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International Science Policy Symposium convened to support BioFresh products, and to encourage stake-holders to support integration of habitat and freshwater biodiversity issues into relevant sectoral environmental policies (M51)

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BIOFRESH

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

Project no. 226874

Large scale collaborative project

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Water Lives – A Science Policy Symposium for Freshwater Life – Final Symposium

The EU FP7 projects BioFresh and REFRESH organised the Science Policy Symposium for Freshwater Life. This was for both projects the final symposium. The Water Lives Symposium took place from 29-30 January 2014 at the Museum of Natural Sciences (RBINS), Brussels, Belgium, which was an attractive venue, not only because of the facilities but also because of the atmosphere and being closed to many European institutions and policy makers.

The symposium offered the opportunity for stakeholders and scientists to discuss challenges to implementing the 2020 Biodiversity strategy and the EU Water Framework Directive and to explore the mechanisms for better integrating freshwater biodiversity and ecosystem science into policy.

More than 120 participants (Policy makers at EU level, stakeholders (administration, business and civil society) from water management biodiversity conservation and related policy sectors (agriculture and energy) at EU and national level, scientific community (including FP7 projects) from all over Europe attended the meeting. The symposium mixed presentations from different perspectives (including contributions from the European Commission) with various interactive elements (e.g. round table dialogues, moderated discussions, panel discussion, poster presentations) to facilitate an intensive exchange between science, policy makers and stakeholders. For day one a live streaming could be provided.

Water Lives symposium, opening by Klement Tockner in the big auditorium at the Museum of Natural Sciences (RBINS), Brussels (Photo Ogarit Uhlmann)

For more information about the presentations and speakers, please follow our Symposium website http://waterlives.eu/

Presentations, posters and policy briefs of the whole symposium are all documented as pdf on the Water Lives-website:

- Presentations of Day 1
- Presentations of Day 2
- Water Lives Posters and Policy briefs

All presentations given on day one (29th of January 2014) are stored on the Water Lives-webpage as videos:

- Summarizing Video of the Symposium: Water Lives…' science-policy symposium (2014)
- Summarizing Podcast of the Symposium: Water Lives: forging a science-policy interface
- Some photos of the Water Lives symposium

Annex 1: Final Program of the Science-Policy Symposium on Freshwater Life - Water Lives -

Annex 2: Summary of the Science-Policy Symposium on Freshwater Life - Water Lives –

Annex 3: Policy briefs and summary of the policy brief on riparian areas

Annex 4: Water Lives Handbook

Annex 1: Final Program of the Science-Policy Symposium on Freshwater Life - Water Lives –

Water Lives: new scientific horizons for biodiversity and water policy

A SCIENCE POLICY SYMPOSIUM for Freshwater Life

Brussels, 29-30 January 2014

Royal Belgian Institute of Natural Sciences (RBINS) - Museum of Natural Sciences
Rue Vautier 29 - 1000 Brussels

Day 1 – Wednesday, 29 January 2014

Programme	
10:00	**Registration and coffee**
Opening session **Chair:** Martin Kernan *(University College London - UCL)*	
10:30	**Societal challenges in managing freshwater ecosystems** Klement Tockner *(Leibniz-Institute of Freshwater Ecology and Inland Fisheries - IGB)*
10:45	**Science and Policy: acting together to address societal challenges** Birgit de Boissezon *(European Commission, DG RTD)*
Session 1: Key Notes: Challenges from different perspectives **Chair:** Martin Kernan *(University College London - UCL)*	
11:00	**Scientists and managers: the best of times and the worst of times** Brian Moss *(University of Liverpool)*
11:30	**Reporting flows: informing ecological and conservation status** Hans Bruyninckx *(European Environmental Agency - EEA)*
12:00	Questions & Discussion
12:30 – 13:30	**Lunch**
Session 2: Future visions for Freshwater Ecosystems (Inputs and moderated discussion) **Chair/Moderator:** Paul Jepson *(University of Oxford)*	
13:30 – 15:30	**How to deal with multiple stressors to freshwater biodiversity in the future** Daniel Hering *(University Duisburg-Essen)* **Discussion:** What are the implications of these findings for policy? **Research infra-structures: the case for integrating freshwater biodiversity data** Aaike De Wever *(Royal Belgian Institute of Natural Sciences (RBINS) - Museum of Natural Sciences)* **Discussion:** How do we ensure maximize the relevance and uptake of biodiversity datasets for policy? **Freshwater Key Biodiversity Areas as a critical tool in the conservation of freshwater biodiversity: application to strengthen the Natura 2000 network**

	William Darwall *(IUCN)* **Discussion:** What are the next steps to ensure freshwater KBAs are better accounted for within the Natura 2000 network?

Water Lives: new scientific horizons for biodiversity and water policy

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Brussels, 29-30 January 2014

Royal Belgian Institute of Natural Sciences (RBINS) - Museum of Natural Sciences
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Programme (continuation of day 1)	
	Impacts of climate change and land use on freshwater ecosystems Piet Verdonschot *(Alterra Research Institute)* **Discussion:** Is the Water Framework Directive prepared for global change? **Integrated catchment modelling as a tool for managing freshwaters under global change** Andrew Wade *(University of Reading)* **Discussion:** Freshwater ecosystem change: can we predict the future? **The role of agri-environmental measures in achieving WFD compliance** Demetris Psaltopoulos *(University of Patras)* **Discussion:** How can we better integrate policy to protect freshwaters?
15:30 – 16:00	**Coffee break**
Session 3: Science- Policy Café **Chair:** Martin Kernan *(University College London - UCL)*	
16:00 – 17:30	**Science-Policy Dialogues:** **1) Arguing for conservation and ecological status – how far brings us the ecosystem service approach?** Moderator: Timo Kaphengst *(Ecologic Institute)*; Scientist: Isabell Durance *(Cardiff University)*; Policy maker: Patrick Murphy *(European Commission, DG ENV)* **2) Does the food-water-energy-nexus provide the basis for integrating different policies to protect freshwaters?** **3) Do we use the knowledge generated by EU projects efficiently and meaningfully for the implementation of environmental policies?** Moderator: Ana Cristina Cardoso *(European Commission, DG JRC)*; Scientist: Josef Settele *(Helmholtz Centre for Environmental Research - UFZ)*; Policy Maker: Adrian Peres *(European Commission, DG RTD)* 4) **Launch of the Global Freshwater Biodiversity Atlas** Moderator: Astrid Schmidt-Kloiber (BOKU - University of Natural Resources & Life Sciences) 5) **Poster session**
17:30	**Wine reception** Speech: Richard Seeber *(MEP, President of the European Parliament Water Group)*
20:00	**End of Day 1**

Water Lives: new scientific horizons for biodiversity and water policy

A SCIENCE POLICY SYMPOSIUM for Freshwater Life

Brussels, 29-30 January 2014

Royal Belgian Institute of Natural Sciences (RBINS) - Museum of Natural Sciences
Rue Vautier 29 - 1000 Brussels
Program

Day 2 – Thursday, 30 January 2014

Programme		
9:00	**Wrap up from the first day and introduction to programme of 2nd** Klement Tockner *(Leibniz-Institute of Freshwater Ecology and Inland Fisheries - IGB)*	
9:30	**Session 4a: Making the WFD fit for future: Integrating climate and land use change in the WFD** Chair: Martin Kernan *(University College London - UCL)* Intro: Peter Gammeltoft *(European Commission, DG ENV)* Inputs: **How to reach the goals of the Water Framework Directive? The role of time and riparian land use** (WISER-project) By Daniel Hering *(University Duisburg-Essen)* Stakeholder reply by Roger Owen *(Head of Ecology at Scottish Environment Protection Agency)* **Restoration under global change** (RE-FORM-project) By Harm Duel *(Deltares)* Stakeholder reply by Jenny Mant *(River Restoration Centre, UK)*	**Session 4b: Meeting EU 2020 Biodiversity Strategy targets for freshwater life** Chair: Klement Tockner *(IGB)* Intro: Francois Wakenhut *(European Commission, DG ENV)* Inputs: **The role of freshwater Key Biodiversity Areas and the Natura 2000 network: designing an optimal network to address gaps in protection, now and under climate change** (BioFresh-project) By William Darwall *(IUCN)* **Setting priorities in conservation and restoration in the Mediterranean Biodiversity Hotspot** (BioFresh-project) By Jörg Freyhof *(Leibniz-Institute of Freshwater Ecology and Inland Fisheries - IGB)* Stakeholder reply by Maria Stoumboudi *(Hellenic Centre for Marine Research)*
10:30 – 11:00	**Coffee Break**	
11:00	**Session 4a: Making the WFD fit for future: Integrating climate and land use change in the WFD (continued)** **Guiding principles for management of freshwaters (recommendations for RBMPs)** *(REFRESH-project)* By Peeter Nõges *(Estonian University of Life Sciences)* Stakeholder reply by Geoff Phillips *(Environment Agency UK)*	**Session 4b: Meeting EU 2020 Biodiversity Strategy targets for freshwater life (continued)** **New strategies to fight invasive alien species in freshwater ecosystems** *(EASIN-project)* By Ana Cardoso *(European Commission, DG JRC)* Stakeholder reply by Patrick Murphy *(European Commission, DG ENV)*

Water Lives: new scientific horizons for biodiversity and water policy

A SCIENCE POLICY SYMPOSIUM for Freshwater Life

Brussels, 29-30 January 2014

Royal Belgian Institute of Natural Sciences (RBINS) - Museum of Natural Sciences
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Program

Programme (continuation of day 2)		
	Can we still use the reference condition to underpin the WFD? (REFRESH-project) By Richard Johnson *(Swedish University of Agricultural Sciences)* Stakeholder reply by Jorge Rodriguez Romero *(European Commission, DG ENV Water)* **Discussion**	**From Nutrient Limitation to Recreation: putting Ecology into Ecosystem Service Mapping** (OPENNESS-project) By Laurence Carvalho *(Centre for Ecology & Hydrology UK)* Stakeholder reply by Anne Teller *(European Commission, DG ENV Biodiversity)* **Discussion**
12:30 – 13:30	**Lunch**	
13:30	**Session 5: Synergies between the WFD and the Biodiversity Strategy and cross-cutting issues**	
	Report back from Chairs of session 4a and 4b (15 minutes each) Chair: Klement Tockner *(IGB)* & Martin Kernan *(UCL)*	
14:00	**Panel discussion on main findings and possible synergies between biodiversity and water policy** Moderator: Paul Jepson *(University of Oxford)* Panelists: ▪ Francois Wakenhut *(European Commission, DG ENV)* ▪ Peter Gammeltoft *(European Commission DG ENV)* ▪ Horst Korn *(EPBRS/Federal Agency for Nature Conservation)* ▪ Ana Cristina Cardoso *(European Commission, DG JRC)* ▪ Maria Stoumboudi *(Hellenic Centre for Marine Research)*	
15:30 – 16:00	**Final Coffee**	
16:00	**End of Symposium**	

Annex 2: Summary of the Science-Policy Symposium on Freshwater Life - Water Lives -

The aim of the joint Science Policy Symposium for Freshwater Life was to present the scientific advances of BioFresh and REFRESH, to discuss their implications for freshwater management in the EU and to generate clear recommendations for policy and management. The Symposium sought to support the implementation of the Biodiversity Strategy 2020 and the EU Water Framework Directive (and its potential revision) and to create synergies across these policy drivers, building on the best available knowledge on the current and future status of freshwater ecosystems and their inherent biodiversity.

Freshwater ecosystems support 10% of all animal species on Earth and provide a diverse array of functions and services that benefit human well-being. At the same time, their deterioration has been particularly notable as a result of human induced pressures. Over the last decades, global freshwater biodiversity has declined at a greater rate compared to terrestrial and marine ecosystems. At the European scale, the wide range of pressures and impacts on freshwater ecosystems threatens the attainment of good ecological status under the Water Framework Directive. Despite numerous efforts underpinned by EU biodiversity and water related policies aimed at protecting freshwater ecosystems and their sustainable use, major challenges in implementation persist. The Blueprint to Safeguard Europe's Water Resources has pointed out a number of actions to improve the implementation of Europe's water policies, including the need for cross-cutting problem solving. In this context, FP7 projects can play an important role by integrating their research findings into these policy processes. The BioFresh project was concerned with delivering policy relevant data and results on the current status, trends, pressures and conservation priorities of freshwater biodiversity. REFRESH aimed at increasing understanding of freshwater ecosystem response to climate and land use change and develops tools to support adaptive management. The symposium aligned key research findings with the needs of policy making and generated policy-relevant messages relating to:

- Conservation planning and management of freshwater biodiversity in the context of Green Infrastructure and Natura 2000;
- Future protected area networks considering environmental scenarios and policy targets;
- The use of freshwater biodiversity data and information to contribute to recent activities in ecosystem assessments;
- Achieving WFD good ecological status under future climate and land use change;
- Interlinkages between biodiversity, water related policies and other policy sectors (e.g. energy and agriculture) and the provision of recommendations on synergies for their implementation.

The outcomes of the symposium will include a policy report presenting the key messages and recommendations from the discussions, the publication of a policy paper in a peer reviewed journal, and a strengthening of networks at the interface of freshwater science and policy.

Detailed description of the different sessions of the symposium:

Welcome to the Symposium

After a welcome words from the project coordinators, this session provided an overview of the main goals and the structure of the Symposium. Based on the findings of the BioFresh and REFRESH projects it also highlighted some of the main challenges for water and biodiversity policy which were further discussed at the Symposium.

There were two short introductions from Klement Tockner and Martin Kernan, coordinators of the BioFresh and REFRESH project, respectively.

Session 1: Keynotes

The keynote session provided context for the discussions in subsequent sessions. With prominent speakers from different stakeholder groups (policy and science), the session highlighted the main issues for management of freshwater biodiversity and ecology, demonstrating that there was an on-going cross-disciplinary effort to provide answers for policy makers and managers in response to their on-going needs and desire to consider new science developments.

This is supported by increasing dialogue at the science policy interface dialogue to which the 'Freshwater Lives' symposium contributed. The presentations highlighted the main challenges for current policy to protect freshwater biodiversity and achieving compliance with the WFD.

Session 2: Key Messages from BioFresh and Refresh

This session aimed to provide a greater insight into the research output from both projects with a strong emphasis on policy relevant outcomes and messages.

The presentations clearly stated key policy areas targeted and the implications of the research for these.

Speakers were requested to identify the main synergies between both projects (e.g. improving connectivity and resilience of freshwater ecosystems) and the need to regard biodiversity and water policy in a more integrated way. The talks also highlighted linkages to other EU policy areas such as the CAP and energy policy.

The presentations in this session mapped onto the structure of the working groups on Day 2 of the Symposium. Six scientists (three from each project) were asked to present for 10 minutes highlighting briefly the research focus and placing more emphasis on the key policy messages. The format of the presentations (also the number of slides) was pre-determined by the organizers. After the talks the moderator highlighted some key issues to which the presenter responded. Afterwards, the presenter joined a panel forum ultimately comprising the six scientists. The moderator gave the audience the opportunity to ask questions or comment on the input, but the main emphasis in this session was on discussion among the researchers in exchange with the moderator. The session closed with a tour de table including all presenters responding to questions from the audience.

Session 3: Challenge the scientists

Building on the previous session, participants (including policy makers) got the chance to directly engage with researchers from the two projects and discuss the underlying concepts of current policy making and science. This session therefore provided a dialogue between scientists and other stakeholders. The session consisted of two elements: The first was a poster session in the entrance space of the building. Eight posters from BioFresh, REFRESH and other water and biodiversity related FP7 projects were displayed.

The nature and contact of the posters were dictated in advance by the organisers to ensure the policy angle was covered. The intention was to produce key policy and management measures succinctly and accessibly, avoiding jargon and scientific detail. This is a critical aspect of dissemination to target stakeholders. The second element consisted of table discussions in three rooms, where a scientist engaged in a dialogue with a policy-maker in front of an audience. Each of the tables dealt with a specific topic related to water and biodiversity policy.

The topics selected were:

1) Valuing ecosystem services – the right way forward?
2) How to improve the Science-Policy-Interface?
3) Launch of the online Atlas for Freshwater biodiversity

A moderator facilitated dialogue between both actors posing questions for discussion. These were along the lines of; 'What is your understanding of the respective concept/theory?'; 'Is this helpful in your work and where do you see risks and constraints?'; and 'What do you need from science for sound decision making (in water policy)?'

The participants had the opportunity to surround the table or follow the discussion in the other rooms. If someone felt the need to contribute he/she was allowed to join the discussion (similar to a fish bowl discussion) and was asked by the moderator to pass the floor to somebody else. A moderator has introduced to the session at the beginning.

Event

The evening event comprised a wine reception and a key note speech by the head of EP Water Group, Richard Seeber, in the historical and representative gallery of the museum. This also provided networking opportunities for both scientists and stakeholders.

Session 4a: Integrating climate change in the WFD.

This session focused on how recent scientific developments supported effectively the integration of climate change and land use change scenarios in assessments and management related to the Water Framework Directive (WFD). The implications for ecological assessments and on setting reference conditions for the achievement of good ecological status of EU water-bodies were discussed. This session aimed at setting priorities for consideration in the next WFD revision in 2015 with contributions from science (mainly REFRESH results, but also other invited FP 7 projects such as REFORM, WISE, MIRAGE), stakeholders and policy makers. A key component of this meeting was that a number of stakeholders with particular interest areas were given a platform to respond to the presentations from the projects having seen these in advance.

The session began with an introduction by Peter Gammeltoft (Head of Unit, of DG ENV Water) followed by coupled presentations given by scientists and stakeholders, the latter group having been asked to respond directly to the key issues and recommendations flagged by the project presentations. The topics discussed were:

- How to reach the goals of the Water Framework Directive? The role of time and riparian land use;
- Restoration under global change;
- Guiding principles for management of freshwaters (recommendations for RBMPs);
- Can we still use the reference condition to underpin the WFD.

Session 4b: Bringing freshwater life into the EU Biodiversity Strategy.

This session was focused on how recent scientific developments in the field of freshwater biodiversity could be used for effective conservation planning and contributes to support the implementation of EU and global biodiversity targets. The aim was to match existing science knowledge with policy/ management needs, reach scientific conclusions that identify a potential need for policy/ management revision and that may have a direct transfer to on-going implementation exercises with contributions from science (mainly BioFresh results, but also other invited fp7 projects such as OPENESS, OPERA, BESAFE, SCALES), stakeholders and policy makers.

The session began with an opening keynote by Francois Wakenhut (DG ENV Biodiversity, head of unit). During the session, the central issues discussed were:

- The role of freshwater Key Biodiversity Areas and the Natura 2000 network: designing an optimal network to address gaps in protection, now and under climate change.
- Setting priorities in conservation and restoration in the Mediterranean Biodiversity Hotspot.
- New strategies to fight invasive alien species in freshwater ecosystems.
- From Nutrient Limitation to Recreation: putting Ecology into Ecosystem Service Mapping.

Session 5: Synergies between the WFD and the Biodiversity Strategy.

Building on Session 4a and 4b, Session 5 focused on the potential synergies of the WFD and the EU Biodiversity Strategy with the objective of integrating visions on the management of freshwater biodiversity and assessment of ecological status of freshwaters under future climate and land use changes, water stress, impacts of alien species and other stressors that may hamper their implementation. In this context, special focus was on how scientific findings can contribute with effective solutions.

The start of the session merged the outcomes of Sessions 4a and 4b with a report back from the respective chairs of the two sessions and, subsequently, an audience discussion. This was followed by a panel discussion. The panel comprising a moderator, who facilitated a dialogue between panellists and the audience, and 4 panellists formed by representatives from DG ENV, a NGO, a scientist and a national representative.

The attendees from previous sessions discussed cross- compliance, synergies between the policies and visions.

Session 5 ended with a general agreement on recommendations and key messages from the discussions.

It was agreed that meeting had provided:

→ very useful inputs on WFD implementation that can be collated for the revision which has a 6-year cycle. The focus now should be centred on the delivery of Ecosystem services which is a useful concept to establish synergies between the two policies. The consequences for Ecosystem Services of climate change needed further consideration.

- → very good interactions between scientists and policy makers, but for better synergies between WFD and Biodiversity Strategy, representatives from other policy sectors (agriculture and industry) could have been invited.
- → a great opportunity at many different levels (scientists to policy makers) to discuss in a relaxed mode and understand their needs. Many issues raised at this meeting will be followed up since many scientific activities have been considered by policy makers.

Conclusions and recommendations

The success of the symposium was mainly based on the combination of a scientific organization team already well experienced in science-policy activities in collaboration with an experienced subcontractor for organising these kinds of events. The venue itself, the Belgium Natural History Museum, was an inspiring location to meet scientists and stakeholders. Regarding lessons for future events of this kind we recommend:

I. Projects with complementary scope and objectives should join forces to mobilise expertise, contact networks and resources for more effective events. This has the added advantage of reducing the number of such events thus avoiding 'stakeholder fatigue' and maximizing impact.

II. Stakeholders should be given key roles in events and given the opportunity to respond during the event, having been briefed in advance. These should be discussion rather than listening events.

III. Projects should ensure that results are presented in an accessible way - free from jargon, complex methodologies and detailed results. This increases the likelihood that the scientific results will be taken up by the stakeholder community.

Some photos which are capturing something of the essence and spirit of the symposium:

All photos by Ria Mishaal.

Annex 3: Policy briefs during and after the symposium

During and after the conference several policy briefs have been produced by the BioFresh/Refresh consortium:

BioFresh - Is biodiversity being left behind?
McKenna Davis & Jörg Freyhof
Poster (3.9 MB)

BioFresh - Global Freshwater Biodiversity Atlas
Astrid Schmidt-Kloiber & Vanessa Bremerich
Poster (3.4 MB)

BioFresh - Key Biodiversity Areas for the EU biodiversity strategy
Timo Kaphengst & Jörg Freyhof
Poster (4.4 MB)

REFRESH - Zooplankton: an integrative Biological Quality Element for assessing the Ecological Status of lakes
Núria Cid Puey, Ana Cristina Cardoso, Peeter Nõges, Tiina Nõges & Martin Kernan
Poster (3.2 MB)

REFRESH - Riparian Forests can help mitigate climate warming effects in lowland temperate streams
Núria Cid Puey, Ana Cristina Cardoso, Peeter Nõges, Tiina Nõges & Martin Kernan
Poster (7.9 MB)

REFRESH - Stricter nutrient loading limits help lake ecosystems to withstand climate change pressures
Peeter Nõges, Tiina Nõges, Núria Cid Puey, Ana Cristina Cardoso & Martin Kernan
Poster (2.3 MB)

REFRESH - Stronger need for maintaining environmental flow in streams in a changing climate
Peeter Nõges, Tiina Nõges, Núria Cid Puey, Ana Cristina Cardoso & Martin Kernan
Poster (1.3 MB)

Summary of the policy brief on riparian areas: Riparian areas sustain freshwater life

More than a half of European surface water bodies are far from good ecological status, not meeting the objectives of the Water Framework Directive (WFD). This is mainly due to nutrient enrichment and hydromorphological alterations, whose negative effects on freshwater ecosystems will be exacerbated under climate change conditions.

The policy brief outlines how restoring woodland, grassland and reedbeds in riparian areas – the strips of non-agricultural land that run alongside rivers – can help prevent fluctuations in water temperature, provide a range of wildlife habitat, stabilise river banks, help regulate flooding, and filter agricultural pollution and debris before it reaches the river. As a significant proportion of Europe's waterways lie in agricultural land, the process of conserving and restoring riparian buffer zones has the potential to improve the health and diversity of many of the continent's freshwaters.

As a result, the joint BioFresh / REFRESH brief – published in April 2014 following the 'Water Lives' symposium – suggests that creating and restoring such riparian zones in agricultural land could strengthen adaptive planning for future climate change within the Water Framework Directive and potentially help bring freshwater conservation into the Common Agricultural Policy.

The Water Lives Symposium highlighted that intensive land use along rivers (i.e. increased conversion of riparian areas to agricultural land) is the most important stressor limiting the achievement of good ecological status. In well-developed riparian areas, biodiversity and ecological status increase. Under climate change, even relatively short stretches of riparian forest have a high potential to mitigate the negative effects of increased water temperature. Riparian restoration needs to be promoted within River Basin Management Plans. This represents a win-win solution by enhancing ecological quality, biodiversity and ecosystem services, but also encourages synergies with other sectorial policies such as the greening of the Common Agricultural Policy (CAP) or promoting the green Infrastructure.

Read more

Annex 4: Water Lives – Handbook

A Handbook about best practices was prepared in the aftermath of the Symposium, explaining in details how the event was organised.

Water Lives: scientific horizons for biodiversity and water policy

Symposium manual

www.waterlives.eu

A SCIENCE POLICY SYMPOSIUM for Freshwater Life

Royal Belgian Institute of Natural Sciences

Brussels, Belgium

29-30 January 2014

BioFresh (Co. 226874) and REFRESH (Co.244121) are funded by the European Commission under the 7th Framework Programme

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1. Introduction

1.1. Why organise a Science-Policy Symposium on Freshwater Life - Water Lives?

The aim of the joint Science Policy Symposium for Freshwater Life was to present the scientific advances of BioFresh and REFRESH, to discuss their implications for the freshwater management in the EU and to generate clear recommendations for policy and management. The Symposium sought to support the implementation of the Biodiversity Strategy 2020 and the EU Water Framework Directive (and its potential revision) and to create synergies across these policy drivers, building on the best available knowledge on the current and future status of freshwater ecosystems and their inherent biodiversity.

1.2. The concept/rationale and target groups

Freshwater ecosystems support 10% of all animal species on Earth and provide a diverse array of functions and services that benefit human well-being. At the same time, their deterioration has been particularly notable as a result of human induced pressures. Over the last decades, global freshwater biodiversity has declined at a greater rate compared to terrestrial and marine ecosystems. At the European scale, the wide range of pressures and impacts on freshwater ecosystems threatens the attainment of good ecological status under the Water Framework Directive (WFD). Despite numerous efforts underpinned by EU biodiversity and water related policies aimed at protecting freshwater ecosystems and their sustainable use, major challenges in implementation persist. The Blueprint to Safeguard Europe's Water Resources has pointed out a number of actions to improve the implementation of Europe's water policies, including the need for cross-cutting problem solving. In this context, FP7 projects can play an important role by integrating their research findings into these policy processes.

The BioFresh project was concerned with delivering policy relevant data and results on the current status, trends, pressures and conservation priorities of freshwater biodiversity. REFRESH aimed at increasing understanding of freshwater ecosystem response to climate and land use change and develops tools to support adaptive management. The symposium aligned

key research findings with the needs of policy making and generated policy-relevant messages relating to:

- Conservation planning and management of freshwater biodiversity in the context of Green Infrastructure and Natura 2000.

- Future protected area networks considering environmental scenarios and policy targets

- The use if freshwater biodiversity data and information to contribute to recent activities in ecosystem assessments

- Achieving WFD good ecological status under future climate and land use change

- Interlinkages between biodiversity, water related policies and other policy sectors (e.g. energy and agriculture) and the provision of recommendations on synergies for their implementation.

The outcomes of the symposium will include a policy report presenting the key messages and recommendations from the discussions, the publication of a policy paper in a peer reviewed journal, and a strengthening of networks at the interface of freshwater science and policy.

Detailed description of the different sessions:

Welcome to the Symposium

After a welcome words from the project coordinators, this session provided an overview of the main goals and the structure of the Symposium. Based on the findings of the BioFresh and REFRESH projects it also highlighted some of the main challenges for water and biodiversity policy which were further discussed at the Symposium.

There were two short introductions from Klement Tockner and Martin Kernan, coordinators of the BioFresh and REFRESH project, respectively. After the latter a moderator took over and led the next session.

Session 1: Keynotes

The keynote session provided context for the discussions in subsequent sessions. With prominent speakers from different stakeholder groups (policy and science), the session highlighted the main issues for management of freshwater biodiversity and ecology, demonstrating that there was an on-going cross-disciplinary effort to provide answers for policy makers and managers in response to their on-going needs and desire to consider new science developments. This is supported by increasing dialogue at the science policy interface dialogue to which the 'Freshwater Lives' symposium contributed. The presentations highlighted the main challenges for current policy to

protect freshwater biodiversity and achieving compliance with the WFD.

There were two keynote presentations of 20 minutes followed by 30 minutes questions and discussion.

Session 2: Key Messages from BioFresh and REFRESH

This session aimed to provide a greater insight into the research output from both projects with a strong emphasis on policy relevant outcomes and messages. The presentations clearly stated key policy areas targeted and the implications of the research for these. Speakers were requested to identify the main synergies between both projects (e.g. improving connectivity and resilience of freshwater ecosystems) and the need to regard biodiversity and water policy in a more integrated way. The talks also highlighted linkages to other EU policy areas such as the CAP and energy policy.

The presentations in this session mapped onto the structure of the working groups on Day 2 of the Symposium. Six scientists (three from each project) were asked to present for 10 minutes highlighting briefly the research focus and placing more emphasis on the key policy messages. The format of the presentations (also the number of slides) was pre-determined by the organizers. After the talks the moderator highlighted some key issues to which the presenter responded. Afterwards, the presenter joined a panel forum ultimately comprising the six scientist. The moderator gave the audience the opportunity to ask questions or comment on the input, but the main emphasis in this session was on discussion among the researchers in exchange with the moderator. The session closed with a tour de table including all presenters responding to questions from the audience.

Session 3: Challenge the scientists- Science-Policy Café

Building on the previous session, participants (including policy makers) got the chance to directly engage with researchers from the two projects and discuss the underlying concepts of current policy making and science. This session therefore provided a dialogue between scientists and other stakeholders

The session consisted of two elements: The first was a poster session in the entrance space of the building. Eight posters from BioFresh, REFRESH and other water and biodiversity related FP7 projects were displayed. The nature and contact of the posters were dictated in advance by the organisers to ensure the policy angle was covered. The intention was to produce key policy and management measures succinctly and accessibly, avoiding jargon and scientific detail. This is a critical aspect of dissemination to target stakeholders.

The second element consisted of table discussions in three rooms, where a scientist engaged in a dialogue with a policy-maker in front of an audience. Each of the tables dealt with a specific topic related to water and biodiversity policy.

The topics selected were:

1) Valuing ecosystem services – the right way forward?

3) How to improve the Science-Policy-Interface?

3) Launch of the online Atlas for Freshwater biodiversity

A moderator facilitated dialogue between both actors posing questions for discussion. These were along the lines of; 'What is your understanding of the respective concept/theory?'; 'Is this helpful in your work and where do you see risks and constraints?'; and 'What do you need from science for sound decision making (in water policy)?'

The participants had the opportunity to surround the table or follow the discussion in the other rooms. If someone felt the need to contribute he/she was allowed to join the discussion (similar to a fish bowl discussion) and was asked by the moderator to pass the floor to somebody else. A moderator has introduced to the session at the beginning.

Evening Event

The evening event comprised a wine reception and a key note speech by the head of EP Water Group, Richard Seeber in the historical and representative gallery of the museum. This also provided networking opportunities for both scientists and stakeholders.

Session 4a: Integrating climate change in the WFD.

This session focused on how recent scientific developments supported effectively the integration of climate change and land use change scenarios in assessments and management related to the Water Framework Directive (WFD). The implications for ecological assessments and on setting reference conditions for the achievement of good ecological status of EU water bodies were discussed. This session aimed at setting priorities for consideration in the next WFD revision in 2015 with contributions from science (mainly REFRESH results, but also other invited FP7 projects such as REFORM, WISER, MIRAGE), stakeholders and policy makers. A key component of this meeting was that a number of stakeholders with particular interest areas were given a platform to respond to the presentations from the projects having seen these in advance.

The session began with an introduction by Peter Gammeltoft (Head of Unit, of DG ENV Water) followed by coupled presentations given by scientists and stakeholders, the latter group having been asked to respond directly to the key issues and recommendations flagged by the project presentations. The topics discussed were:

- How to reach the goals of the Water Framework Directive? The role of time and riparian land use.

- Restoration under global change.

- Guiding principles for management of freshwaters (recommendations for RBMPs)

- Can we still use the reference condition to underpin the WFD.

Session 4a was moderated by the chair (the REFRESH coordinator).

Session 4b. Bringing freshwater life into the EU Biodiversity Strategy.

This session was focused on how recent scientific developments in the field of freshwater biodiversity could be used for effective conservation planning and contributes to support the implementation of EU and global biodiversity targets. The aim was to match existing science knowledge with policy/ management needs, reach scientific conclusions that identify a potential need for policy/ management revision and that may have a direct transfer to on-going implementation exercises with contributions from science (mainly BioFresh results, but also other invited FP7 projects such as OPENESS, OPERA, BESAFE, SCALES), stakeholders and policy makers.

The session began with an opening keynote by Francois Wakenhut (DG ENV Biodiversity,head of unit). During the session, the central issues discussed were:

- The role of freshwater Key Biodiversity Areas and the Natura 2000 network: designing an optimal network to address gaps in protection, now and under climate change.

- Setting priorities in conservation and restoration in the Mediterranean Biodiversity Hotspot.

- New strategies to fight invasive alien species in freshwater ecosystems.

- From Nutrient Limitation to Recreation: putting Ecology into Ecosystem Service Mapping.

Session 4b was moderated by the chair (the BioFresh coordinator).

Session 5. Synergies between the WFD and the Biodiversity Strategy.

Building on 4a and 4b, Session 5 focused on the potential synergies of the WFD and the EU Biodiversity Strategy with the objective of integrating visions on the management of freshwater biodiversity and assessment of ecological status of freshwaters under future climate and land use changes, water stress, impacts of alien species and other stressors that may hamper their implementation. In this context, special focus was on how scientific findings can contribute with effective solutions.

The start of the session merged the outcomes of Sessions 4a and 4b with a report back from the respective chairs of the two sessions and, subsequently, an audience discussion. This was followed by a panel discussion. The panel comprising a moderator, who facilitated a dialogue between panellists and the audience, and 4 panellists formed by representatives from DGENV, a NGO, a scientist and a national representative. The attendees from previous sessions discussed cross- compliance, synergies between the policies and visions.

Session 5 ended with a general agreement on recommendations and key messages from the discussions. It was agreed that meeting had provided:

- ➲ very useful inputs on WFD implementation that can be collated for the revision which has a 6-year cycle. The focus now should be centered on the delivery of Ecosystem services which is a useful concept to establish synergies between the two policies. The consequences for Ecosytem Services of climate change needed further consideration.

- ➲ very good interactions between scientists and policy makers, but for better synergies between WFD and Biodiversity Strategy, representatives from other policy sectors (agriculture and industry) could have been invited.

- ➲ a great opportunity at many different levels (scientists to policy makers) to discuss in a relaxed mode and understand their needs. Many issues raised at this meeting will be followed up since many scientific activities have been considered by policy makers.

2. Team organisation

In order to organise the WaterLives Symposium, two main core groups were set up to deal with the scientific organisation (2.1) and with the logistics (2.2). These were coordinated by the central coordinator team (2.3).

2.1. Scientific committee team

The scientific committee team was responsible for defining the concept and putting together the symposium programme. This included preparation of the Agenda, approaching the plenary speakers and guests of the round tables/policy-cafes, preparation of posters and Symposium website. This group was composed of all members of BioFresh WP8 (Dissemination) and Co-ordinators and project co-ordinators of REFRESH and BioFresh. The various networks of the members of preparation team provided the starting point for identifying potential presenters.

2.2. Administrative organisation team

The administrative organisation team was responsible for all logistic activities, including room booking, catering, registration, document preparation, preparation of audio-equipment and liaison with the Royal Museum of Natural History in Belgium (RBINS).

Logistical activities were subcontracted to the Professional Congress Organiser F&U confirm (www.fu-confirm.de) specialized in scientific conferences. F&U confirm was accountable to BioFresh partner Helmholtz Centre for Environmental Research - UFZ, the task lead in charge of the organization of the Symposium for BioFresh as stated in the description of Work (DoW).

2.3. Central coordination team

The central coordination team was composed of the coordinators/project managers of both EU-Projects REFRESH and BioFresh with the remit to coordinate and link activities between the scientific and administrative team.

For this purpose, regular Skype meetings were held to establish the work-flow.

This team was in charge of officially inviting all Speakers to the Symposium.

3. Timetable/ Pre-Preparation

Preparation discussions about the Symposium began during the BioFresh 4th General Assembly meeting (April 2013). At this time discussions also took place between REFRESH and BioFresh as to the value of joining forces to organising a Science Policy Symposium. The REFRESH and BioFresh consortia comprise a number of partners who are involved in both projects. The co-ordinators of the two projects, University College London (UCL) and Leibniz-Institute of Freshwater Ecology and Inland Fisheries (IGB), respectively are among these. Both projects included a science-policy event as part of their respective demonstration strategies. In REFRESH it was planned to have a mid-term dissemination workshop for EU-level policy makers in connection with a related workshop or conference, already planned. BioFresh planned to invite scientists, stakeholders and policy-makers to its final conference to further strengthen the science-policy dialogue. BioFresh will further link with other relevant research projects to explore options for joint actions in science-policy interfaces. In the final year discussions between the two projects explored the practicalities and efficacy of combining to organise this under a joint venture. This was agreed by the two project officers in Brussels. A timetable was prepared which included an overall list of the steps to be implemented. The plan divided the main activities and responsibilities in the preparation phase.

3.1. 5-1 month before the event

3.1.1. Secure the date

The scientific committee opted to secure a day after the Christmas season and outside the busy calendar of all the EC invitees and target groups the symposium wished to address.

3.1.2. Room bookings, infrastructure and Catering, conference pack/ logistics

Once the first outline of the programme was ready, first discussions were conducted on the room needs (for plenary and parallel sessions, according to the number of potential attendees, poster room) and its requirements (projector, audiovisual equipment). Venue and catering options and coffee-breaks location were also discussed. All of these discussions were led by UFZ and the subcontracting company and reported back to the central coordination team. The Central team discussed as well the conference pack (see 4.1.1) to be prepared by F&U confirm.

3.1.3. Funding

EC-Funding was secured right from the beginning as the costs were planned in the project. The three main organising institutions (Helmholtz Centre for Environmental Research - UFZ, Leibniz-Institute of Freshwater Ecology and Inland Fisheries- IGB and University College London- UCL as REFRESH coordinator) drew up the budget plan for the event and discussed how to divide the costs.

3.1.4. Plenary speakers

While preparing the concept and layout of the symposium, careful attention was given to the Speakers who could address the specific topics according to the outline (see 1.2). The scientific committee had access to a wide network of important contacts and invitations were sent out informally before the official invitation was sent by the EU-Project coordinators.

It was agreed that all external speakers would have their expenses reimbursed by the coordinators of the EU-projects. Reimbursement forms were provided by email to all Speakers.

For all sessions Speakers were also asked to provide their presentations in advance to the central coordination team.

3.1.5. Advertising the event and call for attendees

At least three calls to advertise of the Symposium were made. The first was a save-the-date announcement, a second sent out the invitation and draft programme, and a third comprised a reminder one week before registration ended. All announcements were submitted through the mailing lists of the network and were targeted at key stakeholders. This list included policy officers of the DG Research and Innovation, DG Environment, working groups such as MAES and Blue print, European Parliamentarians, NGOs and nationalcontacts.

3.1.6. Symposium Web site

The web site for the symposium was managed by UFZ and had its own domain, www.waterlives.eu. The site included information about the nature of the event, the Symposium programme, information about the place, travel information, hotel lists, registration form and contact details of all committee members. Even after the Symposium, the website archives presentations of the talks and also provides links to a video streams of selected presentations, podcasts etc.

3.1.7. Video streaming/photographing/ interviews

For day one a live video stream was organized via F&U- confirm and RBINS. Local technicians undertook the filming and the provision of the life stream to the UFZ. The technical department at UFZ secured the life streaming during the day. The videos were uploaded by UFZ to the Water Lives webpage. BioFresh partner Oxford of BioFresh organised a photographer and conducted interviews with main speakers of the Symposium. The inputs served as a base to further dissemination activities: a podcast and a video on the outcomes of the Symposium.

4. Execution

4.1. One week before the event

4.1.1. Conference pack

The conference pack was prepared for the event. This included Conference folder, Agenda timetable, List of attendees, WLAN-code, Project leaflets and fliers and Name tags.

Conference pack:

- ➲ Conference folder
- ➲ Agenda timetable
- ➲ List of attendees
- ➲ WLAN-code
- ➲ Project leaflets and fliers
- ➲ Name tags

4.1.2. Posters

During one of the Skype meetings, it was decided to only present EU-Project science-policy posters (no scientific posters) for the event.

The Central Team prepared the science-policy posters for both projects in advance for printing. Because the local organiser (RBINS) is also partner in one of the projects, RBINS kindly printed the posters and provided shortly before the event.

4.1.3. Final arrangements

From the logistics side, final arrangements were made once the number of attendees was clear:

- Room bookings and catering were finalised.

- A list of all the telephone numbers for all possible services needed was prepared.

- Decisions on registration desk staffing and responsibility for assisting presenters test their presentation on AV equipment was decided.

- Extra material needed: having at least two extra laptops for the day of the event, in case that a computer or the AV equipment in any of the rooms is not working properly.

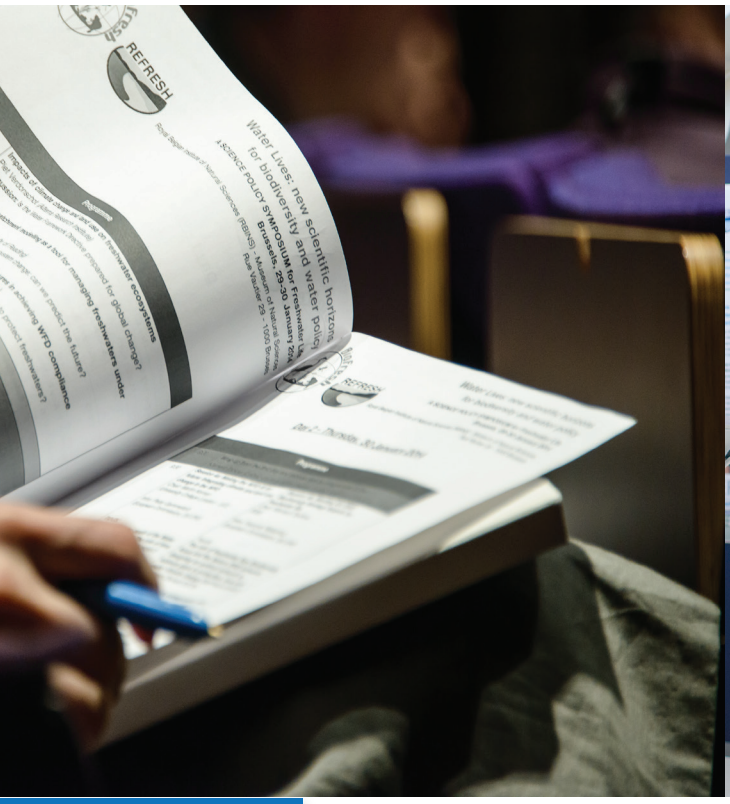
From the scientific side, the following arrangements were made:

- PowerPoint templates were prepared by the central coordination team.

- Research on Speakers ´s CV for project coordinators

4.2. One day before the event

F&U confirm, UFZ and the central coordination team arrived one day earlier in Belgium in order to double-check the location and oversee preparations and last-minute changes. Room signs were prepared and the room for posters was arranged.



4.3. On the day

On the day of the Symposium, F&U confirm was in charge of overseeing all logistics of the Symposium:

- registration desk

- Room layout, provision for speakers (AV, water in the lecture rooms)

- Advised the presenters as soon as they registered to check their presentation with the appropriate person.

Both coordinators of the EU-Projects and moderators had briefing sessions before the event to coordinate their roles and their course of action throughout the Symposium. Particularly in the parallel sessions moderators and minute takers provided the minutes at the end of each session to the coordinators for reporting back to the plenary.

4.4. The aftermath

In the aftermath of the Symposium, the following activities were implemented:

- Thank you letters to speakers by the Central coordination team

- General email to all attendees by F&U confirm to inform about availability of online presentations, posters and video stream about the Symposium

- Reimbursements were settled by the Central coordination team

- Proceedings were prepared and Follow-up activities (in case of BioFresh a Deliverable about the Symposium and policy brief which is currently in preparation at the time of writing the roadmap)

5. Corporate Design Water Lives

The Symposium organization teams ensured that all documentation advertising the Symposium had a standardised format and carried the logos of both projects, their websites and EC contract numbers. For all nametags, Agenda, attendees list, email-pdf invitations, the font used for headings was HelveticaRounded Lt Std Bd and for the text was HelveticaNeue Lt Std.

6. Conclusions and recommendations

The success of the symposium was mainly based on the combination of a scientific organization team already well experienced in science – policy activities in collaboration with an experienced subcontractor for organising these kinds of events. The venue itself, the Belgium Natural History Museum was an inspiring location to meet scientist and stakeholders. Regarding lessons for future events of this kind we recommend

i) Projects with complementary scope and objectives should join forces to mobilise expertise, contact networks and resources for more effective events. This has the added advantage of reducing the number of such events thus avoiding 'stakeholder fatigue' and maximizing impact.

ii) Stakeholders should be given key roles in events and given the opportunity to respond during the event, having been briefed in advance. These should be discussion rather than listening events

iii) Projects should ensure that results are presented in an accessible way - free from jargon, complex methodologies and detailed results. This increases the likelihood that that the scientific results will be taken up by the stakeholder community.

7. Acknowledgements

The BioFresh and REFRESH projects wish to thank the European Commission – DG Innovation and Research, in particular the scientific officers of both projects – Adrian Peres and Christos Fragakis - for their support and encouragement. The organization of the Symposium would not have been possible without the vision behind of the conceptual work by Nuria Cid & Ana Cardoso (EC JRC-ISPRA), Timo Kamphengst (ECOLOGIC), Jörg Freyhof (Leibniz-Institution for Freshwater Ecology and Inland Fisheries) and Paul Jepson (University of Oxford). Special acknowledgements are addressed to the motivated logistics team at F&U confirm – Ugarit Uhlmann, Christina Wolf – and BioFresh colleagues Mathias Scholz (UFZ), Laura Tydecks and Carla Pinho (IGB).

The Project co-ordinators, Martin Kernan and Klement Tockner would like to thanks all partners involved in REFRESH and BioFresh. Their efforts, together with those of the stakeholder participants, ensured that this symposium provided a valuable contribution to the ongoing development of a successful science - policy interface.

8. Resources and outputs

Main impressions on the Symposium: podcast and summary video:

➲ http://research.freshwaterbiodiversity.eu/index.php/policy/science-policy-symposium

Blog-entry: What happens when scientists and policy makers meet to talk about fresh-water life?

➲ http://BioFreshblog.com/2014/03/28/what-happens-when-scientists-and-policy-makers-meet-to-talk-about-fresh-water-life/

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