Creating a Network of Knowledge for biodiversity and ecosystem services

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# A recommended design for "BiodiversityKnowledge", a Network of Knowledge to support decision making on biodiversity and ecosystem services in Europe

Executive summary

DRAFT VERSION

Status 12-07-2013

This document is a synthesis of the BiodiversityKnowledge White Paper, which is the main deliverable of the EU funded Coordination Action KNEU and which has the main aim to develop a European Scientific biodiversity Network of Knowledge to inform policy-making and economic sectors (ENV.2010.2.1.4.3-3).

The White Paper has been designed through collaboration with more than 300 active individual participations and has been continuously enriched through the exchanges between various backgrounds, expertise, visions, and different cultures. The full revised White Paper is now available for a broader consultation on www.biodiversityknowledge.eu and will then be subject to additional revision.

# 1  Background

Biodiversity, its related services and so the human well-being, are at risk. This is the main background picture and the motor driving the idea that we should better connect knowledge on biodiversity and ecosystem services (BES) to decision making. We do know enough about our natural environment to halt its continuous loss, but yet several reasons prevent us from doing so, including that "much of the available science and experience is not being effectively used and that interface between science and policy must be significantly improved" (EPBRS 2009[1]).

The issue has two sides; i.e. involves two major challenges. On one hand, science and other knowledge holders produce piles of high quality knowledge, but access points to all this knowledge are still scattered and poorly organized across disciplines and institutions. While some of this knowledge may indeed be used and fed into policy, via agencies, consultation processes and advisory boards, the majority remains unused. On the other hand, needs and interests of decision makers on knowledge are often diverse, can come on short notice and are often not tailored to scientific ways of working.

To counteract this, efforts to strengthen the science- and in general the knowledge-policy interface on biodiversity and ecosystem services have considerably increased over the past few years. These efforts further enhanced with the launch of IPBES[2] which is starting its work at the global scale.

As the word "interface" indicates, what is needed is a point/boundary at which the two independent systems, i.e. policy and knowledge interact. To create this point and enhance the interaction, both complex systems need to be organized accordingly. If both sides are properly organized, facilitating the interaction may be enough as interface, avoiding the need for a third complex system in between.

In this context, the EU project KNEU has been set up to help organize the knowledge community. Its way of doing this is to create a "Network of Knowledge", called BiodiversityKnowledge.

A Network of Knowledge (NoK) is envisaged as a network of networks of existing institutions, initiatives and projects (EPBRS 2009[1]). It acknowledges that many processes are already going on and that identifying and connecting them is crucial. As said previously, many institutions hold knowledge on biodiversity, but decision makers have difficulties to find the type of answers they need. BiodiversityKnowledge will improve this situation by providing a central hub for questions and collecting the available knowledge to answer a request for knowledge in the best possible manner (depending on means and time-frame) and thus also provide knowledge holders with a better pathway of promoting their inputs into decision making. This NoK will integrate available knowledge and process it in a sound and reliable way to provide answers to decision makers in a format that they can readily use.

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[1]  EPBRS (2009): Concept note on a European Network of Knowledge on Biodiversity, online at http://www.epbrs.org/PDF/2009%2009%2010%20Concept%20note%20on%20the%20network%20of%20knowledge_version%202-1.pdf

[2] The Intergovernmental Platform for Biodiversity and Ecosystem Services, see www.ipbes.net

## 2 BiodiversityKnowledge: a tailored NoK to meet policy and science needs

During the course of designing BiodiversityKnowledge, a broad consultation with scientific and policy experts has identified two main functions which a NoK should address.

### 2.1 The Network function

As a bottom-up approach, BiodiversityKnowledge should first provide a platform for a more responsive biodiversity "community of interest"[3]. For many decision makers, reliable and rapid access to existing information, knowledge and expertise may be sufficient for some of their needs, but even such access is often lacking. Interviews on knowledge needs showed, that an internet-based "one-stop-shop" or portal as entry point to this constantly evolving knowledge would be considered very helpful, because it provides access to existing data and information and provides the opportunity to address the knowledge holders directly.

The Biodiversity Information System Europe (BISE), established in 2010, intends to be a starting point for such a portal, and it covers a broad range of biodiversity relevant information. But it currently lacks an explicit link to the knowledge holder community (in science and practice). In this context, KNEU has mapped the biodiversity knowledge landscape and its flow, identifying key knowledge hubs and their respective networks. By linking these, BiodiversityKnowledge could create a "Network of Networks" and add complementary value to the work of BISE, including:

- An **overview of finalised and on-going research activities at the European level**, including direct links, sorted by themes to existing information, knowledge and expert networks,

- A **"knowledge holder" area** where knowledge hubs are registered and able to present themselves and their work,

- A "**thematic knowledge area**" to access knowledge from different policy-relevant perspectives. It could include digests of knowledge as entry points and then link to both the "project" and the "knowledge holder" area for further information and detail. Using thematic areas as main building blocks would also allow building up the platform step by step.

- A "**forum**" which allows knowledge requesters to pose questions to the community of knowledge holder and projects. It could be either completely open, or it could be restricted (or anonymized) to allow requesters to pose conflicting or "simple" questions.

For all of these elements, an analysis should be conducted if they can be included in BISE or if they can be taken over by existing networks[4], with clear links to BISE.

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[3] A community of interest is generally understood as a group of people with a common interest. In biodiversity and ecosystem services, this group might be diverse and connect quite distinct types of disciplines and expertise.

[4] On the European, the first major networks are the former Networks of Excellence and their common infrastructure LIFEwatch (www.lifewatch.eu). On the global level, linkages will need to be explored to the potential BES-NET web portal aiming to support the work of IPBES, which is currently under discussion.

Such a Network of Networks of existing institutions and networks would form the basis for a broad engagement strategy of the knowledge community into the biodiversity science-policy dialogue in general, and would form the basis for the second function which a NoK should address: the answering decision-making needs function.

## 2.2 Answering-decision-making-needs function

The second and main function of the BiodiversityKnowledge NoK is to explicitly support European policy in different areas of the policy cycle – in the development, design, implementation, monitoring, evaluation and reporting of policy and management strategies. This part of the function is similar to the "policy support" function of IPBES, yet concentrating on the concrete needs in a European context.

Whenever a topic requires an in-depth analysis and a consolidated view from science, specific activities to synthesize and analyse existing knowledge will be needed. To serve this second function, BiodiversityKnowledge would provide an interface where knowledge holders are addressed and activated to jointly synthesize available knowledge on a given topic. The prototype of this interface (Livoreil et al. 2012) is a request-driven knowledge-policy interface

process. Such a process has three phases: The steps for handling a request would include a preparation, a conduction and a finalising phase (see Figure 1)[5].

Different types of actors will be involved in this interface: knowledge requesters, knowledge holders, organised in ad-hoc working groups or acting as evaluators and a knowledge coordination body (KCB) finally to coordinate the whole process.
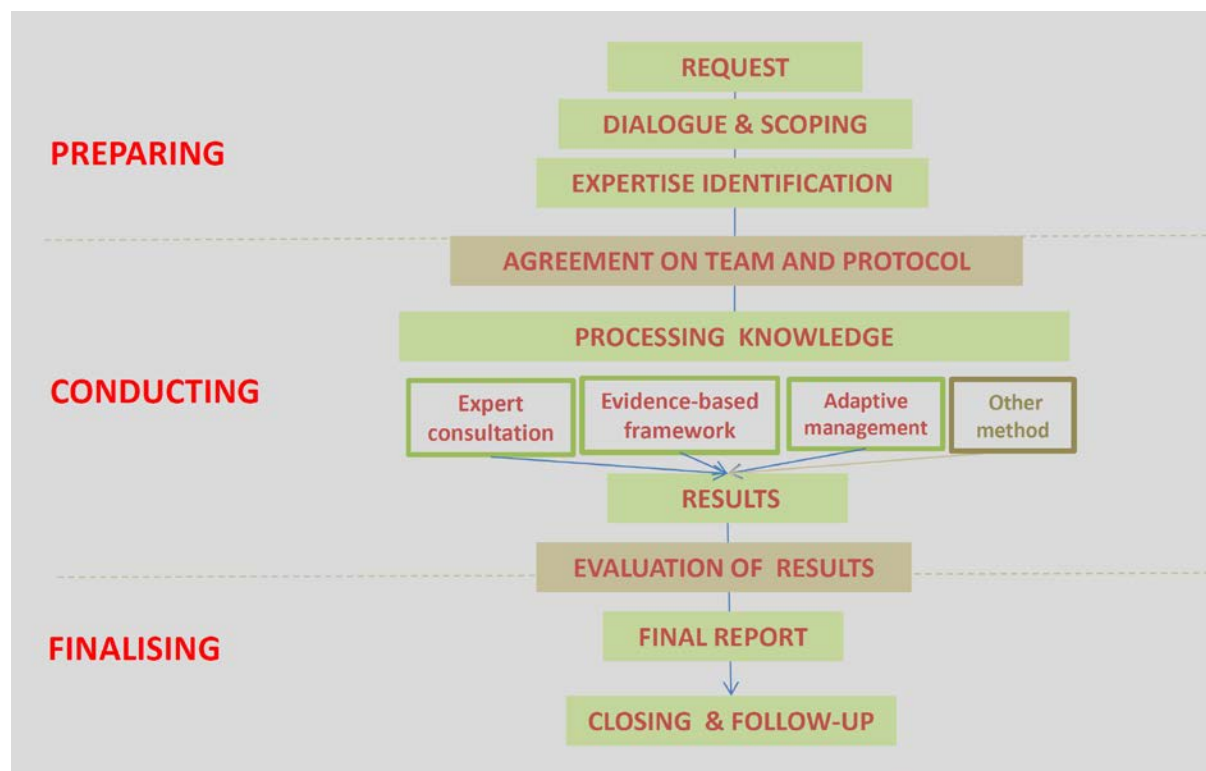


**Figure 1: Workflow to address the Answering-decision-making-needs function. See text for short explanation. A complete narrative can be found on www.biodiversityknowledge.eu**

Through the knowledge coordinating body, requests for policy-relevant knowledge are dealt with in a stepwise process, opening up a continuous dialogue between knowledge users and providers while ensuring a broad level of transparency.

For the **preparation phase**, a dialogue and scoping process between requesters and knowledge holders will be the central element in order to properly identify the requester's needs and how these can be framed in order to be answered.

The Coordinating body will then convey the question to the NoK to identify what knowledge is available about the question raised. The question can then be dealt with in different ways, depending on the timeline of the policy

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[5] The general process presented here is similar to the one currently under discussion for conducting the work of the Intergovernmental Platform for Biodiversity and Ecosystem Services (IPBES). With our approach on transparency and the options for different methodological approaches, we aim at further strengthening the credibility and legitimacy of the process.

process to be informed, the availability and type of knowledge needed, and the resources available to conduct the work.

Following the final acceptance of the request, a working group is created for the **conduction phase.** This group will assess the question in detail and double-check with the requester, whenever further specification is needed. The working group will discuss and determine the adequate methodological approach to be used. They can for example propose an expert consultation, a systematic review, or an adaptive management approach. The approach will be written down in a protocol which will be made available for comment, to ensure transparency of the process. The working group will then use the agreed method to compile relevant answers to the question raised. The draft will be made available for an extended peer-review by both experts and decision makers, in order to ensure it provides clear and relevant information and is based on sound analysis. This step is important to ensure quality and credibility of the results.

In the **finalisation phase**, the product, which might be a report tailored to the needs of the requester, a policy brief, a set of recommendations, a scenario, etc… is handed to the requester of knowledge, and is made publicly available. All contributors are widely acknowledged.

Decision-makers now can draw on scientifically-based knowledge, which is directly relevant to their specific question, and can therefore make better-informed decisions.

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**BOX 02: The added values of establishing a clear process for answering decision-making needs are the following:**

*One entry point for requests: The need for an entry point for requests from decision-making to science (and beyond) has been articulated clearly across the KNEU project. The questions to be addressed will nonetheless be limited in number and only be addressed if they go beyond the scope of existing mechanisms like consultancy contracts and the work of responsible agencies and other bodies.*

*Ensuring a broad and updated coverage of the available knowledge: The process is based on broad participation and thus enables independent internal and external feedback loops and other means for controlling and increasing quality in all its processes.*

*High flexibility in temporal and spatial scale to be addressed: The direct link to the open network of experts (including the "who is who knowledge" from the network-function) ensures a flexibility of the process to address the needs articulated on the right scales.*

*Using tested methodological approaches: Although flexibility will be needed, a high level of credibility can only be achieved by sound methodological approaches. The methodological "toolbox" proposed and tested in the NoK will be crucial for this and explicitly adds a new dimension of quality and transparency.*

*Transparency of processes: In addition to using tested methods, the NoK process will allow for clearly documenting every step in addressing a given request. It thus allows a broad participation and opens up to different perspectives in science and beyond.*

*Thus, BiodiversityKnowledge will be able to provide a consolidated view from science, and include other forms of knowledge as necessary.*

## 2.3 How both functions work together

The flowchart of Figure 2 outlines how both functions would work together to provide a range of approaches: from direct answers (for example using BISE as web platform) and existing knowledge (upper part of the figure), down to more detailed, in-depth analysis, using the approach presented above in the "Answering-decision-making needs" function.
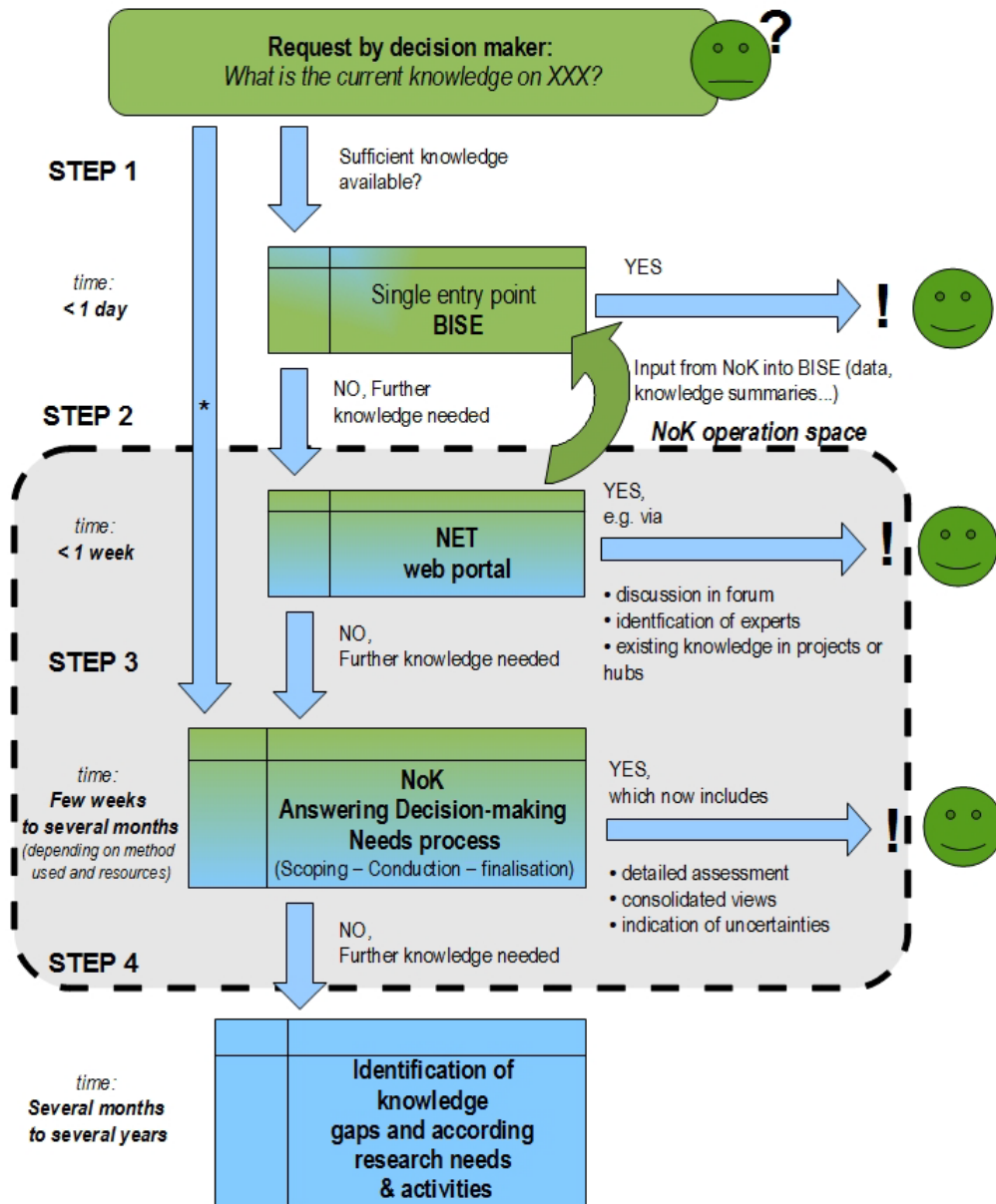


Figure 2: Flowchart of the entry points where the NoK can support decision making by identifying and collating relevant knowledge and thus integrating the two functions of networking the networks (2.1) and answering decision making needs (2.2.)

The latter approaches will surely lead to more in-depth and consolidated views from a knowledge perspective, and might lead to the identification of knowledge gaps and further research needs. The figure highlights some challenges for the process (as for most science-policy processes): Taking a topic beyond step 2 will take much more time, but will also significantly increase the credibility of the knowledge analysed to answer a request. Also, the Network function, by integrating across projects, disciplines and institutions, will in the medium term strongly support the knowledge base available directly via the web platform/BISE (green feedback arrow from step 2 to step 1), ideally allowing for less questions to be posed directly to experts and the network and avoiding double work.

## 3    Governance and options for the NoK

In designing the second function and based on earlier experiences, a set of bodies, rules and procedures can be identified that would enable the knowledge community on BES to enhance the credibility and relevance of the activities at the science-policy interface (see chapter 5 of the White paper for further details).

A mandate from policy would help to ensure that the work and results of BiodiversityKnowledge are in fact needed and acknowledged as important input into decision-making processes.

Several **options** for the design of BiodiversityKnowledge have been developed, ranging from a very basic option improving the **networking approach** of existing institutions only, to a more ambitious option of a **full platform model** with the capacity and mandate to answer requests. The minimal option will be helpful to better structure the science-policy interface and allow for responses from the knowledge community and thus make existing knowledge more accessible and relevant for policy. To provide a consolidated view from science, with a high level of credibility and legitimacy, however, a full platform approach will be required.

In the end, the preference of one of the options (or a mixture/ sequence of them), will depend on the willingness of the knowledge holder community to implement it, and the willingness of policy as the main recipient to support and use it. Bringing both perspectives and underlying interests and values together remains the main challenge in shaping the science-policy interface in Europe and thus contributing to a more sustainable relationship between humans and the natural environment.

**For a detailed description of the potential options, and an analysis of the challenges behind them, see the full white paper of the KNEU project.**

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Contact: Marie Vandewalle & Carsten Neßhöver, Helmholtz-Centre for Environmental research - UFZ

Email: info@biodiversityknowledge.eu