BID-REX Euskadi

Criteria Guide and Action Plan

From Biodiversity Data to Decisions: enhancing natural value through improved regional development policies

4th Local Stakeholders Meeting

November 20 and 21, 2018

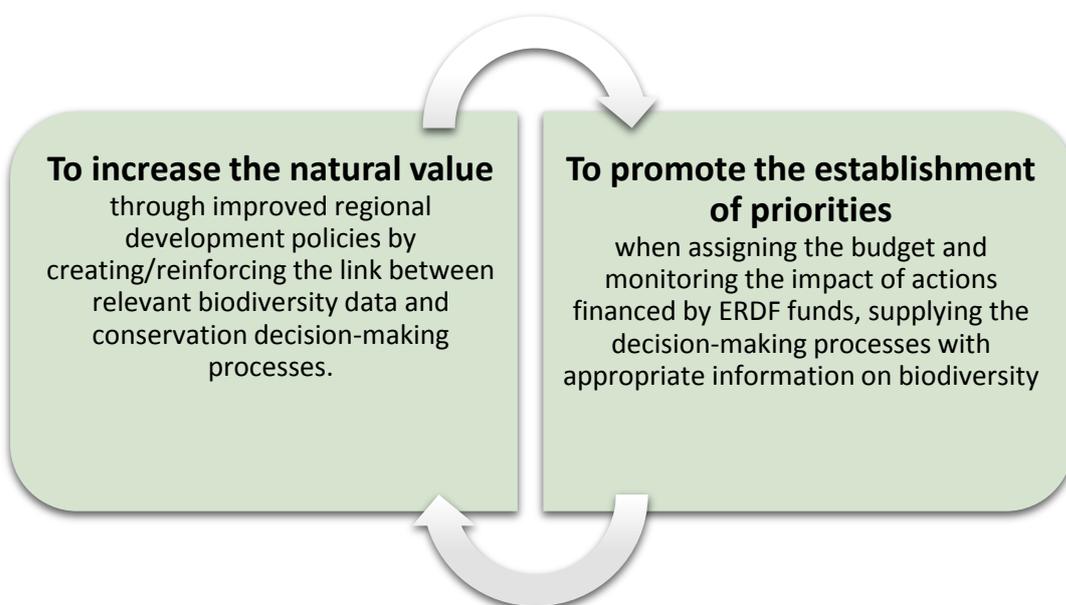**Ekoetxea Txingudi - Gipuzkoa**

Content

THE PROCESS

Numerous organisations and initiatives contribute to generating information and scientific knowledge of biodiversity and ecosystem conservation services; all of this information is relevant for making decisions, producing regulations and defining future political strategies.

However, there is still no recognised, validated mechanism that allows the compilation, synthesis, and analysis of all of this information and facilitate this decision making process.

To rectify the situation, the Basque Government Department of the Environment has joined forces with the European BIDE-REX project, seeking **to strengthen the science-policy interface on biodiversity and the ecosystem services with the aim of contributing to the conservation and sustainable use of biological diversity, human welfare and sustainable development.**

THE PROJECT

BID-REX is a 5-year long (April 2016-March 2021) European project funded by the Interreg Europe programme with a two-pronged objective:

To increase the natural value through improved regional development policies by creating/reinforcing the link between relevant biodiversity data and conservation decision-making processes.

To promote the establishment of priorities when assigning the budget and monitoring the impact of actions financed by ERDF funds, supplying the decision-making processes with appropriate information on biodiversity

6 other European regions (Catalonia, Norfolk county (the UK), the Marche Region (Italy), Ljubljana Marsh (Slovenia), the Region of the Northern Great Plain (Hungary) and Wallonia (Belgium) are also participating alongside the Basque Government's Department of the Environment.

This shared learning process is focussed on achieving:

- •**Improved prioritising of biodiversity conservation efforts**, using methods based on available evidence on biodiversity and the environment

- •**A guide on how to obtain and use biodiversity data** to increase impact of the funds assigned to conserving Europe's natural heritage

- •As a result of this interregional exchange, the partners and players involved will improve **their biodiversity information management skills**

PARTICIPATORY MEETING: DESIGN AND CONTENT

This document contains a summary of the main contributions made at the fourth regional participatory workshop held on 20 and 21 November 2018 at Ekoetxea Txingudi (Irun-Gipuzkoa), which was attended by 37 people.

The workshop was organised by the Basque Government's Department of the Environment within the framework of the 2018 Social Forum on Biodiversity, in collaboration with Innobasque, to ensure the continuity of the process launched on a regional basis on February 2017 that accompanies the Europe-wide process taking place.

FOCUS OF THE MEETING

While the previous regional workshops focused on the need for decision-making information (strengths and weaknesses, the relevance of the information collected, etc.), and how to improve the flow of information, this fourth meeting was designed with a double objective:

Agree and prioritize the criteria to be included in the Guide to identify and prioritize projects

Contrast and enrich the Action Plan

The main contents addressed in the sessions, and the support materials, both the presentations and the participatory dynamics are available in the following link:
http://www.euskadi.eus/evento/foro-social-de-la-biodiversidad-de-euskadi-2018/web01-a2ingdib/es/

Bellow is shown a structured summary of the contributions made at this meeting.

ACTION PLAN

OBJECTIVES OF THE ACTION PLAN

In the framework of the BID-REX project, each of the participating regions must address the elaboration of an Action Plan based on the learning experience and the lessons learned, in order to improve the political instrument addressed in each region.

In the case of Euskadi, this Action Plan, in the opinion of the people attending the workshop, should also be useful for:
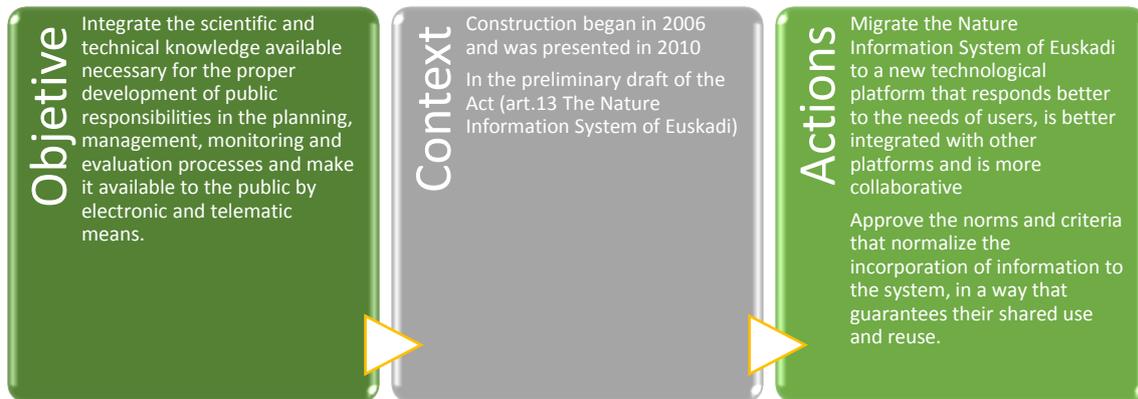
FRAMEWORK
•Establish the rules of the game and a framework that provides stability and security in the medium term to the stakolders involved in the collection and use of data and information and in the generation of useful knowledge for the conservation of nature and in the generation of public value .

CRITERIA
•Design, in a collaborative manner, the criteria for investment and public support for the protection of biodiversity so that they have continuity beyond administrative or political changes and provide a safety and support network for both public and private stakeholders (organized civil society, companies, etc.)

QUALITY
•Provide the system with greater effectiveness and efficiency and of higher quality, guiding the collaborative action to those critical areas of special interest.

The Action Plan for the Basque Country establishes 5 focal issues as a basis for the actions that will be developed in these next two years:

1) Nature Information System
2) Network of Knowledge
3) Create and integrate expert knowledge
4) Criteria for public financing
5) Citizen science

Based on an initial diagnosis that provides the necessary context to make contributions, the participants in the workshop had the opportunity to identify critical elements for its deployment: moments of opportunity and risks for its implementation.

The following is a structured summary of the starting point and the contributions collected:
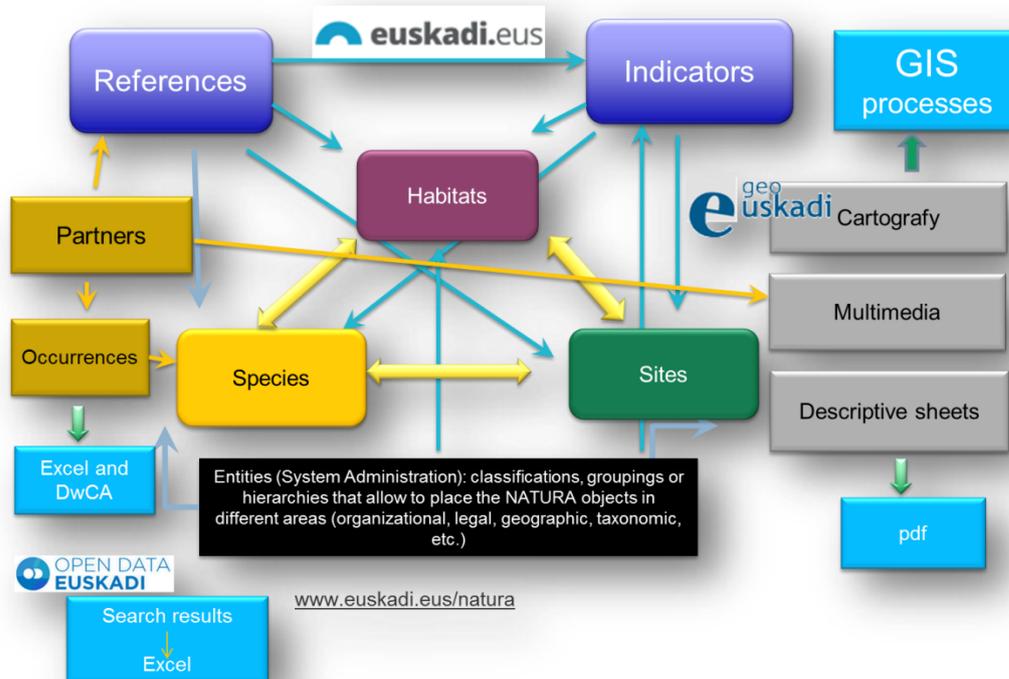
1) NATURE INFORMATION SYSTEM

Objetive
Integrate the scientific and technical knowledge available necessary for the proper development of public responsibilities in the planning, management, monitoring and evaluation processes and make it available to the public by electronic and telematic means.

Context
Construction began in 2006 and was presented in 2010

In the preliminary draft of the Act (art.13 The Nature Information System of Euskadi)

Actions
Migrate the Nature Information System of Euskadi to a new technological platform that responds better to the needs of users, is better integrated with other platforms and is more collaborative

Approve the norms and criteria that normalize the incorporation of information to the system, in a way that guarantees their shared use and reuse.
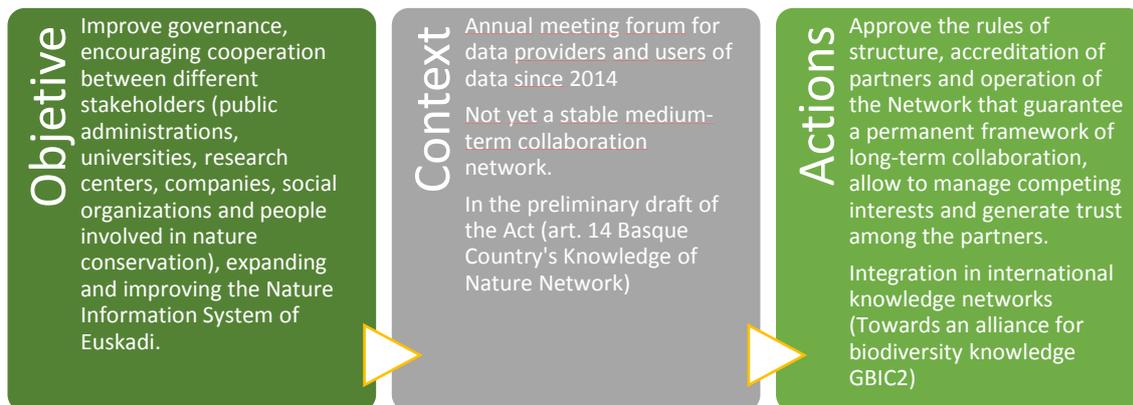
This axis was not specifically worked on in the participatory dynamics, although the initial diagnosis was shared and also the actions that should be implemented to update and develop it.

The current information system began to be developed in 2006 and was presented in 2010. Although it has a good conceptual and functional design, today there are technological advances and platforms that can improve its quality.

Its initial design focused on a robust architecture, and on providing the system with functionalities, but it was not focused on being a platform that facilitated and promoted collaboration among the data users and data providers. It is proposed, therefore, to migrate in a modular way towards a more modern architecture, in which it is easy to connect and incorporate data into the system and promote more automated processes. It is positively valued to move towards a shared system.

2) NETWORK OF KNOWLEDGE

Objetive
Improve governance, encouraging cooperation between different stakeholders (public administrations, universities, research centers, companies, social organizations and people involved in nature conservation), expanding and improving the Nature Information System of Euskadi.

Context
Annual meeting forum for data providers and users of data since 2014

Not yet a stable medium-term collaboration network.

In the preliminary draft of the Act (art. 14 Basque Country's Knowledge of Nature Network)

Actions
Approve the rules of structure, accreditation of partners and operation of the Network that guarantee a permanent framework of long-term collaboration, allow to manage competing interests and generate trust among the partners.

Integration in international knowledge networks (Towards an alliance for biodiversity knowledge GBIC2)

The network of knowledge seeks to improve governance and connect public and private agents who work to preserve diversity.

As such, it has been included in the preliminary draft of the Act on Natural Heritage: understanding that beyond expert committees, it is necessary to develop a collaborative network where open knowledge is generated and information is contrasted and validated. A network that complements an advanced and connected technological infrastructure.

Moving towards a common and shared approach (for example, developing an alliance for the knowledge of biodiversity) implies assuming a more active role and a framework of co-responsibility (where there is a declaration of responsibility of the stakeholders that participate in it).
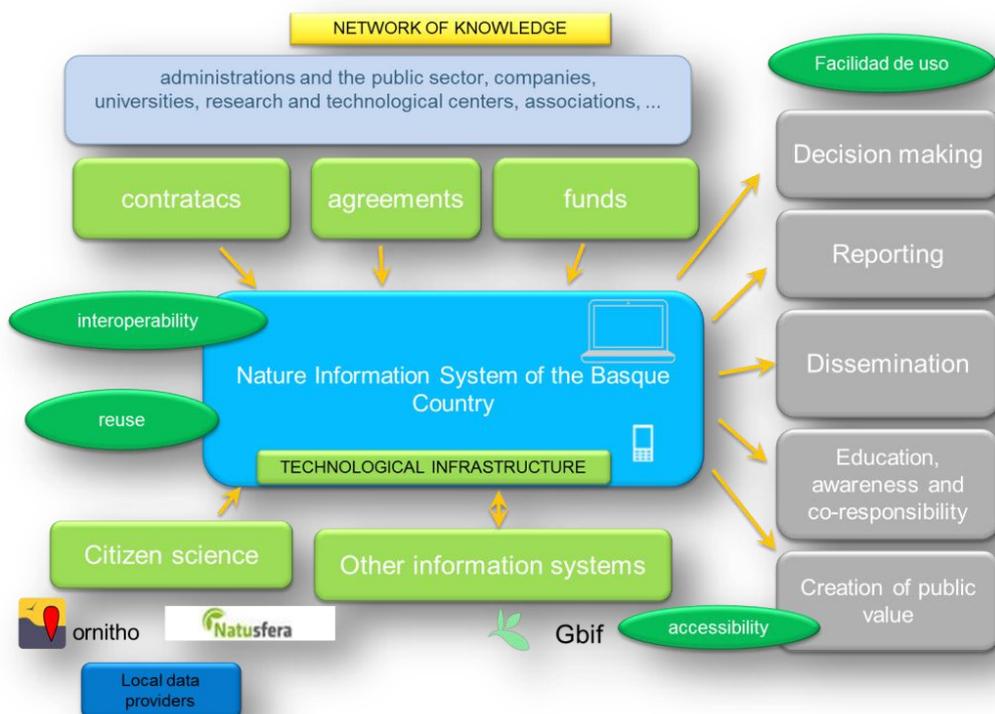
One of the conclusions of the participatory workshop is that this is a key issue to advance and realize a **public - social long - term collaboration model**, but also to improve coordination between the different public administrations.

The network must be a tool **to drive the social involvement** and the generation of public value, but for this, it must promote the involvement of key stakeholders from its origin, so **communication** will be a key element. Likewise, a **lead-centre of inter-administrative coordination** will be necessary to promote and give internal coherence to the work of the network.
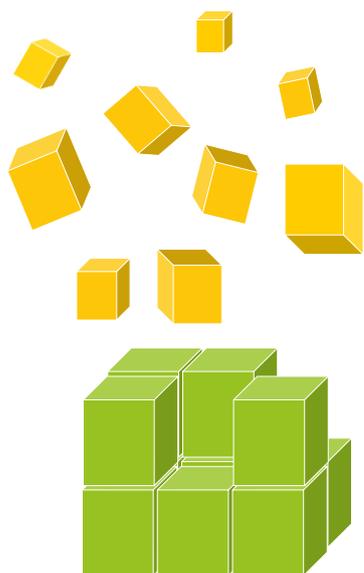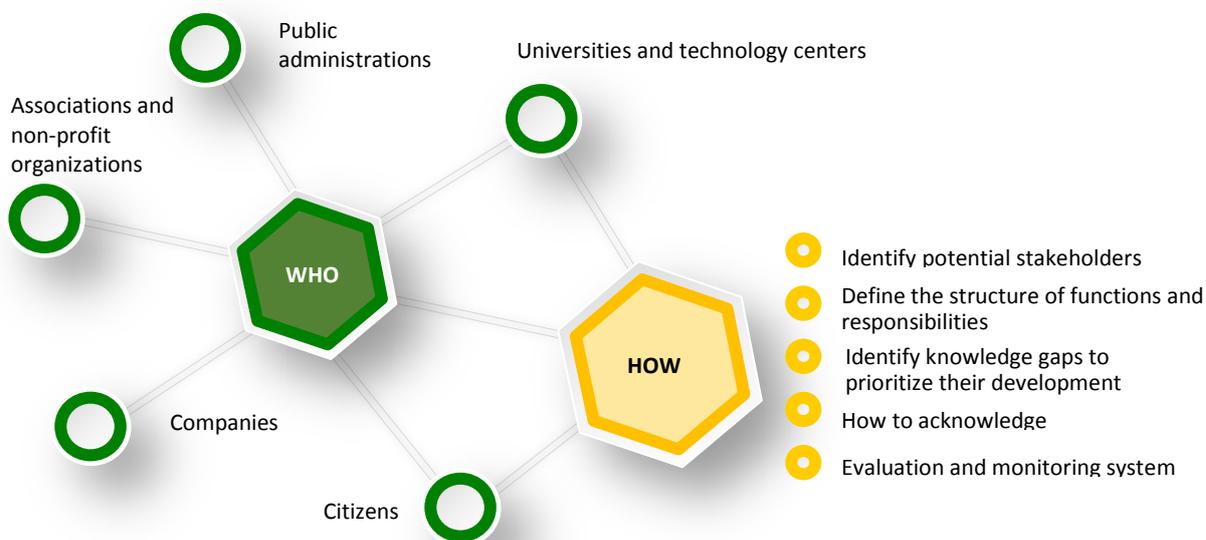
CHALLENGES

- Coordination between administrations as a core
- Communication - internal communication plan, adapted to the stakeholders, and external (network value and support the network)
- Involvement of key stakeholders: technology centers, universities
- Social activation

PRINCIPLES

- Collaboration and coordination
- Driving forces
- Involment
- Public value

Finally, the knowledge network must be articulated as a **dynamic** scenario that enables the **communication, training and co-creation** of the stakeholders that participate in it.

How to design a network of knowledge?

Public administrations

Universities and technology centers

Associations and non-profit organizations

WHO

HOW

- Identify potential stakeholders
- Define the structure of functions and responsibilities
- Identify knowledge gaps to prioritize their development
- How to acknowledge
- Evaluation and monitoring system

Companies

Citizens

9

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3) CREATE AND INTEGRATE EXPERT KNOWLEDGE

Objetive

Integrate different types of knowledge: field knowledge, ecological, administrative and management, ICT, Big Data, Internet of Things, intelligent specialization, policy evaluation and Open Government and scientific dissemination in order to achieve a greater understanding of ecological processes in a socioeconomic context that allows a better evaluation and communication of public action.

Context

Traditionally the expert knowledge that has been used is the most directly related to nature

In the BID-REX project we are incorporating aspects of social innovation and public governance with Innobasque within the framework of the PEGIP 2020 (Strategic Plan for Governance and Public Innovation) and the deployment of the White Paper on Democracy and Citizen Participation for Euskadi.

Actions

Find common spaces and languages that make visible the importance of the different levels and gears of the biodiversity protection system and agree on common guidelines for integration.

Apply technological innovation in the conservation of biodiversity (ICT, Big Data, etc.) to facilitate the collection of data and to promote a real evaluation that goes beyond the monitoring of actions and allows us to analyze the causalities and the relevance of the indicators.

Integrating knowledge implies, on the one hand, understanding the generation of knowledge in the field of biodiversity as a **value chain**, where each link has value in itself but multiplies it by connecting with the rest **contributing to the efficiency** of the system and **saving the existing gap between research and management**.

- Ground knowledge
- Ecological knowledge

- Knowledge for disseminating
- Educational knowledge

INFORMATION PRIMARY DATA

EVALUATION COMMUNICATION

- Administrative knowledge
- Management knowledge
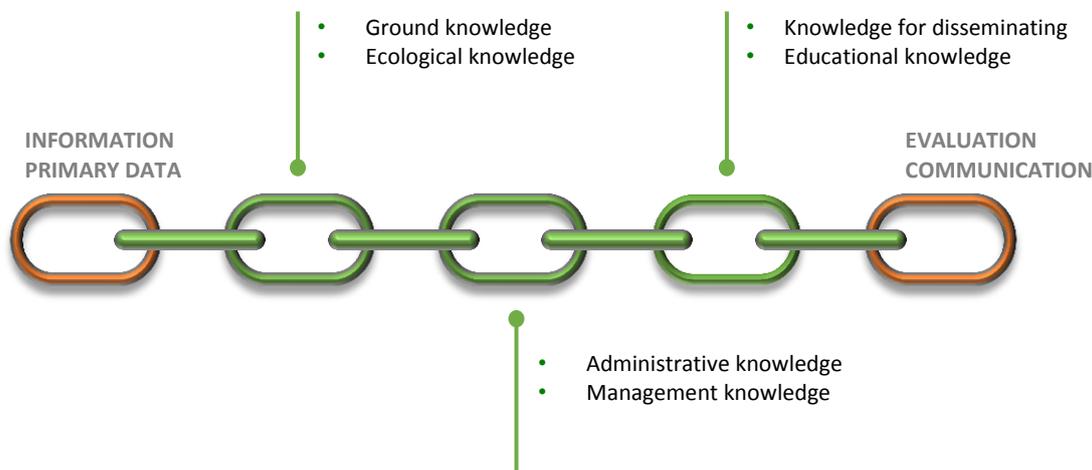
On the other hand, **connecting knowledge in biodiversity with other fields and disciplines** (technological, socioeconomic, etc.) makes it **more visible**.

In today's society there is a great disconnection with nature from which we must become aware, which makes it necessary **to connect biodiversity knowledge with other areas of knowledge** (open government, social innovation, etc.).

It is also essential to **apply technological innovation in the conservation of biodiversity** (ICT, Big Data, etc.) **to improve the collection of data and to promote a real evaluation** that goes beyond

the monitoring of actions and allows us to analyze the causalities and the relevance of the indicators.
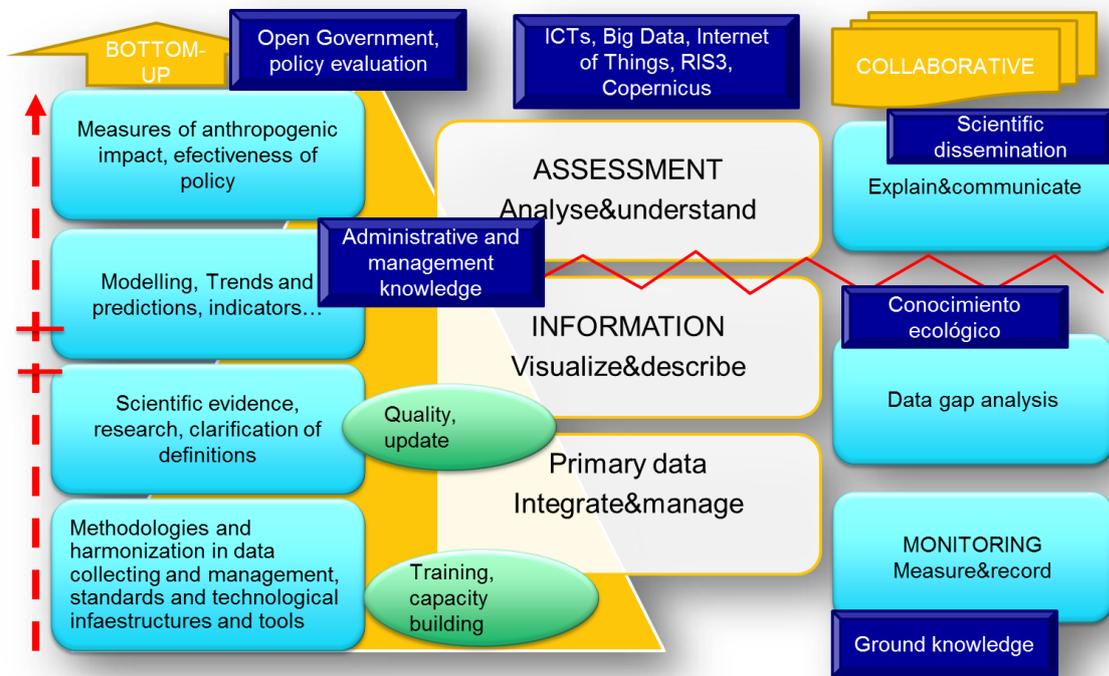
It is necessary, therefore, to find **common spaces and languages** that make visible the importance of the different levels and gears of the biodiversity protection system and agree on common guidelines for integration.
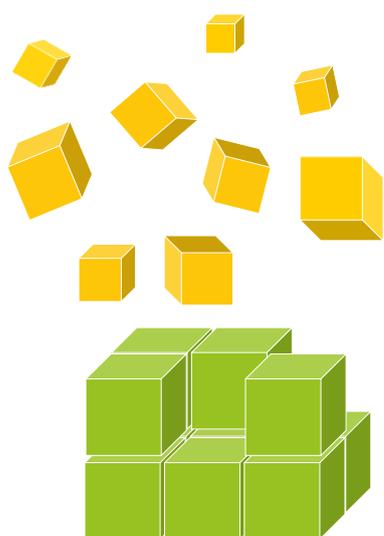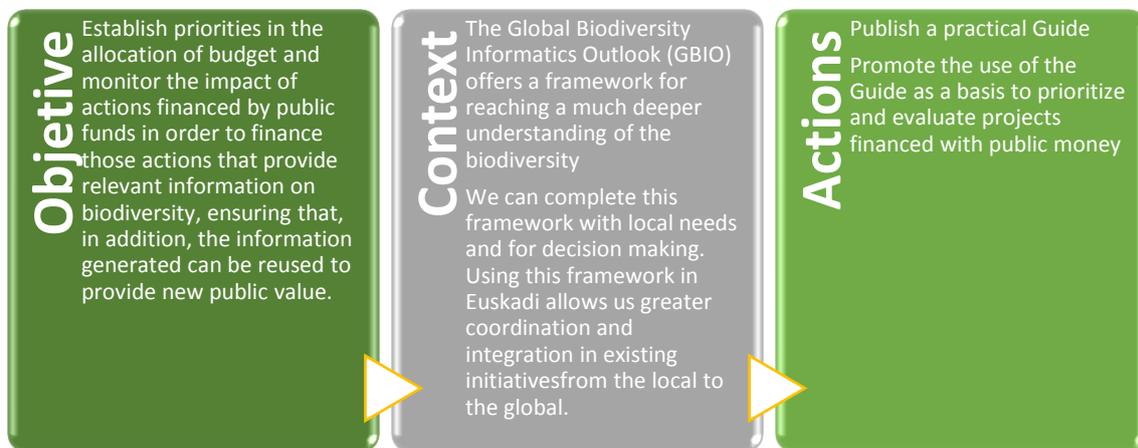

CHALLENGES

- Find common languages
- Gap between research and management
- Develop new methods to establish priorities

PRINCIPLES

- Innovation
- Connection
- Shared spaces

4) CRITERIA FOR PUBLIC FINANCING

Objetive
Establish priorities in the allocation of budget and monitor the impact of actions financed by public funds in order to finance those actions that provide relevant information on biodiversity, ensuring that, in addition, the information generated can be reused to provide new public value.

Context
The Global Biodiversity Informatics Outlook (GBIO) offers a framework for reaching a much deeper understanding of the biodiversity

We can complete this framework with local needs and for decision making. Using this framework in Euskadi allows us greater coordination and integration in existing initiativesfrom the local to the global.

Actions
Publish a practical Guide

Promote the use of the Guide as a basis to prioritize and evaluate projects financed with public money

To date, we have worked in a framework of subsidies (to companies and NGOs), agreements (Aranzadi and University) and contracts (mostly minor contracts, given the atomization of agents in the sector). The new law on public procurement supposes a difficulty to contract with small suppliers and makes even more necessary a **stable framework that regulates the rules of the game and that establishes criteria** that allow:

- **Not only obtain information, but also promote the culture of nature conservation**
- **Carry out an effective evaluation of results**

Encouraging the participation of agents in the establishment of these criteria (which will be included in a guide) allows the incorporation of their suggestions and the possibility of contrasting this framework and giving it a **shared nature.** Their linkage and participation is important, **not only to define funding criteria, but also to help public institutions when establishing priorities.**
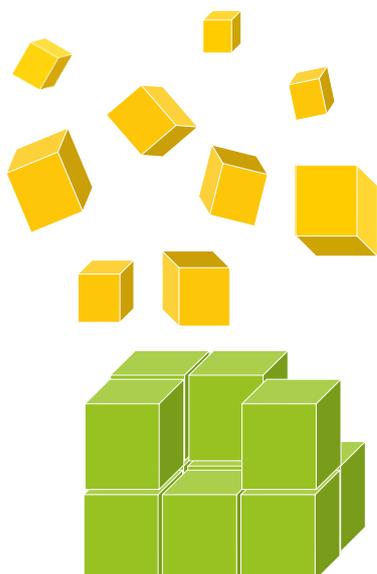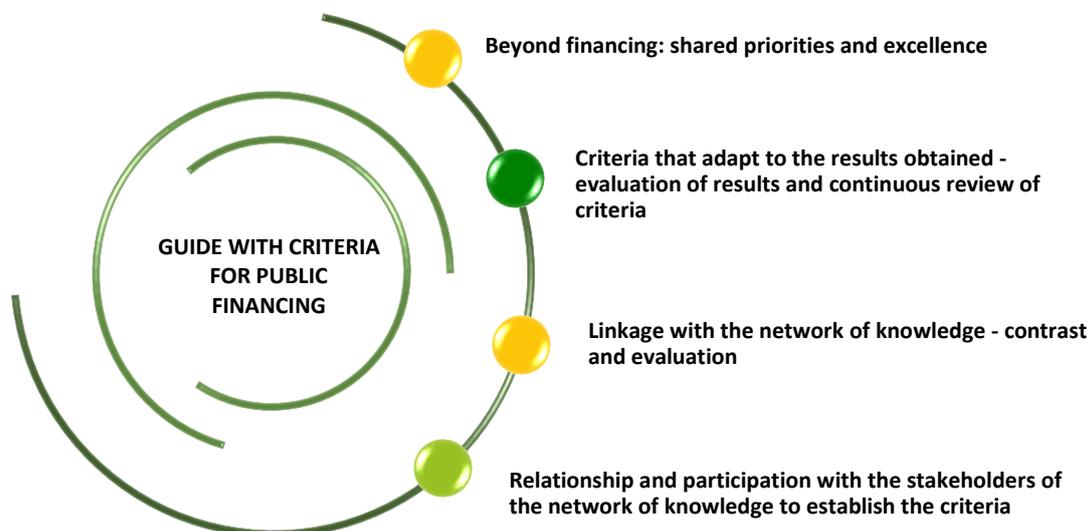
CHALLENGES

- Encourage quality criteria in projects
- Promote the culture of biodiversity protection
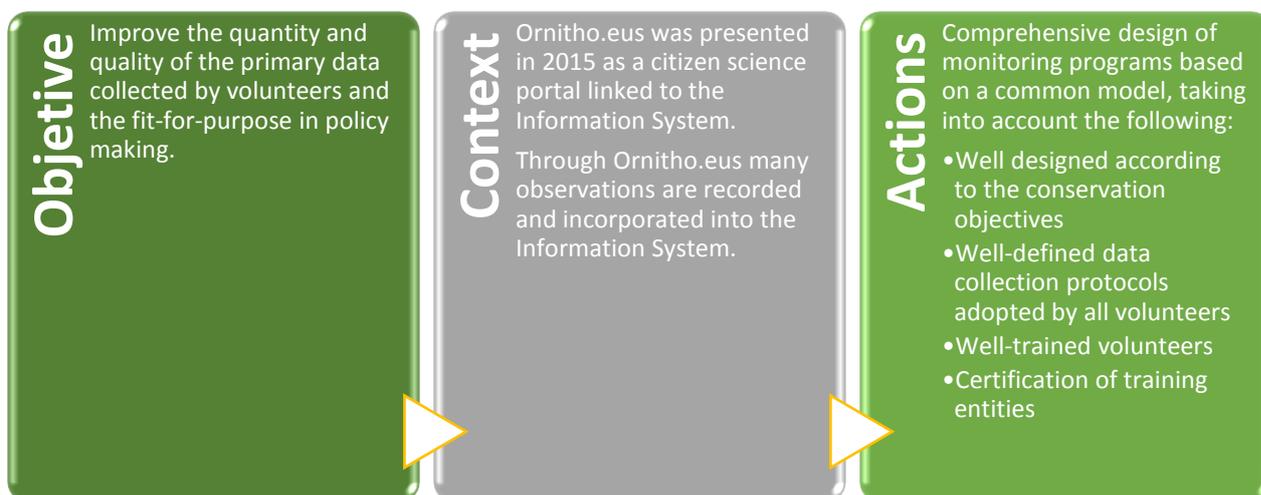- Evaluate the principles and criteria - adapt them

PRINCIPLES

- Participation
- Shared priorities
- Transparency and accountability

The Guide should be a useful and adaptive instrument, both in its design and in its deployment for public and private stakeholders:
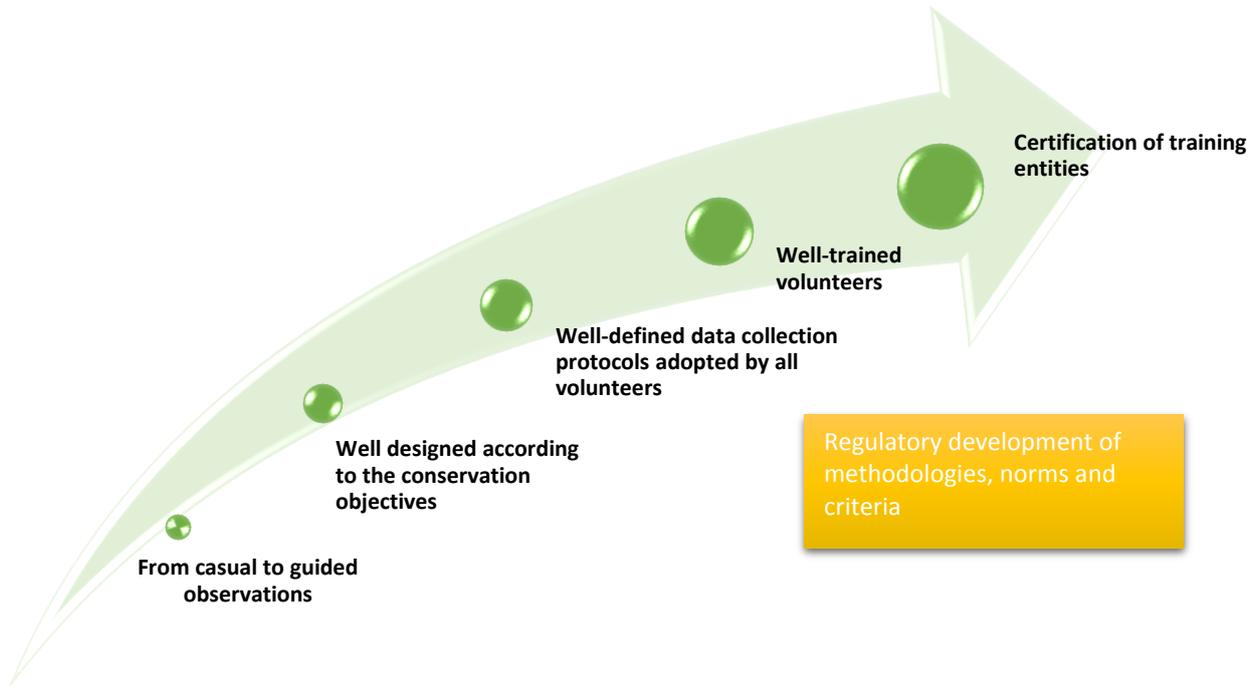

GUIDE WITH CRITERIA FOR PUBLIC FINANCING

- Beyond financing: shared priorities and excellence
- Criteria that adapt to the results obtained - evaluation of results and continuous review of criteria
- Linkage with the network of knowledge - contrast and evaluation
- Relationship and participation with the stakeholders of the network of knowledge to establish the criteria

5) CITIZEN SCIENCE

Objetive
Improve the quantity and quality of the primary data collected by volunteers and the fit-for-purpose in policy making.

Context
Ornitho.eus was presented in 2015 as a citizen science portal linked to the Information System.

Through Ornitho.eus many observations are recorded and incorporated into the Information System.

Actions
Comprehensive design of monitoring programs based on a common model, taking into account the following:
- Well designed according to the conservation objectives
- Well-defined data collection protocols adopted by all volunteers
- Well-trained volunteers
- Certification of training entities

Citizen science is already a reality, which in addition to providing valuable information to the system, can contribute to formulating new questions about biodiversity and its value. In this context, it is important to guarantee the quality of the scientific data and the adaptation to the objectives established in the policies and regulations.

For this we need a design of monitoring programs well oriented to conservation objectives, rigorous but accessible protocols and, above all, that the effort made by thousands of volunteers is oriented towards the objectives of conserving and protecting the environment and promoting the resource efficiency. That is, we must take the necessary steps to move from casual observations to guided observations.
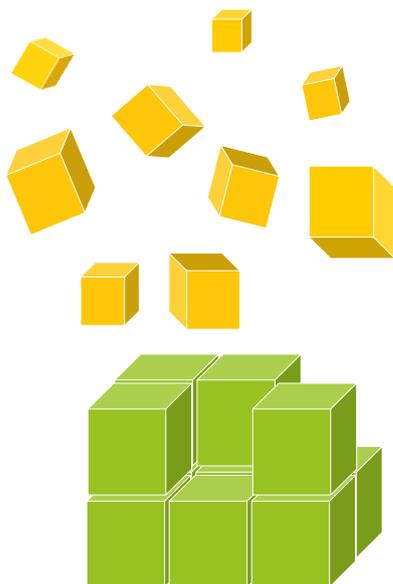
This necessarily implies having well-trained volunteers. In this sense, a reference practice is the Volunteer Training Pathway used by the Field Studies Council, FSC, from UK.

Certification of training entities

Well-trained volunteers

Well-defined data collection protocols adopted by all volunteers

Well designed according to the conservation objectives

Regulatory development of methodologies, norms and criteria

From casual to guided observations

Volunteer training pathway

Knowledge	National Expert Level
Skills	Regional Expert Level
Motivation	Advanced Level
Confidence	Intermediate Level
	Beginner Level
	Introductory Level
	General Population

FSC BioLinks Development Plan for Training Provision   © Field Studies Council

Citizen science must consider factors of quality and quantity, incorporating the geographical variable (extend it where data are needed) and conservation needs (on what species do not have data). Citizen science, moreover, is not just a strategy of approaching citizens committed to the conservation of nature. It is also a useful approach to reach other agents who can provide data to the system (for example: mountain clubs, hunting federations, fishermen, farmers, retirees, ...)

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CHALLENGES
• How to validate the quality of the data
• Bottleneck – verifiers
• Management of expectations

PRINCIPLES
• Promote volunteering
• Give orientations (what and where)
• Quality and quantity

In a scenario of social demobilization ...

how to involve more people?

Enhancing motivation and the feeling of belonging, **making community**. It is necessary to **be correct in the story**, in how to tell the social value of what is done. Monitoring programs or educational trips can also be designed in collaboration with other local stakeholders.

Likewise, it is important not to demobilize, take care of and attend to people who voluntarily offer their time and knowledge. This necessarily implies managing expectations and responding to them (for example, in the case of invasive or problematic species, explaining why the administration does not act even though a person has been able to warn of its existence in a specific place). If there is no management or response by the administration to the generation of citizen information there is a break in the trust difficult to recover.

In an increasingly aged demographic profile ...

how to guarantee the generational change?

Undoubtedly, schools and educators who work with children and youth are a key element to raise awareness and stimulate the participation of new generations. Actions are developed to bring nature protection closer to schools, we have an Ekoetxeak network that has open educational activities. In any case, older people (retired in their majority) can contribute in an important way and have the time and mobility needed for these tasks.

how to develop a distributed validation process?

In this sense, it is mentioned the need to design and implement a validation process that, to the extent that it serves to validate data, generates trust (between the people who participate in the system and from the public administration to the system). A process that can be applied in the different existing platforms.

It is proposed to establish categories according to the level of training, where at a higher level, the data is considered more reliable and, therefore, a place of prevalence is assigned to the set of data visible in the system. It would also be desirable to incorporate the possibility to comment the quality of data and annotations for their use and application in management.

It is highlighted that not all platforms have reliable data (or equally reliable), so it could be interesting to even assess the possibility of having a system for verification and accreditation of the platforms as a starting point. Likewise, it is necessary to streamline the world of citizen science in the field of biodiversity (there is an excess of platforms, applications ...).

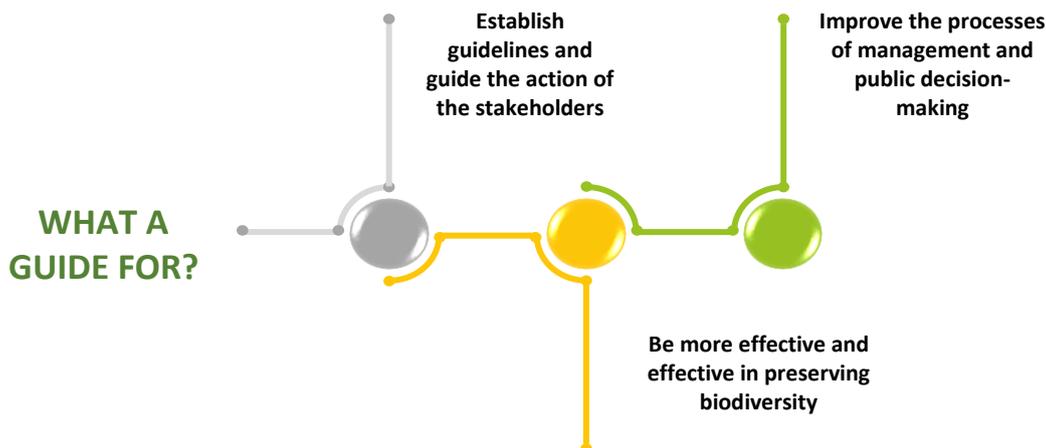**ELEMENTS TO BE TAKEN INTO ACCOUNT IN THE DEVELOPMENT OF THE ACTIONS OF THE ACTION PLAN**

FOCAL ISSUES	KEY ELEMENTS
INFORMATION SYSTEM	➢ Migrate in a modular way towards a more modern architecture.
	➢ Make it easy to connect and incorporate data into the system.
	➢ Promote more automated processes.
NETWORK OF KNOWLEDGE	➢ Moving towards a system with a common and shared focus
	➢ Develop a collaborative network where open knowledge is generated and information is contrasted and validated.
	➢ Promote a model of long-term public-social collaboration: lead-centre of inter-administrative coordination, improve coordination between the different administrations, drive the social involvement, generate public value.
	➢ Address communication as a key element.
	➢ Articulate as a dynamic scenario that enables communication, training and co-creation of stakeholders.
INTEGRATION OF EXPERT KNOWLEDGE	➢ Understand the generation of knowledge in the field of biodiversity as a value chain that contributes to the effectiveness of the system.
	➢ Bridging the gap between research and management
	➢ Connect knowledge in biodiversity with other fields and disciplines (technological, socioeconomic, etc.) It becomes more visible.
	➢ Connect knowledge in biodiversity with other areas of knowledge (open government, social innovation, etc.).

FOCAL ISSUES	KEY ELEMENTS
	➢ Apply technological innovation in the conservation of biodiversity (ICT, Big Data, etc.) to improve the collection of data and to promote a real evaluation.
	➢ Find common spaces and languages that make it possible to visualize the importance of the different levels and gears of the system.
	➢ Agree on common guidelines for integration.
CRITERIA FOR PUBLIC FINANCING	➢ Define a stable framework that regulates the rules of the game and that establishes criteria.
	➢ Not only get information, but also promote the culture of nature conservation.
	➢ Carry out an effective evaluation of results.
	➢ Promote the participation of stakeholders in the establishment of these criteria.
	➢ Give it a shared nature.
	➢ Not only to define the criteria for financing, but also to help public institutions when establishing priorities.
CITIZEN SCIENCE	➢ Contribute to formulate new questions about biodiversity and its value.
	➢ Move from casual observations to guided observations.
	➢ Design of monitoring programs well oriented to conservation objectives with rigorous but accessible protocols.
	➢ Have well-trained volunteers.
	➢ Certification system for training entities.
	➢ Consider quality and quantity factors, incorporating the geographical variable and the conservation needs.
	➢ Not just a strategy of approaching citizens committed to the conservation of nature. It is also a useful approach to reach other stakeholders who can provide data to the system.
	➢ Making community.
	➢ Monitoring programs or educational trips designed in collaboration with other local stakeholders.
	➢ Do not demobilize, care for and help people who voluntarily offer their time and knowledge.
	➢ If there is no management or response by the administration to the generation of citizen information there is a break in the trust difficult to recover.
	➢ Schools and educators who work with children and young people are key to raising awareness and stimulating the participation of new generations.
	➢ Older people (retired in their majority) can contribute in an important way and have the time and mobility needed for these tasks.
	➢ Design and implement a validation process that, to the extent that it serves to validate data, generates trust.
	➢ Establish categories according to the level of training.
	➢ Have a system for verification and accreditation of the platforms as a starting point.
	➢ Streamline the world of citizen science in the field of biodiversity.

GUIDE OF CRITERIA

OBJECTIVES OF THE GUIDE – STARTING POINT

As stated in the Action Plan, it is essential to have a shared criteria guide that serves to:

WHAT A GUIDE FOR?

Establish guidelines and guide the action of the stakeholders

Improve the processes of management and public decision-making

Be more effective and effective in preserving biodiversity

The partners in the design, and final users of the guide, will be both the local stakeholders that develop projects, as well as the public administrations. To the latter, the guide will serve to prioritize projects, allocate funds and monitor the impact of the actions financed. To the local stakeholders it will be a useful tool to design and implement projects that improve knowledge of the biodiversity of Euskadi.

1 **Prioritize projects**

2 **Allocate funds**

3 **Monitor the actions financed**

4 **Design and implement new projects**
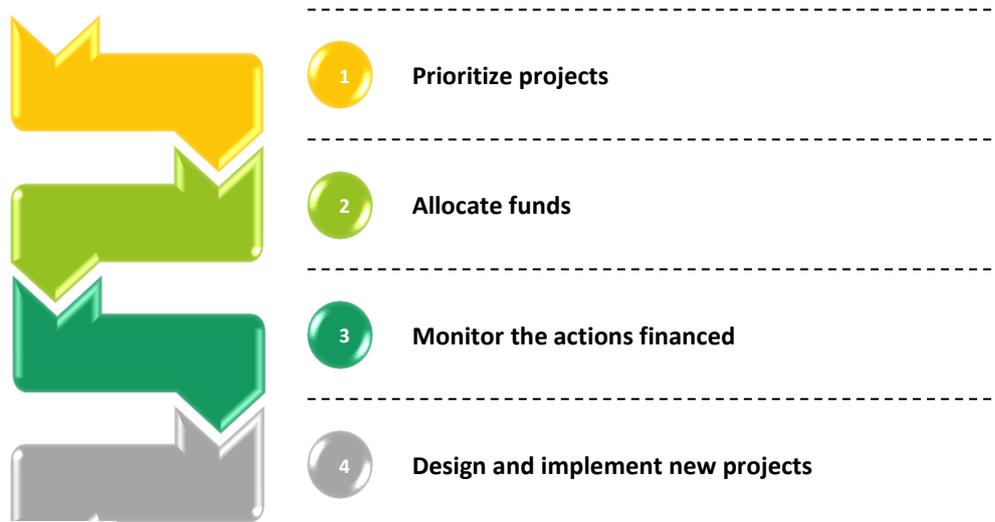
In this process of constructing criteria, the GBIO framework offers an opportunity to align efforts among all stakeholders and thus enable an integrated understanding of biodiversity.

The GBIO identifies four major focal areas, each with a number of core components, to help coordinate efforts and funding. The co-authors, from a wide range of disciplines, agree in 2012 these are the essential elements of a global strategy to harness biodiversity data for the common good.

CULTURE

Creating a culture of shared expertise, robust common data standards, policies and incentives for data sharing and a system of persistent storage and archiving of data.

DATA

Mobilizing biodiversity data from all available sources, to make them promptly and routinely available. Data should be gathered only once, but used many times. This includes data in all forms from historic literature and collections to the observations made by citizen scientists; from the readings of automated sensors to the analysis of the genetic signatures of microbe communities.

EVIDENCE

Providing the tools to convert data into evidence by enabling those data to be discovered, organizing them into views that give them context and meaning. This includes major collaborative efforts to improve the accuracy of data and their fitness to be used in research and policy; to provide a taxonomic framework; and to organize information about the traits of species and the interactions between them.

UNDERSTANDING

Generating understanding of biodiversity and our impacts upon it, by applying the evidence in models, tools for visualization and identifying gaps to prioritize future data gathering.

Using this framework in Euskadi, completing it and adapting it to our local needs, allows us to better coordinate and integrate with existing initiatives (from the local to the global). To incorporate it into the guide, it will also be necessary to incorporate a fifth dimension, that of decision making that allows us to establish an integrated monitoring, evaluation and information framework on the state of execution of policies that contribute to stopping natural deterioration, loss of biodiversity and the degradation of ecosystem services.

DECISION MAKING	Improve the results of policies to stop the loss of biodiversity using the best available knowledge.

To work on these criteria, a methodology and a dynamic in four phases, which is detailed below, was designed, although the contributions collected in the following pages are not presented in the order in which they were worked:
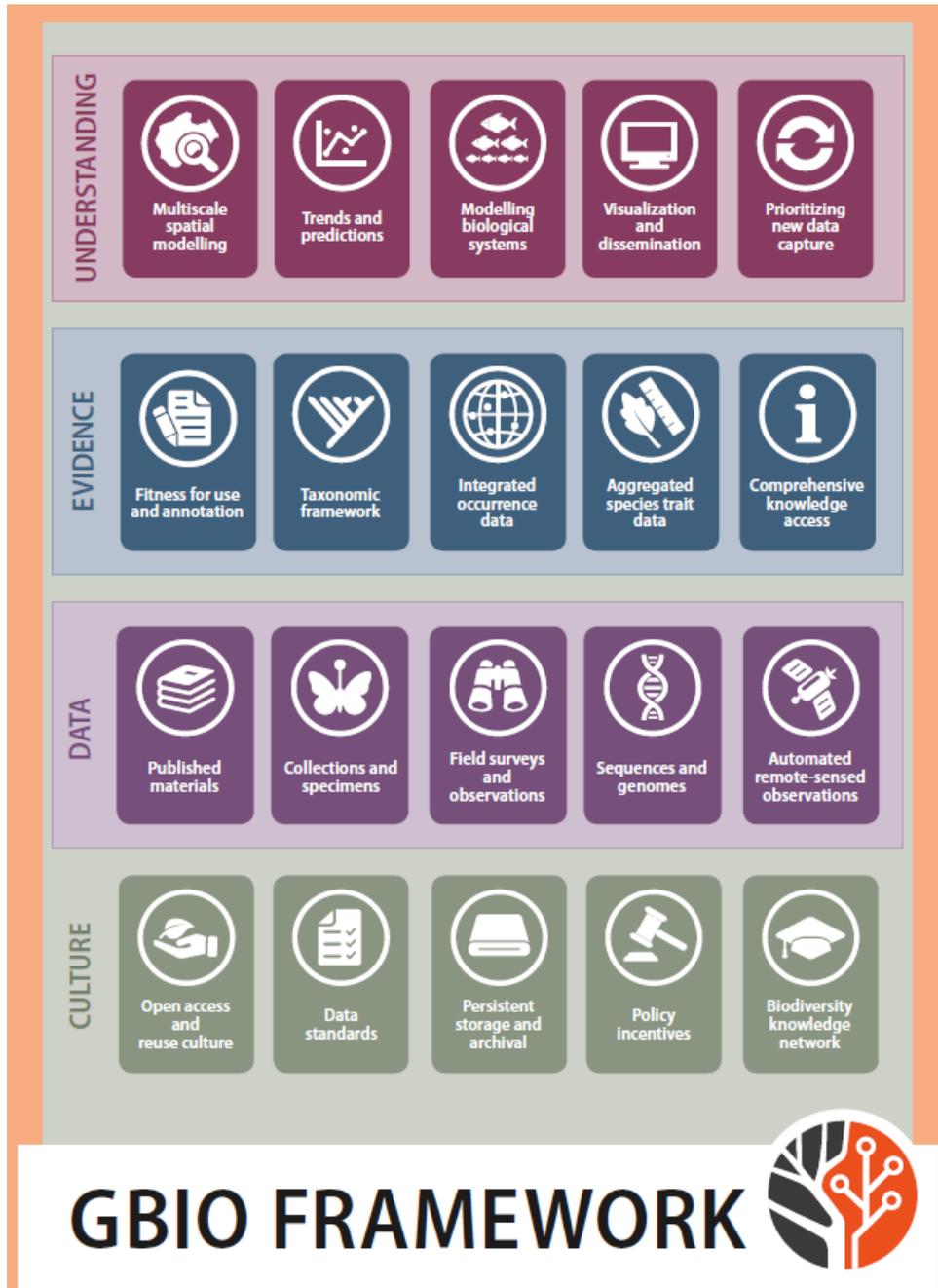
1) Based on 3 case studies, we worked on criteria to optimize the relationship and flow between data and the design of public policies on diversity.
2) Classification of these criteria in the GBIO framework
3) Starting from the previous reflection, prioritization of GBIO criteria to be included in the Guide
4) Contrast and prioritization of the criteria dimension for decision making.

BASIC PRINCIPLES TO INCORPORATE IN THE GUIDE

The criteria of the guide should incorporate, according to the opinion of the participants in the workshop, a vision of the escalated process that begins with the culture and ends with the decision making process. Likewise, it is necessary to combine and articulate the short and long term in their selection and prioritization.

To do this, the participants had as their starting point the complete matrix of criteria broken down into the 4 blocks of GBIO plus another added for decision making (see diagram)

UNDERSTANDING

- Multiscale spatial modelling
- Trends and predictions
- Modelling biological systems
- Visualization and dissemination
- Prioritizing new data capture

EVIDENCE

- Fitness for use and annotation
- Taxonomic framework
- Integrated occurrence data
- Aggregated species trait data
- Comprehensive knowledge access

DATA

- Published materials
- Collections and specimens
- Field surveys and observations
- Sequences and genomes
- Automated remote-sensed observations

CULTURE

- Open access and reuse culture
- Data standards
- Persistent storage and archival
- Policy incentives
- Biodiversity knowledge network

GBIO FRAMEWORK

DECISION MAKING

| Protection/regulatory frameworks | Priorities, objectives, measures | Indicators | Trust in data | Integrated knowledge |

These are the criteria prioritized by the participants in the workshop as the basis of the Guide:

UNDERSTANDING
- Trends and predictions
- Prioritizing new data capture
- Visualization and dissemination

EVIDENCE
- Comprehensive knowledge access
- Integrated occurrence data
- Fitness for use and annotation

DATA
- Published materials
- Field surveys and observations

CULTURE
- Data standards
- Persistent storage and archival
- Open Access and reuse culture

DECISION MAKING
- Priorities, objectives and measures
- Integrated knowledge

Beyond highlighting the great interdependence between the different criteria, the **data and generation of culture** dimensions are the most present when we reflect on the information and the flows and processes necessary to serve the decision making. The dimensions of **understanding and evidence**, on the other hand, are the most difficult to address in this logical framework.

DECISION MAKING

| Protection/ regulatory frameworks | Priorities, objectives, measures | Indicators | Trust in data | Integrated knowledge |

UNDERSTANDING

| Multiscale spatial modelling | Trends and predictions | Modelling biological systems | Visualization and dissemination | Prioritizing new data capture |

EVIDENCE

| Fitness-for-use and annotation | Taxonomic framework | Integrated occurrence data | Aggregated species trait data | Comprehensive knowledge access |

DATA

| Published materials | Collections and specimens | Field surveys and observations | Sequences and genomes | Automated, remote-sensed observations |

CULTURE

| Open access and reuse culture | Data standards | Persistent storage and archives | Policy incentives | Biodiversity knowledge network |

In any case, these are the main arguments used for prioritization:

Culture

- o The standards and culture of open access and reuse should be treated as interdependent variables.
- o The central part is a standardized database but its characteristics will be determined by the culture (whether they come from the expert community or from citizen science).
- o They are criteria that refer to a good starting base (necessary, though not sufficient) in which incentives could play an accelerating role (in the long term).
- o The common methodologies and protocols, the establishment of short and medium / long term objectives in the framework of the same actions and transparency in management are pillars to build an open and collaborative culture.
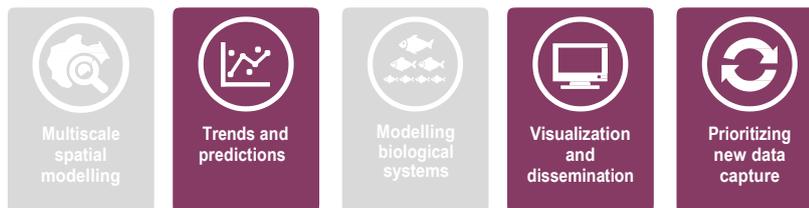
Data

- o **The field surveys and published materials take special relevance in this section if they are carried out in an open manner as a solid base.**
- o **In any case, it is emphasized by some participants that in the longer term, it is necessary to incorporate criteria linked to automated and remote observations and sequences and genomes.**
- o **The representative design of areas and species, the digital and simple access to information and bibliography and the oriented activation of citizen science together with that of the expert community are considered key aspects.**

Evidence

| Fitness-for-use and annotation | Taxonomic framework | Integrated occurrence data | Aggregated species trait data | Comprehensive knowledge access |

- o In this dimension it is important to empower the expert community to administer the information, generate evidence through permanent observations in time and space and integrate that knowledge.
- o For this it is necessary to train and build capacities, promote multidisciplinary work and coordination and update and give visibility to the results of the projects.

Understanding

| Multiscale spatial modelling | Trends and predictions | Modelling biological systems | Visualization and dissemination | Prioritizing new data capture |

- o Generate the conditions that allow a good comprehension necessarily implies the evaluation of patterns.
- o The result should be the maximization of research efforts through an evaluation that gives us guidelines to act and redesign and focus on capturing new data.
- o Sensitize, collaborate, publicize, value and contextualize protection zones and networks ... they are the first step to advance in the protection of biodiversity.

Decision making
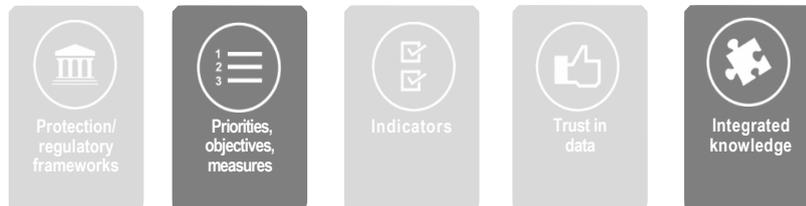
- o If we seek to reverse the trend of decline, beyond monitoring, it is necessary to mainstream policies and plans for the protection of biodiversity and that other departments also take it as their own priority (industry, infrastructure, education, urban planning ...).
- o Also, when defining priorities, objectives and measures, we transfer the protection framework to the action. It will not always be necessary to protect, sometimes it will be enough to manage and to manage it is essential to have indicators, build trust, etc.

BUT HOW CAN THESE CRITERIA BE ARTICULATED?

Given the interrelationality between the criteria, a good guide should not only incorporate principles but also ways to approach networking and the participatory evaluation of results and impacts.

As a result of participatory dynamics, three transformation plans have been classified where these criteria should be internalized and implemented:

PEOPLE

- **Identify key collectives**
- **Expand the social base and connect it**
- **Training**
- **Accreditation**
- **Acknowledgment**

PROCESSES

- **Standardization and protocols**
- **Ensure applicability - key data and causality**
- **Disseminate and socialize**
- **Short, medium and long term management - leadership**
- **Verification and filtering**

SPACES AND RESOURCES

- **New technologies - digital platforms**
- **Accessible and modular**
- **Interterritorial and supra-regional**
- **Multidisciplinary**