

How the learning process has impacted our action plans

Output of the final BID-REX workshop



Ljubljana, Slovenia, March 2019

Contents

1	Executive summary	iv
2	Introduction.....	1
3	Assessment of the project impact	2
3.1	Self-assessment of the project impact	2
3.2	The BID-REX final workshop and overall project impact	3
3.3	The programme benefits	4
4	Action Plans	6
4.1	Policy instruments addressed.....	6
4.2	Objectives and concerns addressed	7
5	Lessons learned	8
5.1	ORGANISATION OF ONLINE PLATFORMS AND ADVISORY/SUPPORT SYSTEMS	8
5.1.1	DATABASE.....	8
5.1.2	PLATFORMS AND STAKEHOLDERS.....	9
5.1.3	SUPPORT TOOLS FOR ACCESSING DATABASES AND OBTAINING BIODIVERSITY INFORMATION	11
5.1.4	PROMOTION OF PRODUCTS (TOOLS AND DATABASES)	11
5.2	COMMUNICATION AND NETWORKING	13
5.2.1	FEEDBACK	13
5.2.2	WIDENING THE NETWORK.....	13
5.2.3	COPING WITH GAPS IN BIODIVERSITY KNOWLEDGE.....	14
5.3	LEGAL FRAMEWORK AND FUNDING OPORTUNTIES	14
5.3.1	HOW TO DEVELOP GENERAL CRITERIA FOR THE SELECTION OF PROJECTS ON BIODIVERSITY INFORMATION.....	14
5.3.2	HOW TO IMPROVE THE NEW ERDF OPERATIONAL PROGRAMME TO INCREASE FINANCIAL SUPPORT FOR BIODIVERSITY PROJECTS.....	14
5.3.3	HOW TO PROVIDE FUNDS TO SUSTAIN BIODIVERSITY INFORMATION SYSTEMS	15
5.3.4	HOW TO GUARANTEE THE IMPLEMENTATION AND SUSTAINABILITY OF NEW CONSERVATION MEASURES	15
6	Conclusions.....	17
7	References	18
8	Appendices.....	19

1 Executive summary

This report provides a synthesis of the outputs of the final interregional thematic workshop of the project “From Biodiversity Data to Decisions: enhancing natural value through improved regional development policies – BID-REX”, which took place in Ljubljana, Slovenia, on 21st and 22nd January 2019. This two-day event was attended by almost 40 people, including partners and stakeholders representing scientists and researchers from research centres, conservationists from both non- and inter-governmental organisations and the private sector, and decision makers from both local and regional levels.

The BID-REX project, which is an interregional cooperation project, seeks to address problems associated with biodiversity information use in decision-making processes, and focuses on identification, analysis, and transfer of good practices and policy experience in order to improve the effectiveness of regional and local nature conservation policy. The cornerstone of the first, 3-year phase of the BID-REX project is the exchange of knowledge and experiences among partners to develop Action Plans for the improvement of policy instruments in the project regions. Exchanges took place at several interregional thematic workshops and site visits. During the next 2-year phase, starting on April 1st 2019, the implementation of the regional Action Plans will follow.

The objectives of this last BID-REX workshop were to enable the final improvements of the partners draft Action Plans by exchanging information, experiences and ideas among partners and invited stakeholders, and to analyse and summarise how Good Practices and lessons learned from the previous four BID-REX workshops impacted the development of Action Plans. In previous workshops, altogether 22 Good Practices related to biodiversity data collection, management, and use were identified among partners and stakeholders. Many of them were drawn on as inspiration for the development of partners Action Plans. In addition to the Good Practices, partners and stakeholders learned many important lessons from discussions and exchanges that also helped to improve their Action Plans. At the end of the workshop, a survey was conducted to gather feedback on the success of the workshop, project impact on the development of Action Plans, and the benefits arising from involvement in the Interreg Europe BID-REX project for partners and stakeholders.

Results of the survey revealed that partners successfully integrated knowledge gained from the workshops, as well as from the Good Practices. They also recognised the positive impact of the Interreg Europe programme, identifying benefits such as: networking; development of new perspectives; establishment of a platform for discussions/actions; exchange of knowledge, experiences and ideas; capacity building; and, future development and outreach.

Action Plans developed by the project partners included objectives such as: establishing or improving online systems or platforms to empower data gathering or improve access; improve networking among stakeholders; develop criteria for, and prioritisation of, public funding for nature conservation; promotion of sustainable agricultural practices; and, application and validation of guidelines for regional ecological network implementation. During this final workshop, partners exchanged knowledge and experiences to help them address these specific issues. These knowledge exchanges resulted in improved Action Plans that will successfully contribute to improved regional policy instruments in the project regions.

2 Introduction

The availability of relevant, informative and validated biodiversity information is a must for effective decision-making in the field of nature conservation and regional development. The Interreg Europe project 'From biodiversity data to decisions: enhancing natural value through improved regional development policies' – BID-REX – aims to bridge the gap between biodiversity data and decision-making, linking the two to create improved regional development policies for efficient nature conservation. By demonstrating how the use of available, appropriate, and evidence-based biodiversity and environmental data and information can guide, benefit, and improve decision-making processes, BID-REX also seeks to promote budget prioritisation for biodiversity conservation efforts in funding allocations.

This document summarises the exchange of experience and knowledge, which took place during the final thematic workshop of the BID-REX project, and presents an analysis of the impact of the project activities during its first phase (2014-2019) on the development of partners Action Plans and their regions and organisations in general. The workshop was organised by the National Institute of Biology of Slovenia, and was held in Ljubljana, on 21st and 22nd January 2019. The workshop brought together 38 participants from the nine project partner organisations together with their invited stakeholders.

3 Assessment of the project impact

The specific aim of the BID-REX project is to improve partners' policy instruments that address biodiversity information use in decision-making processes. The project establishes a platform for the exchange of knowledge, experiences, and ideas, all with the focus on developing partners' Action Plans in order to improve the related policy instruments. In order to measure the success of these exchanges, a survey was carried out among participants of the final thematic workshop. The survey addressed topics specific to the workshop and the project as a whole, in relation to the development of partners Action Plans. Moreover, the survey aimed to identify the important messages and lessons learned throughout the interregional learning process, besides the Good Practices, that were useful for partners and stakeholders and will be incorporated into the development of Action Plans. Lastly, feedback on the benefits of the project for participant regions and organisations in general was gathered. The questions from the survey are listed in the appendices.

3.1 Self-assessment of the project impact

The majority of participants estimated the general level of exchange of experience and sharing of practices as "good" to "very good" (Figure 1), indicating a successful interregional learning process during the first phase of the project. Similarly, the expected level of integration and implementation of lessons learned during the project into relevant policies was stated as being "medium" or "high" by the majority of participants (Figure 2), revealing the impact of project activities on bringing about the improvement of policy instruments in the project.

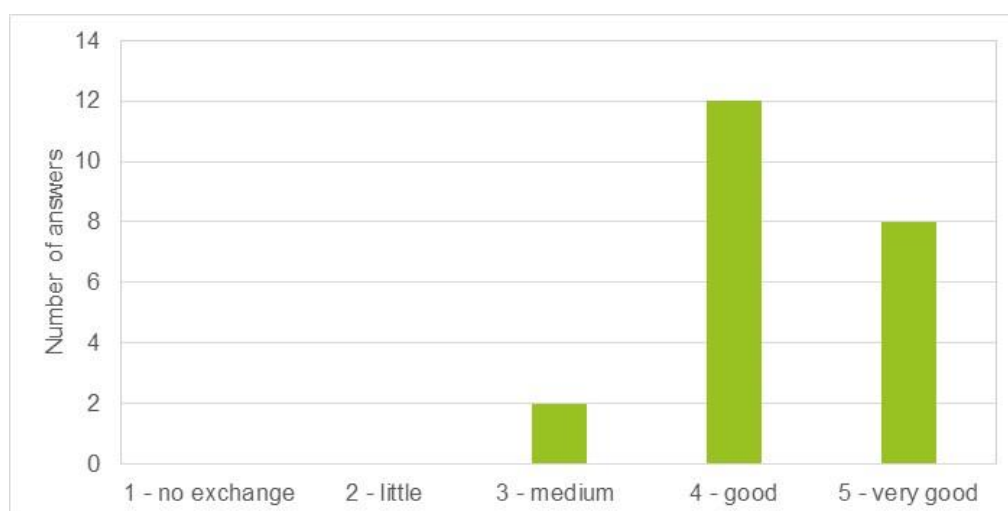


Figure 1. Assessment of general level of exchange of experience and sharing practices among partners (total number of answers = 22).

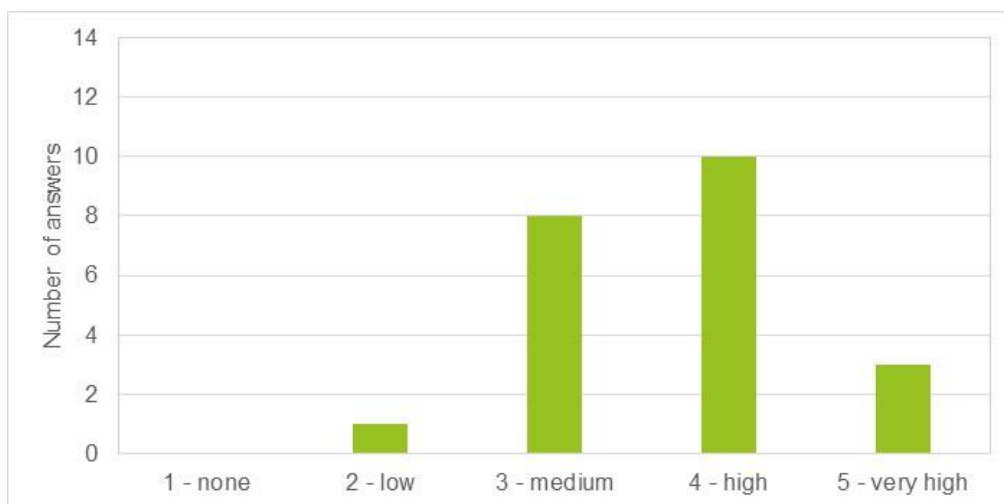


Figure 2. Assessment of the expected level of integration and implementation of lessons learned during the project into relevant policies (total number of answers = 22).

3.2 The BID-REX final workshop and overall project impact

The benefits of interregional cooperation are that it facilitates access to new knowledge, provides inspiration from other regions, and as such, brings concrete benefits that can lead to long-term impact (Interreg Europe web page, News section, 18.10.2018, <https://www.interregeurope.eu/news-and-events/news/4195/cooperation-delivers-results-and-benefits-in-many-ways/>). Our survey revealed that discussions at the final workshop substantially contributed to the development of partners' Action Plans, and that some new and useful lessons were recognised by some partners. On the other hand, the continuity of the discussions about the same problems throughout the project was observed, indicating, that at least some of the problems are ongoing and common to all partners. The partners learned that it is important: (1) to create repositories of biodiversity data; (2) to integrate financial instruments in Action Plans; and, (3) to carefully consider and plan how to communicate with decision makers. Among lessons that partners will include in their Action Plans, two were specific: (1) the measures needed for selection of projects when applying for EU funds need to be clear and concise, and (2) the context – who will use the data and for what reason – this is very important when designing biodiversity data access.

Overall, summarisation of the whole learning process of the project's first phase resulted in identification of many important messages that partners used in the development of their Action Plans. The newly acquired knowledge related to three main elements occurring in the process of biodiversity information flow: the strategy, the data, and the people (Figure 3).

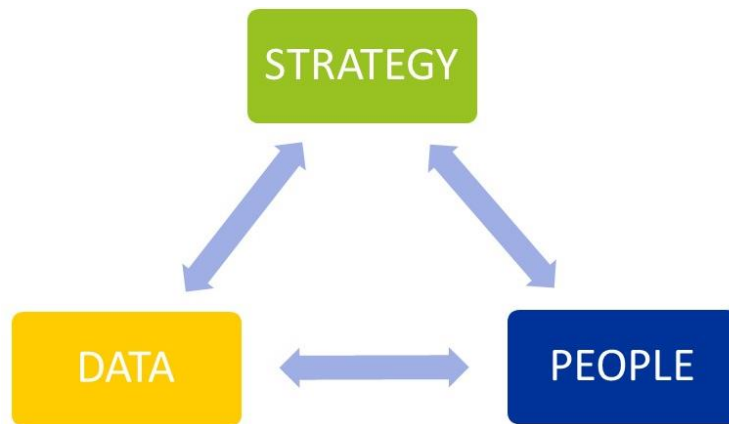


Figure 3. The elements within the process of biodiversity information flow that partners will improve because of the BID-REX Interregional Learning Exchange process (related to Q3).

3.3 The programme benefits

The European Biodiversity Strategy 2020 aims to promote actions that reduce disparities in the intensity of development, growth and quality of life in European regions (EC, 2011). The Interreg Europe programme sets out to contribute to achieving this aim. The programme boosts policy-learning among relevant organisations to improve the performance of regional development policies and programmes (EU, 2019). The BID-REX partners and stakeholders identified an array of benefits of the Interreg programme for their regions and organisations. The stated benefits include: *NETWORKING*; development of *NEW PERSPECTIVES*; establishment of a *PLATFORM* for discussions/actions; *EXCHANGES* of knowledge, experiences and ideas; *CAPACITY BUILDING*; and, *FUTURE DEVELOPMENT AND OUTREACH* (Figure 4). The summary of these recognised benefits is presented in Appendices.

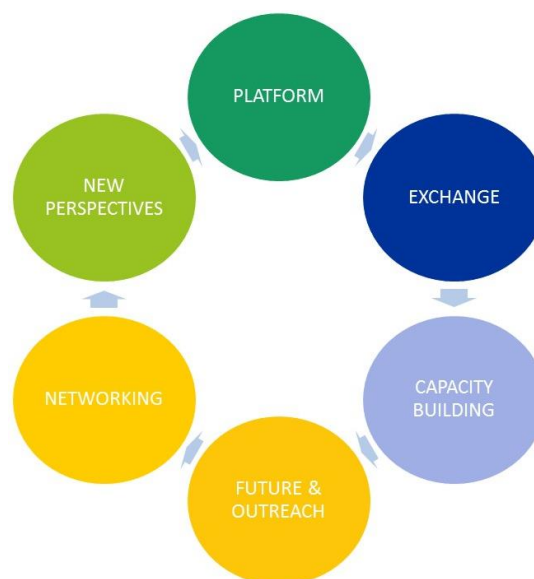


Figure 4. The major areas where participants of the final workshop see the benefits for their regions or organisations.



Plate 1. Exchanging experiences and lessons learned during the final BID-REX workshop.

4 Action Plans

4.1 Policy instruments addressed

Nine partners from seven regions worked together to exchange knowledge and experiences in improving selected policy instruments, addressing the use of public resources in nature conservation (Table 1). Policy instruments range from those addressing the use of European Regional Development Funds (ERDF), other regional or national funds meant for nature protection, or governing protected areas at local levels (Figure 5).

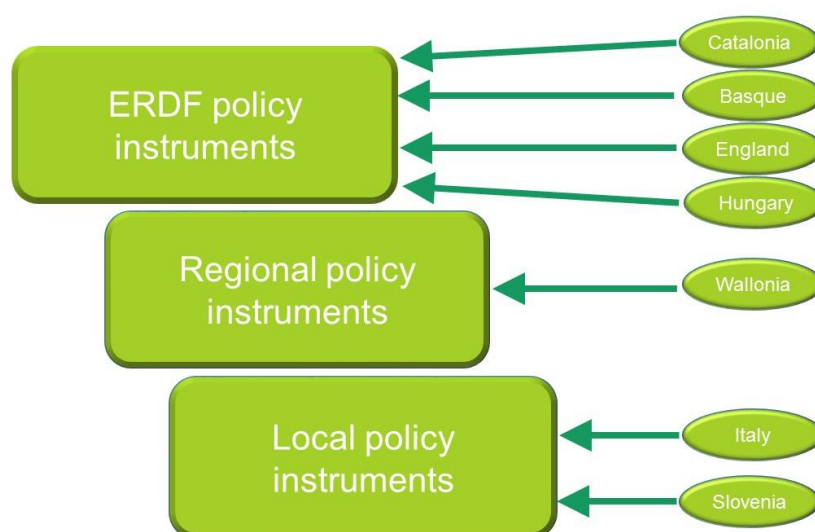


Figure 5. Summary of the policy instruments addressed in the BID-REX project.

Table 1. List of policy instruments addressed by each partner in each region in the framework of the BID-REX project.

Policy instrument	Partners	Regions
ERDF Operative Programme 2014-2020 for Catalonia, priority investment: Protecting environment and promoting resource efficiency	Government of Catalonia, Forest Sciences Centre of Catalonia	Catalonia (ES)
ERDF Operative Programme 2014-2020 for Basque Country, priority investment: Conserve and protect the environment and promote resources efficiency	Basque Government	Basque Country (ES)
ERDF Operative Programme 2014-2020 for Norfolk County, England. PRIORITY AXIS 6: Preserving and Protecting the Environment and Promoting Resource Efficiency (INVESTMENT PRIORITY 6d: Protecting and restoring biodiversity and soil and promoting ecosystem services, including Natura 2000 and green infrastructure	University of East Anglia, Norfolk County Council	Norfolk County (UK)
Marche Regional Ecological Network (REM)	Marche Region	Marche Region (IT)
Regulation on Ljubljana Marsh Nature Park	National Institute of Biology	Ljubljana Marsh (SI)
Hungarian Environment and Energy Efficiency Operational Programme 2014-2020 (EEEOP)	University of Debrecen	North Great Plain Region (HU)
The Regional Policy Statement for Wallonia (RPSW) 2014-2019	Public Service of Wallonia. General directorate of agriculture, natural resources and environment (DGO3)	Wallonia (BE)

4.2 Objectives and concerns addressed

The objectives that partners addressed in their Action Plans relate to different phases within the biodiversity information flow process (Figure 6). The majority of project regions (Catalonia, Basque Country, Wallonia, Norfolk County, Marche Region, and Ljubljana Marsh Nature Park) aim to establish, develop, or improve online digital systems or platforms to empower the process of data gathering or to improve the access to biodiversity information for end users, for example decision makers. Moreover, the Basque Country aim to improve networking amongst stakeholders, and together with the Catalonia region, are interested in the development of criteria for, and prioritisation of, public funding for nature conservation. Additionally, partners from North Great Plain and Ljubljana Marsh Regions aim to promote sustainable agricultural practices. While partners from Marche Region aim to apply and validate guidelines for their Marche Regional Ecological Network (REM) implementation by improving regional policies.

The issues and concerns that partners wanted to discuss during the final workshop were related to:

- the ways to organise online platforms,
- organisation of advisory support systems,
- communication and networking,
- legal frameworks and funding opportunities in general.

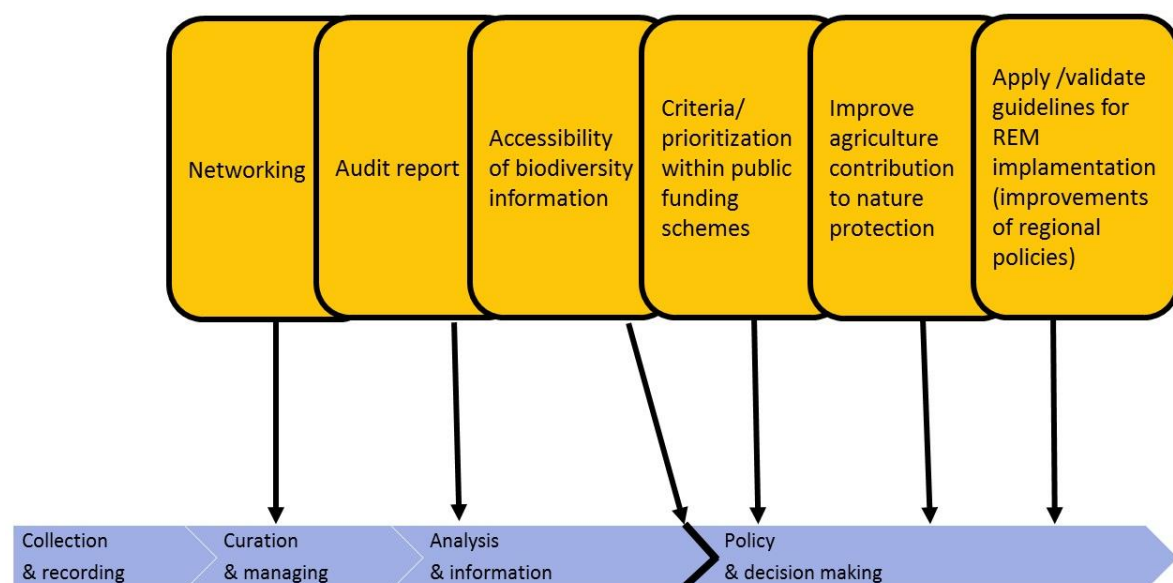


Figure 6. The main objectives (orange boxes) partners addressed in their Action Plans and their position in the process of biodiversity information flow from data collection to data use in decision-making (blue arrow).

5 Lessons learned

5.1 ORGANISATION OF ONLINE PLATFORMS AND ADVISORY/SUPPORT SYSTEMS

5.1.1 DATABASE

When biodiversity data, such as data on species and habitats are collected and organised in a predefined and structured way that it can be easily accessed, managed and updated, we are talking about a database. During the interregional learning process, regions presented several examples of biodiversity databases that have been successfully used as support tools in nature conservation and protection (see final Technical document “Better data better decisions”).

The region’s main concerns related to databases are: 1) what type of information should a database contain (rough or processed data); 2) should data be open; 3) how to recover costs for database maintenance; 4) ways of data validation; and lastly, 5) how to engage data holders to contribute available data into common databases, or how to increase the data flow into the databases.

Generally, databases can be composed of rough data (i.e. species name, exact geographical location, date of observation, etc.), of processed data (i.e. GIS maps with species distribution ranges or density per square kilometer), or both, and can be static or dynamic (i.e. refreshed with every new data input). Dynamic databases, with fresh data as much as possible, are the approach of the future, as they promote collaboration of all parties. However, static databases of the past need to be considered as well, to evaluate past actions on projects connected to nature conservation. More important than the type of database (i.e. static vs. dynamic), is that all the data that they use are validated.

The regions’ experiences indicate that:

- Species data with exact location details included are the best option for nature conservation purposes. If these do not exist, information on location can be combined with habitat data, for example.
- It is important to have an open database that it is available and accessible to all wishing to use the data for their own studies and uses. More importantly, data interpretation must also be provided for users by the data providers.
- It is important to identify species which should receive special attention in the extent of data collection (i.e. species of specific conservation concern).
- It is important to know the source of the data (e.g. citizen science, university research data, other).
- The sustainability of databases beyond project lifetimes is an important factor to consider, it could be provided by permanent funding support from national agencies, for example.
- To obtain biodiversity data to populate databases, various outlets exist. For example, research centres can be motivated to provide information, citizen science and crowd sourcing can be used, historic museum collections (many not digitised yet), and NGOs. Some EU funds, such as Axis 2 LIFE mechanisms, can be used to support the development of databases.

Citizen science and biodiversity data collecting

Citizen science is a low cost and usually technologically advanced approach that provides large quantities of data. But it can often require huge effort to coordinate data collectors and contributors, and to get experts to validate the collected data. In order to streamline the process and reduce expert inputs, validation approaches can be employed that only check outliers, rarities, or records at regular intervals, for example (e.g. every 1,000 entries), while the common data (records of species of lower conservational importance) can be left as they are. Another option is to find ways to ensure that data gathered by large numbers of people, with varying levels of expertise, are of consistently high quality, and do not need expert validation.

Experience from the field



The citizen science project *Catch the Nature!* (2016-2017), coordinated by the Fishing Association of Slovenia, and co-funded by the Ministry for Environment and Spatial planning of Republic of Slovenia, resulted in over 12,000 photographs from more than 2,000 locations taken mostly by anglers. The project targeted people that already spend lots of their time in nature, relying on the fact that, if they are targeted correctly, they can be a source of large quantities of biodiversity data.

The Centre for Cartography of Fauna and Flora processed the data resulting from this project. Their experience in this project revealed that, in such cases, it is more important to provide accurate location coordinates than taxonomically accurate data. This is because species identification can be further validated and corrected by experts, while species records without accompanying location data is of no value.

Figure 7. Brochure inviting citizens to participate in the project “Catch the nature!”

5.1.2 PLATFORMS AND STAKEHOLDERS

Fundamental to sustaining extensive and up-to-date biodiversity databases is a strong and wide network of stakeholders, from expert and amateur data collectors, to a variety of data users (researchers, spatial planners, conservationists, decision makers). Excellent examples of such approach are the National Biodiversity Network (NBN) and the ALERC (Association of Local Environmental Records Centres) - the networks that enabled and supported the development of the

database that, at the moment, contains 223 million wildlife records. The records are available through the NBN Atlas, an online tool that offers open access to the information about UK species and habitats.

At the workshop, experiences from all regions revealed that there are two common major problems related to stakeholders and data provision:

- how to provide open access to databases – a difficult task to organise platforms with open access since contributors of data for one reason or another want to protect their data,
- scattered data – many times different data sets, such as data on species records, data on habitats, data on land use, or other natural features are available through different platforms.

The solutions to provide user-friendly and open access biodiversity data are:

- clear agreements between data contributors and authorities, or database managers, with clearly defined obligations - data providers should know what their role in the whole process is, how their data will be used, and how the ownership of the data (property rights) is going to be arranged;
- it is advisable to separate technical aspects from the knowledge network (i.e. a case of NBN and NBN Atlas);
- standards are very important to ensure the quality of data. If the platforms are built by the same data standard, it is very easy to synergise the data from different sources. For example, Darwin Core (DwC) is the standard used by Global Biodiversity Information Facility (GBIF): if you use the DwC you can easily import/export data with GBIF;
- it is often better to supply data users with interpreted data products, with access to the raw supporting data if needed (raw data alone can often be intimidating and might not be necessary for the end user);
- if data on species are requested, they should be directly downloadable without the need for interventions or additional analysis;
- only certain data (e.g. rare or highly endangered species location data) should have restricted access; and
- introduction of “data ambassadors” (biodiversity professionals that promote the principles and best practices of open data sharing and use) that have the knowledge of how to use the platform, and how to use, select and interpret data.

Norfolk online atlas for biodiversity information (NBIS)

Norfolk has created an online atlas for biodiversity information, which allows the public to download data. Levels of “clearance” were established (those with higher levels have access to more information or more detailed information). The problem is that, despite more data being available, it is of lesser quality since contributors of data, for one reason or another, want to protect their data and set the resolution/quality of data to be lower for public access.

Solution: The data can be set to only be available to funders and partners by the data collector/provider/contributor. That way the data contributor can decide exactly who gets that quality of data.

5.1.3 SUPPORT TOOLS FOR ACCESSING DATABASES AND OBTAINING BIODIVERSITY INFORMATION

In order to ensure that data can be used by decision makers and other users, access to biodiversity databases should be enabled by developing and implementing user-friendly interfaces or platforms. The National Biodiversity Network (NBN) Atlas from the UK is an excellent example of such a platform. The Atlas is an online tool that provides a platform to engage, educate and inform people about nature. The platform contains data about UK species and habitats that can be easily analysed and combined. It is based on an open source platform developed in Australia (the Atlas of Living Australia infrastructure). As the Atlas of Living Australia platform is open source, many other countries around the world have used the same system. This allows users to compare and share data globally (<https://nbnatlas.org/>).

Besides online platforms, the development of web-based applications designed for use in the field on mobile devices represents a large step forwards in terms of streamlining data collection and increasing data accessibility.

The issues that should be considered when developing and designing online platforms and supporting tools include:

- applications on mobile devices might be biased towards adoption by a subset of users only (e.g. younger people or otherwise tech-savvy users);
- prior to final implementation of new data tools, it is advisable to investigate the ways in which they might be used (e.g. accessibility and usability from mobile devices);
- maintenance of data platforms (e.g. updates and fixing bugs) is very important - it is advisable to have IT support in-house, rather than having to rely on external developers (in-house capacity of this nature provides understanding of tools and can address updates, amendments and fixes in a quick and efficient fashion, but will require a degree of financial support);
- to be attractive to users, tools need to enable the extraction and interrogation of at least some data and information (e.g. map selection and download) without the need for technical support, otherwise they are likely to receive little uptake; and
- it is advisable to implement open source software from other platforms/sites when developing new tools (if tools have been developed by highly specialised external developers, and no internal support capacity exists, there is a risk that, should the developer stop operating for some reason, the tool will be left without support).

5.1.4 PROMOTION OF PRODUCTS (TOOLS AND DATABASES)

When databases and tools for accessing them are developed, it is important that the intended audiences of the information know that they exist. Promotion, dissemination, and communication are important components of this process.

Clear definition and description of the products should be a first step. To enable this, a clear understanding of the potential user-needs is required. The benefits for users (e.g. decision makers) should be emphasised and made clear. Provision of training and interpretation is a further step. Besides the product itself being clear and accessible, service support and assistance is also important for uptake and sustainability of use.

In cases where decision makers are not aware of the potential value of incorporating and using biodiversity information, awareness raising and capacity building can be a valuable and important

consideration. The language used in communication strategies and through awareness raising should be adapted to the intended audience (e.g. decision makers). In order to increase the use of biodiversity data in decisions it is important that decision makers feel involved in such processes and that they are able to contribute.

Sometimes workshops organised for decision makers are not seen as being attractive and are consequently not well attended. A solution can be the organisation of training-for-trainers events for example, whereby decision makers learn how to train other decision makers. For such approaches, it is important to identify the most appropriate target persons within different organisations that are potential users of data tools and resources. This should not only be focused on conservation managers, but more broadly the wider community of decision makers dealing with biodiversity, including different sectors, such as agriculture.

Action plan in Catalonia: DESIGNING THE NATURAL HERITAGE OBSERVATORY

Catalonia is planning to address the needs and difficulties associated with the use of biodiversity information by creating the Observatory of Natural Heritage of Catalonia (OPNC). The OPNC is planned to function as the reference entity for natural heritage and biodiversity, collecting detailed information useful for decision-making, as well as being an accessible resource for the scientific and education communities, and for all interested sectors and citizens. The Catalan region is learning from the Wallonian partner in the BID-REX project, Natagriwal, where their experience successfully demonstrated that biodiversity data collected for a single purpose can potentially be used for multiple ones.

The first step will be to set out a clear definition of the mission of the Observatory, and the roles of those that will be involved. The idea is that access to data should be open and the operations of the OPNC should be based on perspectives from scientific community.

The major issues that need to be resolved are:

- who will be a part of the Observatory (external experts, government employees, etc.),
- how to improve organisation and transparency in processing biodiversity information,
- where its focus should be (i.e. evaluation of the public policies or data management).

In such a process, it is important to involve all relevant stakeholders (e.g. research centres, universities, government, administrations, and NGO's); bringing a cross-section of views and perspectives to the table. However, each stakeholder group will have its own influences and biases (e.g. a trade-off between political and expert influences), and these must be accounted for.

Lessons learned from Wallonia and Slovenia

The Walloon Government aims to increase farmers' and other landowners' use of different funds for nature conservation in the region. Generally, two types of governmental funding are available. First to promote agriculture, and second to promote use of ERDF funds in nature conservation. But the extent of funding used depends on the local farmers' and other landowners' efforts to get financial support. The Walloon Government supplied a large amount of funding for communication activities to support this (i.e. promotion of available funding and ways to use them). Walloon Government employees personally visit farmers and landowners at their homes to discuss available funding possibilities with them.

Experiences in Slovenia are similar, using workshops for farmers and landowners, but the personal approach (by visiting farmers homes) is the most efficient.

In order to effectively engage farmers and landowners in schemes focusing on the environment, it is important to listen to their views, and to communicate in a clear and jargon-free way. In schemes such as these, it is also rare that top-down approaches, where government-defined tasks and obligations to farmers, meet with any level of success.

Sometimes nature conservation NGOs can act as successful partners in brokering successful communication and engagement with farmers and other landowners (e.g. Slovenian Ornithological Society). If not, multiple partners can work together with farmers to provide an understanding of agricultural points-of-view, and of the other nature conservation concerns.

5.2 COMMUNICATION AND NETWORKING

5.2.1 *FEEDBACK*

Feedback is a crucial element in the process of biodiversity information flow, and relates to all involved actors (i.e. from data providers and data users). Quick feedback is especially important in the case of citizen science projects, helping to keep and motivate volunteers.

In relation to researchers and scientists, the use of scientific data in nature conservation is usually a reward for researchers without any other means, but most of the project regions observed occasional difficulties in obtaining data from this group of data collectors. Feedback and acknowledgement of contributions can help in raising motivation to contribute data and to sustain inputs in the long-term. In such cases, additional motivation can also be created by:

- explaining why the data is needed and how it will be used;
- presenting new ways of validating the value of the research (the impact on nature conservation projects instead of, or alongside, the number of citations in SCI);
- using scientific data during political campaigns can be rewarding for researchers; and
- providing the opportunity to prepare publications about the data provided (e.g. book chapters, scientific papers etc.).

5.2.2 *WIDENING THE NETWORK*

As already mentioned, a wide and living knowledge network connecting data collectors, data managers and decision makers, is fundamental to keep biodiversity information up-to-date. Here special attention should be paid to good communication and close working relationships between these three groups.

In order to involve more people in data collection, several approaches can be taken:

- mentorships are good tools to promote training of young people;
- initiatives in deprived urban areas can act to raise awareness of, and interest in, nature;
- use of new technologies to engage new generations;
- attract and motivate new data collectors to share data by providing clear information on the value, and modes of use, of their data; and
- identifying groups that spend a lot of time in nature and are likely to use similar data collection tools as biodiversity experts (e.g. anglers, photographers).

5.2.3 COPING WITH GAPS IN BIODIVERSITY KNOWLEDGE

Gaps exist in both the taxonomic and geographical knowledge bases regarding biodiversity. For species conservation is extremely important to have good information about geographical distribution of species that need to be protected.

Identification of gaps is an important first step. Horizon scanning is a very helpful tool to look at emerging trends and/or changes, allowing plans to be formulated around which data will be useful in the future. For example, developing an understanding of what data, on what groups/priority species, and in what locations, we should think about collecting now.

The decision makers should be informed about the gaps, and prioritisation of funding resources should be carried out using existing legal frameworks (i.e. Red lists, Natura 2000).

5.3 LEGAL FRAMEWORK AND FUNDING OPORTUNTIES

5.3.1 HOW TO DEVELOP GENERAL CRITERIA FOR THE SELECTION OF PROJECTS ON BIODIVERSITY INFORMATION

Accessible biodiversity information can improve decision-making processes, including budget prioritisation for biodiversity conservation efforts. The project regions discussed several approaches to improve the selection process of high quality projects on biodiversity information:

- Involvement of quality partners (using references as selection criteria if/where needed) and involvement of quality reviewers should be the minimum baseline.
- Criteria for project selection should be simple and clear, but still informative about the tasks and obligations.
- Funding of smaller projects (i.e. small budget size), can help to start and develop the collaboration between partners and increase the quality of project results over time.
- Organising workshops with stakeholders to discuss and exchange ideas in order to increase the quality of criteria/measures for development of biodiversity knowledge projects is also recommended.

5.3.2 HOW TO IMPROVE THE NEW ERDF OPERATIONAL PROGRAMME TO INCREASE FINANCIAL SUPPORT FOR BIODIVERSITY PROJECTS

European Regional Development Fund (ERDF) Operational Programme 2014-2020 offers (within Axis 6 - *Preserving and protecting the environment*) options for budget allocation in the field of nature conservation in all EU countries.

During the workshop, it was identified that:

- The key to carrying out efficient prioritisation and selection of projects funded by the ERDF is to have good information on biodiversity, and be well connected with all relevant stakeholders. If we have good information, we can also provide good indicators to assess the impact achieved by these projects.
- In order to simplify sometimes complex operational programmes, it is often necessary to homogenise the wide range of project monitoring tools that are currently used to measure the projects' success (e.g. increase the area of green and blue infrastructure, increasing the area of natural sites in the region, increased level of preservation of status of habitats of species,

etc.). For example, it is difficult to accurately define how can you assess the level of conservation of Natura species. Indicators must be defined before actions are supported by the ERDF. To build accurate indicators, we need time, people (experts) and tools.

- In the new operational programme, more objectives should be defined, and more nature conservation funds (not always related to tourism, as many projects are focused now) should be available.
- There are many inconsistencies between indicators within the Natura 2000 framework and the agricultural sector. For example, in Catalonia, “the amount of rice crops” within the agriculture sector is accepted as an indicator for positive nature conservation efforts. While within the Natura 2000 network, this indicator does not have any meaning. Hence, communication between nature conservation and other sectors, such as agriculture, needs to be intensified to define common indicators for nature conservation.

5.3.3 HOW TO PROVIDE FUNDS TO SUSTAIN BIODIVERSITY INFORMATION SYSTEMS

Finding suitable and sustainable models for maintaining biodiversity information databases and systems is a huge challenge if permanent stable funding is not available. In these cases, great flexibility and commitment of time and resources to search for funding is needed.

The following aspects should be considered:

- Identification of the resources with the greatest probability of successful funding is advisable in order to save time and resources.
- Data provision and other data services need to be tailored to meet different needs to widen the network of data users.
- It is important that you know what kind of biodiversity information governments or other users require, what needs it must meet, and how and when it should be delivered.
- It is important to share data at the right time and to the right people to ensure the visibility of your product.
- Collaboration is very important as it increases the network of data providers and data users, and therefore, potential funding opportunities.
- Promotion is of huge importance for recognition of your biodiversity information system. Data providers should aim to establish good working relationships with their users to disseminate information about products and services.
- When searching for funds it is advisable to link data on important species, impacts and pressures with benefits for human health, and ecosystem services.
- EU funds that cover research and how to make information available to society (ERDF OP, Axis 2) represent good opportunities to support the establishment of databases and platforms.

5.3.4 HOW TO GUARANTEE THE IMPLEMENTATION AND SUSTAINABILITY OF NEW CONSERVATION MEASURES

When new conservation measures, such as the eradication of invasive alien species to protect ground nesting birds, need to be included in nature protection systems, acceptance and buy in from the authorities and general public is needed. In such circumstances, targeted communication is very important. From the outset, communication platforms capable of reaching the target audiences should be established. Think about what needs to be communicated, and to whom. Different communication tools might be needed to engage with different audiences. Similarly, when presenting the same subject matter to different audiences, it is important that the language used is suited to the target audience.

If the target audience for biodiversity data and information is a government administration, presenting the case for conservation and protection in terms framed around ecosystem services or natural capital can be useful. Similarly, focusing on specific ecological processes can be another approach to follow, framing specific questions, such as 'which processes do you value/want to maintain the most?' The use of National Red Lists or species of management interest can also be used to determine management priorities and potential impacts.

Conversely, if the target audience is the general public, focusing arguments and approaches on charismatic species for example, can be a better method of communicating.



Plate 2. Conclusion of the final workshop in Ljubljana.

6 Conclusions

The final workshop was fruitful and rich in the exchange of experiences. Furthermore, additional new lessons were learned by the partners that were successfully included in their Action Plans.

The most important outputs from this workshop are:

- Regions identified the success of the interregional learning process during the BID-REX project which resulted in various benefits, such as: networking, development of new perspectives, establishment of a platform for discussions/actions, exchange of knowledge, experiences and ideas, capacity building, and future development and outreach.
- Newly-acquired knowledge that will help regions to improve their Action Plans relating to three main elements in the process of biodiversity information flow: the strategy, the data, and the people.
- The key elements to increase the use of biodiversity data in decision-making and ensure the successful implementation of Action Plans were recognised: (1) creation of repositories of biodiversity data; (2) integration of financial instruments in Action Plans; and, (3) development of communication strategies with decision makers.
- The regions' main concerns relating to databases included: what type of information should databases contain (rough or processed data); should data be open; how to recover costs for database maintenance; ways of data validation; and, how to engage data holders to contribute available data into common databases, or how to increase the data flow into databases.
- Fundamental to sustaining extensive and up-to-date biodiversity databases is a strong and wide network of stakeholders, from expert and amateur data collectors, to including a variety of data users.
- When databases and user-friendly tools for accessing them are developed, promotion, dissemination, and communication are very important elements, ensuring that the available biodiversity information is used by decision makers on a regular basis.
- Feedback is a crucial element in the process of biodiversity information flow, relating to all involved actors (i.e. data providers to data users).
- Identification of gaps in biodiversity information is important. Decision makers should be informed about the gaps and prioritisation of funding resources should be carried out using existing legal frameworks.
- European Regional Development Fund (ERDF) Operational Programme 2014-2020 offers many options for budget allocation in the field of nature conservation in all EU countries, but the projects' monitoring tools that are currently used to measure the projects' success should be improved and also homogenised in the future.

7 References

European Commission, 2011. Our life insurance, our natural capital: an EU biodiversity strategy to 2020, 16, <http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm>

European Union, 2019. Interreg Europe Programme Manual. Version 7, 196, https://www.interregeurope.eu/fileadmin/user_upload/documents/Call_related_documents/Interreg_Europe_Programme_manual.pdf

BID-REX. 2019. Better data, better decisions: increasing the impact of biodiversity information. Technical report of phase 1 of the project BID-REX – from biodiversity data to decisions: enhancing natural value through improved regional development policies. Interreg Europe.

8 Appendices

Appendix A. Good practices identified during four BID-REX thematic interregional workshops.

Partner in charge of GP's	Good Practice identified (GP)	Good Practice's owner
CTFC	Cartography of habitats in Catalonia at different scales	Estela Illa (Grup de Geobotànica i Cartografia de la Vegetació, Universitat de Barcelona)
CTFC	Use of BD data in decision-making: The SITxell project	Carles Castell Puig (DIBA)
Government of Catalonia	SISEBIO. Global Monitoring Programme of Biodiversity in Catalonia	Pau Sainz de la Maza Marsal. (Government of Catalonia)
Public Service of Wallonia	Monitoring of agro-environmental scheme in Wallonia : data management and sharing	Julien Piqueray (Natagriwal asbl)
Public Service of Wallonia	Of birds and high voltage overhead lines: How feedback from decision makers is helping data provider	Johan Mortier (ELIA) & Jean-Yves Paquet (Natagora)
UEA	The Biodiversity Audit Approach	Paul Dolman (UEA)
NCC	Data: Collection to Use - ALERC	Tom Hunt (ALERC)
Basque Government	Nature Information System of the Basque Country	Marta Iturribarria (Basque Government)]
Basque Government	Ecosystem Services Assessment in the Basque Country	Miren Onaindia (University of the Basque Country)
Basque Government	Biodiversity information flow in the Basque Country	Marta Iturribarria (Basque Government)]
NCC	Acoustic recording	Stuart Newson (BTO)
NCC	Invertebrate recorders of the future	Keiron Brown (Field Studies Council - FSC)
NCC	The NBN Atlas	Jo Judge (National Biodiversity Network, NBN)
NCC	Norfolk Biodiversity Information Service	Martin Horlock (Norfolk County Council)
Basque Government	Biodiversity information flow in protected area development in partner regions: Basque Country	Marta Iturribarria (Basque Government)
Government of Catalonia	Natura 2000 progress report and the planning of protected areas.	Leo Bejarano, Pilar Casanovas and Pau Sainz de la Maza (Government of Catalonia)
University of Debrecen	OpenBioMaps for biodiversity data flow	Dr. Miklós Bán (University of Debrecen)
CTFC	Supporting information tool for the Environmental Impact Assessment of Projects (IAIA)	Núria Pou (CTFC)
NCC	Increasing "natural" resilience in Norfolk: Using biodiversity and other information to deliver better GI decisions	Martin Horlock (Norfolk County Council)
Marche Region	REM in Marche Region: example of Città di Porto Sant'Elpidio and restoration of the area affected by the earthquake.	Claudio Zabaglia, Alessandro Cartuccia & Lorenzo Federiconi (Marche Region)
NIB	20 years of data gathering at Ljubljana Moor - recollections and lessons	Mladen Kotarac, CKFF
NIB	Using different types of data for creating protected area conservational priorities.	Karin Gabrovšek, Institute of the Republic of Slovenia for Nature Conservation
CTFC	The World Database on Protected Areas (WDPA)	Brian MacSharry (UNEP - WCMC)

Appendix B. Example of Questionnaire for the participants of final BID-REX workshop

Questionnaire

Dear participant, please be so kind to answer the following questions related to *BID-REX Ljubljana workshop* (first part) and to *interregional cooperation project in general* (second part).

Please fill the questionnaire during the workshop and return it **before your departure** to the box at the reception desk. Thank you.

1. From which region do you come from:

Define your role at the workshop:

Region	
Catalonia (ES)	
Basque Country (ES)	
Norfolk County (UK)	
Marche Region (IT)	
Ljubljana Marsh (SI)	
North Great Plain Region (HU)	
Wallonia (BE)	

Partner	Stakeholder

BID-REX Ljubljana workshop

1. Estimate the general level of workshop contribution to the development of your Action plan draft:

1 – none	2 – small	3- medium	4 – strong	5 – very strong

2. Did you learn important new lessons from discussions at the workshop?

YES NO PARTLY (explain why)

3. Will you implement lessons learned from the workshop into your AP?

4. YES NO PARTLY (explain why)

BID-REX project in general

1. Estimate the general level of exchange of experiences and sharing practices during the project.

1 – no exchange	2 – little	3- medium	4 – good	5 – very good

- a) Estimate your contribution to other regions.

1 – none	2 – little	3- medium	4 – large	5 –very large

- b) Estimate the contribution from other regions.

1 – none	2 – little	3- medium	4 – large	5 – very large

2. Estimate the expected level of integration and implementation of lessons learned during the BID-REX into relevant policies (local, regional, national)

1 – none	2 – low	3- medium	4 – high	5 – very high

3. In addition to good practices identified, could you list lessons learnt that have you incorporated into your Action plans (possibly at least 3 lessons)?

4. Please highlight the benefits of the Interreg projects for your region and/or your organisation.

Appendix C. Experiences and lessons learned that partners will incorporate into their Action plans to improve policy instruments addressed. (related to Q3).

STRATEGY
Strategies for protection of environmental are important 15)
Common research agenda (3)
Long term data flow (planning, multiannual agreements. (1)
PEOPLE
Knowledge network (3)
Relationship building. (11)
Tools for efficient implementation of knowledge network (legal financial framework). (6)
Importance of feedback to data providers (1).
Important to understand the need before designing the biodiversity platform. (6)
Training is important for data quality. (7)
Promotion and communication is important for implementation action plan ambassadors or champions importance. (9)
Be proactive when selling your service/search for areas that would benefit planners (2x) (10, 12)
Offer more than just data. (10)
Use expertise nor representation reviewing boards/councils. (10)
Peer to peer advices. (12)
Communication with governmental sectors is important. (15)
Communication between stakeholders is important. (17)
If you let people have biodiversity data from database for free, some data providers stop sending their data to be included in the database. (18)
Data providers need fast feedback or they stop sending data. (18)
DATA
Open data approaches. (11)
How to build data biodiversity (3)
The context is important (4)
Need to evaluated the existent information to identify information useful to different stakeholders. (16)
Life cycle and quality control of biodiversity information is a must to build between data providers and data makers. (4)
Online approaches to data provision. (11)
Open data approaches. (11)
Use the opportunity of integration of information different sources. (16)
How to collate biodiversity data from different sources. (17)
Professionals need data from database at home/ in office, common people on field. (18)
Monitoring as added value. (10)

Appendix D. The results of the survey. Q4: Please highlight the benefits of the Interreg projects for your region and/or your organisation.

NEW PERSPECTIVES

New perspective to solve some regional problems. Inform potential users of ERDF in XXXX_ NatAgniWal.(1)

The opportunity to look further than in daily life. (3)

The exchange of ideas and experience in open discussions with other stakeholders with similar problems but with different approaches to solve them. (5)

The opportunity to learn from partners and stakeholders in regions previously not communicated with, taking their perspectives and experiences (9)

Human aspect, managing new aspect of biodiversity. (21)

A PLATFORM FOR DISCUSSION/ACTIONS

The project framework provided a new space for dialogue between regional stakeholders (at local and/or regional level). (1)

It is very interesting to have a forum to see, to discuss, to try to solve some problems that we have in our region, and, maybe, are the same than in other regions. (2)

The exchange of ideas and experience in open discussions with other stakeholders with similar problems but with different approaches to solve them. (5)

Local stakeholders workshops. (7)

The "obligation" of structuring our discussions and organising our objectives and activities. (7)

It is very important for our region to organise all the information and stakeholders around this topic and it is a goal to have a good information in our reform. (8)

The project has permitted to verify our ideas and approach respect to the experiences at the other partners. (16)

Sharing best practice face-to-face. (17)

Consistency with internal data communication strategy and level to support them. Opportunity to manage more in deep aspects for which we do not have usually time. (20)

Funding for our work. (11)

NETWORKING

It is also very good opportunity to know people that work in the same things than you. These contacts can remain for years, and be an opportunity for future contacts and interchange of information. (2)

Create new relationships. (12)

International networking (establishing new international connections). (17)

Others have similar problems as we, but they did not give up. I know many new people working on this subject personally, easing communication. (18)

International contacts, cooperation. (19)

Extension of the networking. (20)

Networking (21)

Get personal contact and experiences in EU countries (Cultural education). (17)

Increase cooperation between near.... people and others record expert. (19)

Expansion of research work from national to international European level (17)

EXCHANGE OF IDEAS AND EXPERIENCES

The chance to exchange experience. (3)

The exchanges allowed for increased credibility of actions within the plan. (4)

The exchange of ideas and experience in open discussions with other stakeholders with similar problems but with different approaches to solve them. (5)

Take disadvantage of more advantage regions in terms of BD seeing what is working well and what is not.(6)

See how the available information, tools work at different scales. (6)

Lessons learned good practise interchange. (7)

The opportunity to learn from partners and stakeholders in regions previously not communicated with, taking their perspectives and experiences and also viewing how administration support differ between us all. (9)

Learning from projects dealing with different challenge and how overcome obstacle is an inspiration for us. (10)

Seeing how other partners use technology and provide information. (10)

Exchange of knowledge and approaches. Chance to see good practise demonstrated from other regions. (11)

Share best practice -highlight bad practice. Find shared problems discuss solutions.

Sharing opinions and positions of different partners, positions or information and development or ideas (13)

The optimisation of policies, strategy at regional level, by exchange of good practices or project partners. (12)

Exchange of experience, creation of contests. (15)

The project has permitted to verify our ideas and approach respect to the experiences at the other partners. (16)

Sharing best practice face-to-face. (17)

Learned about experiences which cannot be found in books or internet. (18)

Information about practices, Exchanges, good ideas in our job, networking (21)

Give additional information for regional plan development (19)

Keep updated what is being done in EU. (6)

Reach an agreement of same criteria when design the regional AP recording the importance of validation data, adapt the strategies to the real needs, etc. (6)

Viewing how administration support differs between us all. (9)

CAPACITY BUILDING

International project coordination. (20)

Better understanding of EU policy and its implementations at EU level (17).

FUTURE & OUTREACH

To have extra funding to create, new projects and documents, plans, programmes. (

Make a plan/design Pilot projects.

External funding for further actions (21)

Building up international recognitions of institutions that enhances further collaborative work at European level (17)

International support to disseminate conservation ideals to local stakeholders including decision makers. (17)

Influence/support regional policy development.

Catalyser for stakeholders at local level. (21)

The project has been a trigger for different assessment and consultation projects. (20)

OTHER

Generational change of taxonomist. (UK) (1)

Developed Action Plan. (19)

APPENDIX E. The listed issues that partners wanted to discuss during final workshop grouped into four major themes.

WAYS TO ORGANISE THE ONLINE PLATFORM – what data, how to present it,..

- Should the new Observatory evaluate public biodiversity policies, for example, the EPNCAT30? Or should just be focussed on assessing the state of natural heritage? **CATALONIA (Spain)**
- Taking account that there are already several (partial) biodiversity information platforms, does it make sense to create a new one that acts as a single repository? If so, what type of information should it contain (processed or analysed information, for example)? **CATALONIA (Spain)**
- Online systems – use on mobile devices **NORFOLK COUNTY (UK)**
- Open Data **NORFOLK COUNTY (UK)**
- Technical support – do you need this in house? **NORFOLK COUNTY (UK)**
- The availability of updated, interpreted (not raw) and certificated data, are the starting point for any biodiversity governance process. Explain methodology, timing and financial resources used for the implementation of your databases. **MARCHE REGION (Italy)**
- When the priority list and managements guilds will be prepared, how to deal with future changes in the nature (due to new data, changes in trends...). How often do other partners update Red lists, priority species lists or management strategies for biodiversity conservation? What are the approaches to detect changes in biodiversity (e.g. new data, changes in trends...). If you have an online biodiversity database what is better:
 - dynamic database – all new data entered in the database can immediately be seen on computer.
 - static database – the new data entered are not seen on the computer only old ones.
- If it is dynamic, you have access to up-to-date information, but it is not possible to perform a quality control for new entered data. If it is static, all data in database are of good quality (reviewed by experts at beginning of operational time of the database), but with time it become out-dated. The third option (3) is to have repetitive quality controls (once per year for example), but you need money to pay experts every year to review new data. What are your experiences? **LJUBLJANA MARSH (Slovenia)**
- Do you have any experience with such type of platform? (Action 1) Creation of a platform for coordination, exchange and expertise on the management of biological data **WALLONIA (Belgium)**

ORGANISATION OF THE ADVISORY SYSTEM/SUPPORT

- If a new advisory system for potential users of the structural European funds was created (likewise NatAgriWal), should it has a single head office or better take advantage of territorial offices of other agencies? In the framework of the ERDF fund, does it make sense to advise small private users? **CATALONIA (Spain)**
- How do we promote the use of our products to decision makers? **NORFOLK COUNTY (UK)**
- Recovering costs – free or paid services? **NORFOLK COUNTY (UK)**
- For an effective territorial Governance enhancing biodiversity you must consider that the separation of economic and environmental policies, the lack of data, the multilevel government, the coordination between actors and the separation between natural and cultural heritage policies are at the moment the most difficult issues to tackle jointly. How do institutions approach to those issues in your region? Provide practical cases and good practices. **MARCHE REGION (Italy)**
- Do you have any experience with such type of interface? (Action 2) Setting up of a consultation and download interface for biological data **WALLONIA (Belgium)**

COMMUNICATION, NETWORKING

- From the law to the reality: laws are mostly very clear, in a few very well written lines they state strictly rules to join. Principles are clear and administrations often offer guidelines to better apply rules. But that is not enough for good territorial biodiversity governance; the entire process to downscale is very complex. In particular there are many elements to take in account, with particular reference to the difficulties of involving stakeholders, conflict solving, and clear communication. What are your experiences about this practice? Please provide examples. **MARCHE REGION (Italy)**

- There are still some biodiversity experts who do not want to cooperate and share the data to be publically available. Any suggestions how to persuade them? What is the main motivation in your countries for experts to participate their data for public good, beside considerable payment? **LJUBLJANA MARSH (Slovenia)**
- One of the objectives of our action plan is to provide list of priority species and prepare list of recommended conservation measurements for groups of priority species with similar ecological recommendations. Which arguments are advisable to use for more efficient implementation of proposed measurements (to promote umbrella species, or specialists present within priority species groups, or some other ways)? How to approach if certain management guilds do not include any umbrella, or charismatic, or Natura 2000, or endemic (specialist) species? **LJUBLJANA MARSH (Slovenia)**
- What would you recommend to insure the communication plan is running efficiently? (Action 3) Communication plan for actors of processes and data users **WALLONIA (Belgium)**
- How to improve stakeholders' involvement? **WALLONIA (Belgium)**
- How to articulate a knowledge network? Identify stakeholders Define the structure of functions and responsibilities. Identify knowledge gaps to prioritise their development. How to acknowledge. Evaluation and monitoring system **Basque Country (Spain)**
- How to face the challenges of integrating different expert knowledge? Find common languages. Gap between research and management. Develop new methods to establish priorities **Basque Country (Spain)**
- Talking about citizen science. In a scenario of social demobilisation ... How to involve more people? In an increasingly aged demographic profile ... How to guarantee the generational change? In an evidence-based decision-making scenario ... How to develop a distributed validation process? **Basque Country (Spain)**

LEGAL FRAMEWORK AND FUNDING OPORTUNTIES

- In what ways can the new ERDF OP be improved to make it easier and increase the financing of biodiversity projects? Which indicators using biodiversity information can be suitable to help ERDF managers to select and monitor projects related to natural heritage conservation? **CATALONIA (Spain)**
- What is your regional institution doing to protect biodiversity assets? What is your regional and local legal framework? **3. MARCHE REGION (Italy)**
- How the implementation of your action plan can help to pursue the Communitarian and national targets stated by (e.g. 2000/60/CE, Com (2011) 244 def.) for a better biodiversity governance? **3. MARCHE REGION (Italy)**
- 1. The 2014-2020 period brought significant changes in CAP. Beside several changes the use of public money required the more effective protection of natural values. The obligatory greening serves for that. An important part of that Ecological Focus Areas programme. What measures* are part of the EFAs programme in your region and in what volume do they use them? What is the opinion on those? on a scale between -3 and +3 **NORTH GREAT PLAIN REGION (Hungary)**
- The 5% arable land obligation (now EFAs) will stay after 2020. How can those be made more effective or what biodiversity conservation supporting measures/schemes do you suggest? *measures: choice of elements that farmer may us **NORTH GREAT PLAIN REGION (Hungary)**
- How improve public financing with a dynamic instrument assumed by all stakeholders? Encourage quality criteria in projects. Promote the culture of biodiversity protection. Evaluate the principles and criteria – and adapt them **Basque Country (Spain)**

This document was authored by the BID-REX partner National
Institute of Biology of Slovenia