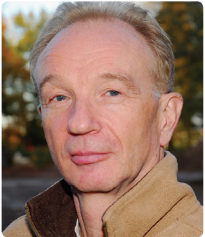


Behind the scenes of BESAFE

Demonstrating the effectiveness of different biodiversity arguments through a diverse set of case studies, in a joint effort Project Coordinator **Rob Bugter** and his collaborators, **Pekka Jokinen**, **Eeva Primmer** and **Malgorzata Blicharska**, discuss the goals and achievements of the large-scale project



ROB BUGTER



PEKKA JOKINEN



EEVA PRIMMER



MALGORZATA BLICHARSKA

Could you present the background to, and give a general overview of, Biodiversity and Ecosystem Services: Arguments for our Future Environment (BESAFE)?

BESAFE is one of two projects approved for the EU Seventh Framework (FP7) topic 'Improved comprehension of the utility of the concepts of value of biodiversity', and is expected to deliver an analysis of alternative ways to improve biodiversity policy making and governance at local, national and global scales.

The rationale behind this topic is concern about the increasing emphasis on, specifically, the monetary value of ecosystem services (ES) in decision making. Projects on this subject should therefore also investigate the role of other types of values in conservation-related decision making at various governance levels.

BESAFE's angle is to investigate how the effectiveness of arguments, based on all types of values including ES ones, depends on the context in which they are used. To put it simply, we try to find out which arguments work, where and when.

What is the overarching goal and how will your objectives be achieved?

The overarching goal is to provide policy and decision makers with ways to effectively present the value of biodiversity in a range of contexts. Practically, we aim to deliver a web-based tool that will enable design of the argumentation most effective for a particular

decision-making situation. The tool will be based on information from a range of case studies. We have selected a set of 12 cases, which will be backed up by two comparative studies across different countries.

Does valuing ES contribute significantly to demonstrating the value of biodiversity?

ES are the benefits derived from ecosystems which, importantly, rely on biodiversity. Therefore, they are powerful in demonstrating biodiversity's value. However, this is easy only in cases where the link between ES and biodiversity is clear. Biodiversity also provides indirect, 'hidden' services, such as long-term resilience against climate change-induced ecosystem changes. These indirect benefits can easily be overlooked in decision making, along with even less tangible aspects, such as intrinsic value. Therefore the value of biodiversity does not simply equate to the sum of benefits delivered by ES.

How were BESAFE's 12 single cases studies chosen?

It was important that the studies covered a range of arguments and contexts. Additionally, they needed to allow us to identify general trends in their use in decision making and gather the necessary data about the policy process, utilising the broad expertise of the project consortium.

Could you describe how you will sample the ecological, societal and economic differences

between the case studies, and how you can calibrate them?

While we aimed for a broad coverage of situations, we made sure there were points of comparison. To allow quantitative comparability we used a standardised protocol for collecting structural information about the cases, the decision-making process and the context. Qualitative outcomes will allow us to capture the diversity of arguments in different contexts and how they produce effects.

How will BESAFE bridge the gap between science and policy?

We have engaged with decision makers and continue to do so. Communication with stakeholders is very important to check how useful our findings are and to improve our research setup. Later, we will involve the users of our results in developing the web-based tool to ensure it meets their needs. We need our stakeholders to become our ambassadors if we want to ensure our results and tools are used.

What is the key to the long-term, effective protection of biodiversity? How does BESAFE expect to contribute to this?

The key is to make clear that long-term, effective protection is not only in the interest of society as a whole, but also of communities at smaller-scale levels. BESAFE will provide decision makers with arguments they can use most effectively in specific cases and more generally at government levels.

Can you explain what is meant by biodiversity as emotion?

The emotions that relate to biodiversity were highlighted at our first stakeholder consultation. This reminded us we should not purely focus on rational arguments for biodiversity protection, because people are connected with biodiversity in many ways that go beyond rational thought.

Delving deeper into the case studies

Exploring three pairs of selected case studies, a range of collaborators shed light on the different issues presented and arguments used. **Jiska van Dijk** and **Ann Van Herzele** discuss Norwegian large mammals and the red fox and wild boar controversy in Flanders, Belgium; **John Haslett** and **Pekka Jokinen** examine the development of tidal power turbines in Northern Ireland and Finnish peatland policy; while **Malgorzata Blicharska** and **Marina García-Llorente** reflect on the Białowieża Forest in Poland and Andalusia National Parks



JISKA VAN DIJK



ANN VAN HERZELE



JOHN HASLETT



MARINA GARCÍA-LLORENTE

NORWEGIAN LARGE MAMMALS/RED FOX AND WILD BOAR CONTROVERSY IN FLANDERS, BELGIUM

Two case studies address respective conflicts related to the management of large carnivores in the Norwegian outfield and the return of red fox and wild boar to Flanders. How do economic, social, ethical and philosophical responses to these two situations overlap and/or differ?

JvD: In the Norwegian case, we see a stereotypical response. Farmers are concerned about the protection strategies and focus on the notions that support their point of view. Conservationists tend to focus on intrinsic value, whilst hunters and foresters assume a more utilitarian approach. However, all three groups agree that bears, wolves and lynxes have a right to live in Norway.

AvH: We observe comparable patterns of responses surrounding the return of foxes and boars to Flanders, but the debate is more complex than it may first appear. Underlying the emphasised facts are differing views about the place and role of humans in Nature. Such views are often intertwined with group identities.

The population rise in Flanders has been unexpected in comparison with the on-going conflict of interests in Norway. Have the differing time frames within which these issues emerged affected policy challenges?

AvH: Whereas many welcome these newcomers as a sign of restoration of Flanders' Nature, the government is largely unprepared. There is still speculation about the cause of these comebacks, whether there is overpopulation, and the effects of possible management actions.

JvD: In Norway, conflicts of interest are an everyday fact. This escalates, especially when wolves establish in areas they are not permitted to be in, or when new policies are under construction.

What are the main points of contention within the debate over the place of wild animals in urbanised regions?

JvD: The major points of contention in the Norwegian case study arise from questions from the kind of nature we desire. For the wolf in particular, the question is if we want it in the Norwegian outfield or not. Does the outfield belong to the wolf or to humankind? Furthermore, conflicting political guidance is creating tensions between sheep farming and carnivore management. Given that Norway's large outfield areas should allow co-existence, the conflict is higher than expected.

AvH: In Flanders, a dichotomy of belonging/not belonging underpins much of the debate. Arguments on the 'belong' side stress the historical presence of the fox and the boar in Flanders and their disappearance through human causes. Opponents point to escaped or released animals and emphasise that the current urbanised environment is entirely different to the historical situation.

TIDAL POWER IN NORTHERN IRELAND/FINNISH PEATLAND

The environmental impacts of peat production in the Finnish region of Northern Karelia are well defined compared with those of the commercial-scale open stream tidal turbine in the Narrows of Strangford Lough, Northern Ireland, UK. What are the similarities and differences in terms of policy issues?

PJ: In the Finnish local case (the Viurusuo peatbogs), negative effects on the water quality of nearby lakes were discussed. Later in the process, negative effects on smaller water areas and flora and fauna were taken up by the citizens. Yet, the primary concerns of local residents have been related to recreational values, such as the landscape, but in policy processes they garnered less attention than biodiversity

JH: The marine turbine is central to achieving 'green energy' targets set by the EU. But the environmental impacts of the turbine are only now beginning to be understood. The apparent conflict of interest between governmental energy and environmental departments is new and complex. By contrast, in the Finnish case study, the policy conflict is well established and the main focus is a single policy document.

Nature conservation is a typically heated topic where governmental policy is concerned. Do you expect the two case studies to elucidate the difficulties of balancing economic pragmatism with ecological sensitivity?

JH: Both case studies involve industrial energy production and its effects on the environment. Lessons have already been learned in Finland about balancing the needs of multiple stakeholders and values. However, there is still much to learn in Northern Ireland. So, yes, both case studies will elucidate the difficulties and may shed light on how to ensure biodiversity is protected while also taking economic and other values into account.

PJ: Due to its long history, the case of the Viurusuo peat bogs has already taught the stakeholders about balancing multiple values. Our project aims to identify weaknesses in legislation and policy deliberation processes concerning developments that influence natural values.

Could there be important discrepancies between the two regions in terms of how they value ecosystems or the strength with which they champion industry?

JH: Finland and Northern Ireland have long histories of peat extraction, both have coastlines and fishing industries, both are aware of the need for energy production and both have local communities that are proud of their landscape. Of particular interest to BESAFE is how decisions that involve balancing benefits and trade-offs are arrived at. Whether the two regions do this using the same arguments, to the same effect, is what we want to find out.

PJ: The Finnish local case illustrates the resilience of local communities. Not everyone opposes the peat industry; the question is how to balance different values. In this case, the Viurusuo bogland was considered more important than the benefits of peat mining.

BIAŁOWIEŻA FOREST IN POLAND/ ANDALUSIA NATIONAL PARKS, SPAIN

The EC is keen to improve the management of ecologically unique areas, as it is typically a highly challenging task. Have you noticed major inter- and intra-national differences in the challenges surrounding the protection of areas important for conservation?

MB: Of course. There are differences in socioeconomic and political contexts, such as the differences between 'old' and 'new' EU members in their development of regimes that promote participation. This can influence how conservation conflicts are handled.

MGL: In many European countries, conservation has focused on threatened species, neglecting traditional practices and local development. This has caused many land-use and social conflicts, as locals have felt disconnected from decisions. However, a general current trend is to readdress the vocation of protected areas, including their capacity to enhance human wellbeing.

Is there any evidence that arguments from the main stakeholders are typically the same from region to region?

MB: Usually local people and conservationists have differing views of biodiversity, in terms of how they understand and prioritise particular values. Typically, conservationists aim to protect biodiversity because of its intrinsic and ecological value, while locals view protected areas as barriers to development.

MGL: To join these diverging views, an important effort is being made to promote participatory channels, thereby fostering dialogue to reduce conflict. The goal is to reconcile traditional practices with conservation and local development.

Can you discuss the greatest challenges associated with providing relevant information to policy makers?

MB: The main challenge is creating the capacity for communication between stakeholders.

MGL: In the Spanish study, we found that the ES concept can enable dialogue between different parties. This concept may make locals aware of the benefits they can obtain from protected areas and assist policy makers in understanding the role of local practices in the maintenance of landscapes.

MB: The Polish study, however, indicated the need to pay attention to the actual language used with local people, as the concept of ES is still not fully understood.



Safeguarding long-term biodiversity



The overarching goal of **BESAFE** is to protect biodiversity. The project uses 12 case studies to determine effective arguments crucial to conservation. Presenting three pairs of studies, in addition to two comparative studies, here we explore the work that is facilitating European-wide assessment of biodiversity policy implementation

PROTECTING BIODIVERSITY IS immensely important, but requires that its value is clearly and easily demonstrated to policy makers. This necessitates understanding and promotion of the effectiveness of a range of arguments, work that is at the heart of the Biodiversity and Ecosystem Services: Arguments for our Future Environment (BESAFE) project and will be provided by the case studies at its crux. A significant challenge for BESAFE is the effect of context on the usefulness of argument. The pairs of case studies, featuring comparable subjects in different settings, will assist the project with tackling this issue. Ultimately, it is expected this will lead to the establishment of a framework summarising the effectiveness of different arguments for biodiversity protection that is easily accessible through a public database and toolkit.

SPECIES PROTECTION: NORWEGIAN LARGE MAMMALS/RED FOX AND WILD BOAR CONTROVERSY IN FLANDERS, BELGIUM

The first pair of case studies provides insight into the validity of arguments for species protection. A major source of conflict in Norway is the management of four of the major large carnivores: wolf, brown bear, Eurasian lynx and wolverine. At the core of the disagreement lie trade-offs related to the use of carnivore habitats. Large wild herbivores in Norway are sustainably managed to ensure high harvests and hunters tend to perceive carnivores as a threat to these large herbivores. This is accompanied, and further aggravated by, a widespread fear of people living in proximity to large carnivores, especially the wolf. On the other hand, there are concerns that population numbers set by the government are too low

to ensure a genetically viable population. In essence, traditional grazing and local interests are fundamentally at odds with a carnivore policy that retains these species.

The second study centres on the return of red fox and wild boar to Flanders. Fox and boar almost vanished from Flanders for many decades, but have recently made a remarkable comeback. Their unexpected return has given rise to heated debate, providing an excellent opportunity to critically analyse different arguments, interaction modes and knowledge bases. Some have responded enthusiastically to this rise in biodiversity, while others remain reluctant, citing concerns such as the spread of disease.

The studies share apprehensions surrounding the increase in large carnivore populations and involve farmers, hunters, residents and conservation groups. Locals share the visceral feeling of threat and danger associated with these large carnivores. Both involve local, regional and national government. Norwegian parliament established strict maximum population targets, while in Belgium a wild boar intervention pilot project is underway. The disputes link to wider issues regarding the presence of wild animals in urbanised regions and humankind's co-existence with them. Among key differences is the unexpected nature of the species revival in Flanders, and the larger area of potential habitat provided by Norway.

RESOURCE MANAGEMENT: TIDAL POWER IN NORTHERN IRELAND/FINNISH PEATLAND

The second set of case studies focus on energy production. In 2008 'SeaGen', the world's first

commercial-scale open stream tidal turbine was deployed in the Narrows of Strangford Lough. Ongoing disputes reflect commitments to provide novel 'green' energy sources and a concomitant threat to biodiversity. The project has proven a risky endeavour, undertaken with little understanding of potential environmental consequences. Conflicts have arisen between many different groups; within government six departments are involved, with commitments both to increasing renewable energy output and protecting biodiversity.

The second case study analyses the implementation of the national strategy for mires and peatlands in Finland. Globally, the Finnish peatlands are considered unique, covering approximately one third of the country. Although one third of the peatlands is protected against use, these areas still provide 5-7 per cent of Finland's annual energy production. The national strategy has stimulated great local debate. Besides peat production negatively affecting water quality, the impact on biodiversity of a large-scale removal is another important consideration.

The development of a turbine in Northern Ireland was a world's first. There remains significant uncertainty regarding its environmental impact and it lacks legislation. The case represents a new and complex conflict between government departments, involving many policy documents spanning a wide range of issues. In contrast, the peatlands of Finland have a measured effect on the environment and the policy consists of a single document. Yet, at their centre both are concerned with energy production and the trade-off between its benefits and subsequent environmental consequences.

INTELLIGENCE

BIODIVERSITY AND ECOSYSTEM SERVICES: ARGUMENTS FOR OUR FUTURE ENVIRONMENT (BESAFE)

OBJECTIVES

To consider the contribution of valuing ecosystem services in demonstrating the value of biodiversity. The resulting framework will give guidance on the effectiveness of alternative arguments in various contexts

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ROB BUGTER MSC is a landscape ecologist, ecological networks, landscape connectivity and Ecosystem Services expert. He has been employed at Alterra, Wageningen University and Research in The Netherlands since 1996. Previously he coordinated the FP5 project GREENVEINS and was deputy coordinator of the RUBICODE FP6 coordination action.

PROTECTED AREAS: BIAŁOWIEŻA FOREST IN POLAND/ANDALUSIA NATIONAL PARKS, SPAIN

The final pair of case studies focuses on areas crucial for biodiversity preservation and ES provision. The Białowieża Forest study explores the long-term conflict in Poland that surrounds management and conservation of the last remaining large, lowland, temperate forest in Europe – specifically the arguments used and their transmission between government levels. The Białowieża Forest is partially protected as a national park, but its main part is under forest management. Recent efforts by environmentalists to better protect the forest, particularly by the enlargement of the existing park, have led to clashes with foresters and locals. This conflict is exacerbated by a lack of trust between the two parties, which presents a bottleneck to clear and open communication. Solutions are mainly sought at national level but attempts have been made to involve the EC, as the Białowieża Forest is a Natura 2000 site, and thus part of an EU wide network of Nature protection areas.

The study of the Andalusia national parks also explores the importance society attributes to Nature within protected areas. It involves two parks and its surrounding areas: Sierra Nevada (a mountain range in South East Spain) and Doñana (a coastal wetland in South West Spain). These parks house endemic species and unique ecosystems but also involve complex land-use issues. The foremost aim of the study is to explore whether the ES approach could promote dialogue among parties (conservationist and users). Understanding human-Nature interactions could help to integrate social considerations in the

conservation planning of National Parks. This could contribute to conserve biodiversity in terms of its intrinsic and instrumental values.

Both cases focus on areas of natural beauty and ecological importance and are tangled in a web of land-use and social conflicts. Equally, they are the focus of European initiatives and their main stakeholders are researchers, local government, tourists, environmental groups and locals. However, the Spanish study involves two separate parks, with different features and thus different problems and has a greater focus on ES.

Although all of the case studies present subtly different problems, the key theme of BESAFE is exploring how decisions regarding Nature conservation are made; what arguments are used in the different cases and what their effects are.

WIDER COMPARISONS

In addition to the 12 deep case studies, BESAFE is conducting two comparative studies to address the research questions of particular Work Packages (WP3 and WP4) across different EU Member States. 'EU Biodiversity Strategy 2020 – national implementation' concentrates on the questions of WP3. The focus is the EU biodiversity strategy 2020 (which aims to stop the loss of EU biodiversity by the year 2020) and its translation into national policies. Data from different countries will be analysed to identify patterns in, but also different approaches to, the national implementation of EU biodiversity policies. 'Perceptions of biodiversity, ecosystem services and values at the national level' addresses WP4, particularly looking at how the links between these three factors are perceived by different stakeholders in particular countries.



BIALOWIEZA CASE PHOTO

