directive (WFD) to this kind of water bodies. The outcome of the project will serve as a basis for the sound implementation of WFD river basis management plans (RBMP) and the evaluation of the effectiveness of mitigation measures, over larger areas in Spain and,	European Commission Call: LIFE13 ENV/ES/000341	Proposal under final revision

		hopefully, the whole of Europe (with a particular focus on rivers of Southern Europe).		
Infrastructure Elements for Ecological Research (REfER)	University of Natural Resources and Life Sciences (BOKU); Royal Belgian Institute of Natural Sciences (RBINS)	REfER will review this cross-domain and cross-scale gap by identifying common requirements and overlaps among different biodiversity monitoring approaches in Europe. We will bring together experts from different levels dealing with data generation, management and analyses in the ecosystem domains: terrestrial, freshwater and marine. The REfER proposal aims to collect user requirements, assess best practices for different communities to improve data management and integration. This is focused to help to bridge the gap between top-down and bottom-up monitoring approaches.	EU COST	first stage proposal submitted
Intermittent River Biodiversity and Synthesis (IRBAS): http://www.irbas.fr/	University of Barcelona; Institut de Recherche pour le Développement (IRD); Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB)	The IRBAS project will compile and analyze biological, hydrological and environmental data from intermittent rivers (IRs) across the world. The datasets will be used to (1) estimate the abundance and distribution of IRs at regional and continental scales; (2) analyze temporal trends in flow intermittence; (3) identify and quantify relationships between flow intermittence, habitat dynamics, and structural and functional biodiversity; and (4) predict biodiversity responses to future changes in flow regimes.	In the context of the CESAB project "Intermittent River Biodiversity Analysis and Synthesis", IRBAS research is supported by the French Foundation for Research on Biodiversity (FRB) and the French National Agency for Water and Aquatic Environments (ONEMA) and the French National Institute of Science and Technology for the Environment and Agriculture (IRSTEA).	funded
Managing Aquatic ecosystems and water resources under multiple stress (MARS): http://mars-project.eu/	University of Duisburg-Essen (UDE) (project coordinator); University of Natural Resources and Life Sciences (BOKU); Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB)	Main objectives: To understand the effects of multiple stressors on surface waters and groundwaters, their biota, and the services they provide to humans; To understand how ecological status and ecosystem services are related – if at all; To advise river basin management how to restore multiply stressed rivers and lakes; To advise the revision of the Water Framework Directive on new indicators for ecological status and ecosystem services; To develop methods and software for the Programmes of Measures.	European Union - 7th Framework Programme	funded

<p>River NETWORK controls on aquatic BIOdiversity - Towards a mechanistic understanding of riverscape functioning and services (BRIONET)</p>	<p>University of Barcelona (UB); Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB)</p>	<p>Understanding how different components and levels of riverscape biodiversity control freshwater ecosystem functioning, service provisioning and resilience is paramount for BRIONET. This project will also increase our prediction capability about the effects that human activities have on freshwater biodiversity and related ecosystem services. These actions are extremely important to meet the 2020 targets of the EU Biodiversity Strategy. To achieve this, BRIONET will build Digital Fluvial Landscapes over the whole EU. This will allow partitioning climate and landscape variability (e.g. Hydrological classifications, land cover changes) in order to design control-impact and gradient studies. These studies will determine the role played by key terrestrial and aquatic biophysical components on river ecosystem functioning and service supply, demand and flow. BRIONET will use existing data (e.g., Water Framework Directive, Habitats Directive, Floods Directive) and design specific studies and surveys (metagenomics, remote sensing) to complement existing databases. BRIONET will follow a multiple scale approach in which the relationship between river ecosystem functioning and different components and levels of biodiversity (e.g., genes, metapopulation dynamics, trophic webs, landscape heterogeneity and composition) will be analyzed across scales (i.e. from small to the largest EU catchments). To achieve this challenge, BRIONET will create combined scenarios of global change, policy development and socioeconomic change in which to evaluate the biophysical dependence of ecosystem services. These activities will create a number of by-products that could be readily accessible for nature conservation (i.e. Habitats Directive, WFD) such as spatial explicit biodiversity and ecosystem service indicators. Finally, the digital platform will allow the development of</p>	<p>European Commission Horizon 2020 Call: H2020-SC5-2014-two-stage Topic: SC5-06-2014</p>	<p>Proposal submitted</p>
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		community-driven analysis tools to foster the use of ecosystem service valuation and trade-offs analysis among stakeholders.		
The European Marine and Freshwater Ecosystem and Biodiversity Observatory System	Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB); Universität für Bodenkultur Wien – University of Natural Resources and Life Sciences Vienna (BOKU)	The objective of EcoBOS was to create an infrastructure for excellent biodiversity research on aquatic ecosystems by installing an operational large-scale sustained network of marine and freshwater observatory stations all over the European continent and along the European coast, including lagoons, estuaries and the shelf. This observatory system will be used to monitor and assess long-term and large scale changes in aquatic (marine and freshwater) biodiversity and relate them to ecosystem functioning and the pressures and drivers on biodiversity change.	European Union - 7th Framework Programme	rejected
Unifying European Biodiversity Informatics (BioUnify)	Royal Belgian Institute of Natural Sciences (RBINS)	Main objective: coordinate existing research and capacity building efforts, through a bottom-up approach, by unifying biodiversity informatics communities across Europe. The Action will complement existing networking and coordination efforts in Europe and will provide a rapid response vehicle that will allow for ad-hoc efforts coordination, in the scope of the long-term vision of delivering predictive modelling of the biosphere.	EU COST	proposal submitted