Prismàtic: Applied Research in Natural Heritage Managemer

Case Study Database

A compilation of good practices and lessons learned to bring innovative subnational solutions to global problems







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Introduction

One of the main concerns to tackle biodiversity loss and protect natural heritage is related to communication and awareness. It is argued that if the information is not conveyed in an understandable way, decision makers may overlook or fail to comprehend the seriousness of any particular environmental crisis.

Academic and scientific institutions provide a significant opportunity to forge strong and long-lasting collaborations. particularly like in technical areas data sharing, biodiversity monitoring and information sharing. The potential of current projects that involve academic, corporate and governmental institutions in information-sharing processes is illustrated by this case study.

Project Summary

Prismàtic is an online knowledge platform created to share the latest scientific developments about natural heritage and biodiversity in Catalonia, following European Union indications.

The project aims to strengthen collaboration between Public Administration and research centres, bridging the gap between science and its implementation.

The project also focuses on promoting dialogue between managers, public agencies and scientists in order to identify challenges, needs and common solutions.

Key Information

Location Catalonia, Spain

Areas of focus

Capacity building, sharing of knowledge, governance and community building

Investment

30.000 euros/year

Aichi Biodiversity Targets addressed

Strategic goal A (Target 1), Strategic goal B (Target 9) and Strategic goal E (Target 19)

Sustainable Development Goals addressed SDGs 6, 11, 13, 14, 15 and 17

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Hieraaetus fasciatusa. "Aguila Perdicera" by Paco Gómez

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TABLE OF CONTENTS

Background and context	4
Key activities and innovations	6
Environmental impacts	9
Socioeconomic impacts	10
Gender impacts	10
Policy impacts	10
Financial sustainability	10
Partnerships	11
Replication and applicability	12
About Regions4	13





BACKGROUND AND CONTEXT •

Obtaining information about biodiversity is fundamental for decision-making in the planning and management of natural heritage. The information allows us to know the natural wealth of Catalonia, evaluate the state of conservation of the different components of the natural heritage (species, habitats, geotopes, systems and natural spaces), and properly guide and prioritize management efforts.

According to the Catalonia Environment Strategy, the current knowledge about Catalonia's biodiversity can be considered very broad. After decades of prolific biological and naturalistic research, there is a remarkable knowledge of a good part of the groups of flora and fauna, ecosystems and elements of interest of the geological heritage present in the region. Two of the characteristics of this knowledge is that it is obtained in different areas and it is not centralized. In Catalonia there are 37 units in research centres and universities, dedicated to research, development and innovation, that generate data on biodiversity and natural heritage. Most of this information is collected in databases.

Due to its biogeographic location, its geological diversity and the mosaic of uses that have been

developed secularly in this territory, Catalonia has a very remarkable wealth of species, habitats and geological heritage. The diversity of habitats and species present in Catalonia is one of the highest in Europe, and also in the Mediterranean. It is one of the 34 territories with the greatest biodiversity on the planet and with the highest degree of threat (the so-called biodiversity hotspots). In the territory, there are more than 33,000 species and more than 650 different natural and semi-natural habitats, characterized by a high degree of endemicity.

However, Catalonia is no stranger to the global problem of bioinvasions by exotic and invasive species, nor to the pressures of human origin that affect the conservation of the species, ecosystems and ecological processes that make up the region's natural capital. The loss of biodiversity is a global crisis that also affects this region, as does climate change. The Living Planet Index calculation for Catalonia shows that in just 14 years the populations of 258 species of vertebrates and invertebrates has been reduced by at least 22%. Several monitoring programmes also corroborate this loss in terms of natural habitats in this region.

Gaining detailed knowledge of all the natural heritage



Pedraforca, Nature Park Cadí-Moixeró by Miki Pons







and biodiversity of Catalonia is a long-term challenge. Therefore, in order to achieve more effective planning and management of natural heritage and biodiversity, it is necessary to focus priorities on expanding and improving knowledge of the key components of natural heritage. That is, to evaluate and know the state of conservation of those components for which Catalonia has more responsibility for conservation. These preferred components are considered to be as follows:

- Species and habitats threatened in Catalonia or with high representativeness in the European geographical area
- Endemic species or species with high representativeness in Catalonia in the European geographical scope
- The key elements of the Natura 2000 Network
- The fundamental species for their functionality in ecological processes
- Species particularly vulnerable to the effects of climate change in Catalonia
- The species and habitats that are at the limit of natural distribution within Catalonia
- The particularly relevant elements of geodiversity
- The fundamental ecological processes of ecosystems: water cycle, biogeochemical or nutrient cycles, energy flow and community dynamics



Graugés Lake. "Llac de Graugés" by Fèlix González





KEY ACTIVITIES AND INNOVATIONS •

Prismàtic is an online knowledge platform aimed at sharing the latest scientific findings on natural heritage and biodiversity management in Catalonia.

The Department of Territory and Sustainability promoted the Prismàtic platform with the aim of supporting the design and implementation of more robust, effective and evidence-based natural environment and biodiversity management policies. The platform is coordinated by the Center for Ecological Research and Forest Applications (CREAF), a public research centre dedicated to terrestrial ecology, territorial analysis and global change. Their experience lies in the production and dissemination of knowledge, as well as innovation, development and transfer of methodologies.

Prismàtic works to gather as much scientific evidence as possible on environmental issues and bridge the gap between science and the on-the-ground application of policies related to nature and biodiversity. Traditionally, there has been a gap in the relationship between the fields of research and management. This is because scientific knowledge is sometimes difficult for nonscientific readers to understand, or does not translate its applicability in the field and in ongoing processes.

The website includes an intuitive search engine, which allows very specific searches and provides access to information in an easy and understandable format, adapted to the needs of the public. A good example of how the web works is that if a decision maker, for example a manager, needs to search for information on pollution and lakes, they can search the Prismàtic website for "inland waters" under "environmental filters" and "pollution" in the filter "management scope". In this way, in a single click, you can access the most relevant scientific information published so far by the experts working in Catalonia.



gestió i el control d'espècies exòtiques
invasores?
Las estudi nublicat tanz 2021

Objectiu	
Posar a disposic espècies exòtiqu tuacions relaci	ió del personal identitats i administracions que treballen al voltant de les les invasores una eina de recolzament per valorar i prioritzar les ac- onades amb el seu control.
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metoues ba	15105
El <u>Sistema d'Info</u> la primera base cades segons el 1.100 espècies e	IBILS imació de Spècies Exèlòques de Catalunya (EXOCAT) va ser l'impulsor de de dades boteris a de les espècies exèlòques presents a Catalunya, classifi au estat d'invasiá. Aquesta base de dades, ja compta amb més de xòtiques registrades.

Prismàtic website. Landing page, most read articles and specific article: "What needs to be prioritized when planning the management and control of exotic invasive species?"

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The platform also aims to be a collaborative space in which all Catalan research centres can participate and be members of the project. Through the collective creation of content, the available knowledge will be increasingly broad and will touch on very diverse topics related to biodiversity or the natural environment. In addition, Prismàtic aims to have a team of managers who, together with scientific communicators, ensure that the content covers all needs and follows a similar editorial style. Prismàtic goes beyond a knowledge platform, and that is why one of its objectives is to create an active community that maintains a constant dialogue.

Science and management practitioners can now discuss the shared challenges that climate change, biodiversity loss and nature degradation pose when planning and conserving land. In this way, scientific researchers will be able to focus more on the challenges on the ground and management will be able to improve, feeding on information or new initiatives and scientifically proven and highly innovative measures. The first step is to facilitate the direct search for information and contact with authors. From there, other collective spaces have been added to the platform, such as debate circles, meetings and the creation of a constant dialogue between participants and members through the digital space and social networks.

The knowledge is summarized in sheets that present the scientific results in a language accessible to managers and planners. Thus, thanks to Prismàtic, decision-makers will be able to save time in the search for information and will be up to date with the latest advances that science brings to the management of the natural environment in issues related to biodiversity, forests, climate change or land management.

Prismàtic allows the creation of a dialogue between managers and researchers and, therefore, facilitates each archive with its direct contact through email. In this sense, the initial and main activity of the Prismàtic platform is to create a solid community within the scientific field willing to collaborate with the platform on a regular basis. To this end, collaboration agreements have been established with 22 regional research centres that carry out applied research and cover the forestry, agricultural, marine, urban and inland water fields. Each centre has designated a coordinating person who is in direct contact with the coordination of the platform.

Secondly, the platform aims to collect and present the best information and research available in an attractive and user-friendly way. In this sense, a model sheet has been created that serves to summarize the articles, manuals or scientific reports in a standard format. This model is the one that each centre can fill in every time it wants to upload information to the platform. To achieve the editorial standard, a style manual has been created with good practices and guides that serve to ensure that the writing is informative and results oriented. The platform also has a coordinator who reviews and edits all files to follow a common style.

Another important activity has been the creation of a platform that is easy to use and collaborate on. All the files written by the collaborating centres are posted on an open web platform. This platform is built on a content manager with editing and hierarchy roles that allow each participating entity to enter and upload their own files, so that later the editor can review, edit, and publish and upload a final version of the contribution. Each document is loaded with the information of the study and classified into a wide variety of sections, areas of application, territorial scopes and keywords. The intuitive search engine allows users to find accurate information in a matter of seconds. The search engine also allows users to search without filters.

Moreover, there has been an activation of its own communication channels and community dynamics. Prismàtic, in addition to being a platform, aims to be a community where people from the world of science meet and exchange dialogue with managers and executors. Therefore, each tab of the platform has a form of evaluation of the file and a direct contact with the centre that has uploaded the file that allows users to request more information.







Additionally, with this same desire for dialogue, Prismàtic has a monthly newsletter with the news of the platform, the most read files and the highest valued. On the other hand, it has an active Twitter account from which it disseminates to society in general and to managers and executors news and other initiatives of interest. The platform releases, on an annual basis, an Annual Report that summarizes the files uploaded to the platform. The reports are intended to be a map of knowledge around important issues and areas. Likewise, Prismàtic organizes an annual conference that serves as a meeting point between the scientific entities that are part of the initiative and its target audience.

Finally, the platform hosts and promotes "coffee meetings" between scientists, managers and decision-makers. Virtual meetings last one hour, around lunchtime, and are held once or twice a month. The objective is for researchers to share, in conversation, the latest developments in their field of research to inform managers and technicians of the latest achievements and discoveries in their fields. They can also answer attendees' questions and interact in a relaxed way with them. Each session of Café Prismàtic is recorded and available on YouTube. This space has the dual objective of transferring knowledge from science to society and promoting dialogue between scientists, managers and decision-makers.

The Prismàtic Knowledge Platform is the first collaborative environment that exists in Spain. It is a platform that seeks to provide not only the translation of research into a language adapted to the technical and managerial public, but also the dialogue with these audiences to identify challenges, needs and common solutions.



Schedule of Café Prismàtic meetings from the Prismàtic website





ENVIRONMENTAL IMPACTS •

The results obtained to date (September 2022) are summarized in the following performance indicators:

- Prismàtic has signed agreements with 22 research centres, which actively participate in the platform.
- There are currently 386 files published and uploaded to the platform.
- The website receives 8,500 visits annually, with an average duration of 2 minutes and 10 seconds per page.

The platform follows the indications coming from the European Union that aim to encourage the participation of end-users of research with editors and researchers. This, on the one hand, makes it easier for researchers to focus on obtaining useful results and, on the other, for proposals that come from the community to be better accepted and adopted in future environmental policies.

Similarly, managers are required to make decisions based primarily on the latest scientific evidence and to do so in an agile manner. Prismàtic is the first platform in which 22 research centres work together publishing information with a shared objective. It is the only portal where managers can access the most relevant and innovative information in their fields, based on proven and carried out scientific studies. It is a space in which to channel the needs and practical demands of information.

In relation to environmental impacts, in particular, it is difficult to measure them since there is no set of indicators or metrics of the project to measure its environmental impact. However, considering the objective of the project to support the design and implementation of more robust, effective and evidence-based natural environment and biodiversity management policies, its positive impact on environmental policies is assumed through the scope of information.

Through Prismàtic's Annual Impact Report, it can be determined that the platform has provided environmental information to a large number of people. In total, the platform has had almost 9 thousand unique visits in 2021 (8,935) and more than 800 subscribers to the monthly newsletter.

The environmental themes of the most visited articles from the beginning of 2020 to the end of 2021, and therefore with the most impact, have been:

- Forestry, including:
- Collection of the habitats of Catalonia (359 views)
- What should we do with the burned forests (319 views)
- Placement of bat shelter boxes (336 views)
- The goshawk as an indicator of old and threatened forests (315 views)
- Invasive plague of an Asian beetle in Catalonia that kills mulberry trees (316 views)
- How to differentiate the indigenous peninsular pines (241 views)
- Pollinators:
- Measures to favor pollinators in environmental restoration (164 views)
- Soils with organic and mineral residues (159 visits)
- Invasive pests (163 visits)

Estany Llong. Ruta la Ribera de Sant Nicolau. Parc d'Aigüestortes i Estany de Sant Maurici by Albert Torelló







SOCIOECONOMIC IMPACTS - GENDER IMPACTS -

The main recipients of the project are the regional and local managers directly involved in the management and conservation of the natural heritage and biodiversity of Catalonia, from the different levels of administration or from the private sector.

In this sense, the day-to-day of the platform is oriented to respond to the needs of these users. The files are classified by the readers and categorized by "the best classified" and "the most read", to share the most popular readings more easily.

Users have recounted their experience with the platform: "It helps me to have the key ideas of the main topics. This is very useful for making real decisions for management"; "It gives a very good insight into the various and ongoing problems and shows me how to gain scientific knowledge and criteria."

Other users say they are looking for practical information to design plans on how to manage specific challenges, such as sea pollution, adaptation to climate change in mountains and the management and control of invasive alien species. In addition, it is a consultation portal for the public, schools, universities, graduate students, as well as technicians and academics from research centres working with nature and biodiversity in the region. The project has a clear component of visibility of women in science and promotion of their research and sharing its results with the rest of society.

Gender parity and the equal presence of women are always sought to disseminate studies through the platform, as in the programming of conferences and workshop speakers.

It should be noted that all the CREAF staff who coordinate and direct the project are women.



The project does not aim to influence the legal framework, but has a clear impact on the provision of information to facilitate a better decision-making process.

In addition, the platform played an important role in the preparation of the State of Nature in Catalonia Report 2020. The regional government of Catalonia and all its officials and public managers contributed knowledge and information.

FINANCIAL SUSTAINABILITY •

The estimated total annual budget of the project is 30,000 euros / year, taking into account all the expenses that are generated by the hiring of the coordinators, the organization of events, the payment of the programming, the maintenance of the platform, etc.

The main source of funding comes from the regional environmental administration and the resources provided by the research centre that coordinates the project.





PARTNERSHIPS

The main coordinating partners and the institutions, centres and research groups that contribute publications to the knowledge platform are: Centre for Ecological and Forestry Research (CREAF) and the Department of Territory and Sustainability of the Generalitat de Catalunya. The project also has the collaboration with:

- Department of Environmental Sciences of the University of Girona
- Museum of Natural Sciences of Granollers
- Research Institute in Agri-Food Technology (IRTA)
- Biodiversity Research Institute (IRBio) of the University of Barcelona
- Institute of Aquatic Ecology of the University of Girona
- Institute of Environmental Diagnosis and Water Studies (IDAEA) of the Spanish National Research Council (CSIC)
- Institute of Geosciences of Barcelona of the Spanish National Research Council (CSIC)
- Institute of Environmental Science and Technology (ICTA) of the Autonomous University of Barcelona
- Institute of Marine Sciences (ICM) of the Spanish National Research Council (CSIC)
- Research Group on Landscapes and Mountains (GRAMP) of the Autonomous University of Barcelona
- Research Group in Economic Analysis (GRAE) of the University of Girona
- Centre for Geology and Environmental Cartography (GEOCAMB) of the University of Girona
- School of Agronomic Engineering (ETSEA) of the University of Lleida
- Centre for Forest Science and Technology of Catalonia (CTFC)
- Technological Center for Biodiversity, Ecology, Environment and Food Technology (CT BETA) of the University of Vic
- Centre for Advanced Studies of Blanes (CEAB) of the Spanish National Research Council (CSIC)
- Chair of Water, Nature and Wellness
- Chair of Mediterranean Coastal Ecosystems









REPLICATION AND APPLICABILITY •

This case study can be quite inspiring and useful for subnational regions and governments, as they all have the common task of transferring and making scientific information more accessible and understandable for managers and implementers.

This platform can inspire regions to organize and transfer scientific data to the public, and, in particular, to policymakers and officials implementing biodiversity policies on the ground. Also, since all regions are committed to basing the decision-making process on scientific knowledge, it can be very useful to know how to articulate all research centres and how to involve them as partners or collaborators of the platform.

Although this project requires a relatively small financial investment, some of the factors that are required for efficient implementation of similar projects are: taking a multi-stakeholder collaborative approach, with a strong emphasis on creating and solidifying partnerships with research centres and universities; regularly working with social media and focusing on communications to expand the reach of the information; and the creation of clear guidelines and manuals so that the information is accessible, easy to understand and targets useful results for decision-makers.

FOR MORE INFORMATION

For more information about this project, please visit: http://www.prisma-tic.cat/

You can also contact us at info@regions4.org to set up an informative meeting, solve doubts and get support in implementing similar projects.

Author: Regional Government of Catalonia and CREAF







ABOUT

Regions4 (formerly known as the nrg4SD) is a global network that solely represents regional governments (states, regions and provinces) before UN processes, European Union initiatives and global discussions in the fields of climate change, biodiversity and sustainable development. Regions4 was established in 2002 at the World Summit in Johannesburg and currently represents over 40 members from 20 countries in 4 continents. Through advocacy, cooperation and capacity building, Regions4 empowers regional governments to accelerate global action.

For more information visit: www.regions4.org

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