Grant Agreement n°: **776617**

Project acronym: **BiodivScen**

Project title: **Promoting and implementing joint programming at the international level to reinforce research on the development of scenarios of biodiversity and ecosystem services**

Instrument: **ERA-Net COFUND**
Topic SC5-32-2017: Biodiversity scenarios

Start date of project: **1st October 2017** Duration: **5 years**

Coordinator: Xavier Le Roux – Fondation pour la Recherche sur la Biodiversité (FRB)

Report on the Workshop on Research & Innovation

WP6: Additional activities to promote internationalisation of biodiversity research and uptake of research results
WP leader: Belgian Science Policy Office (BelSPO)

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Table of Contents

1. INTRODUCTION

On the 15th and 16th May 2019, BiodivScen organised a one-day workshop in Helsinki to create a space for exchange and potential collaborations between the funded projects and private organisations with an interest in biodiversity scenarios research.

The objective of the workshop was to build fruitful interactions between the BiodivScen projects and non-academic stakeholder organisations in business and practice, ultimately aiming at drawing paths towards a more sustainable use of biodiversity and ecosystems. While BiodivScen researchers already carry out engagement activities at the individual project level, the workshop offered an opportunity to join an effort at the programme level to help mobilise additional organisations of potential relevance to them in a collective approach.

The workshop gathered approximately 40 participants including researchers from the BiodivScen-funded projects, representatives of organisations from business and practice, and BiodivScen partners. See ***Annex II*** for the full list of names and organisations that were present at the workshop.

2. METHODOLOGY

This workshop was organised collaboratively by BiodivScen partners, including the Research Council of Norway (RCN), the Belgian Science-Policy Office (BelSPO), and the BiodivScen Secretariat at the French Foundation for Research on Biodiversity (FRB). Prior to the workshop, the BiodivScen Secretariat, with support from the BiodivERsA science-society / science-policy officer, conducted an analysis of relevant socio-economic sectors for potential links between BiodivScen projects' research and applications in business and practice, based on a desk study and interviews with projects coordinators. This allowed identifying projects with an interest to take part in the workshop and pin-pointing sectors of relevance to one or more of them.
Detailed information on the projects can be found in the brochure, available here.

Tourism, **agriculture** and **forestry** were found to be the sectors that were relevant to a majority of the research projects. Within these sectors, organisations were invited based on the interviews with project coordinators and through a shortlisting of relevant organisations displaying an interest for the conservation of biodiversity, and the relevance to their operations of the geographical areas researched in the projects.

The workshop was organised in two half-days:

- 15th May: presentation of the research projects and discussions/group work on the use of research results by private companies and the potential collaborations between them.
- 16th May: presentation of the private organisations and discussions on the knowledge needs and how businesses and researchers can work together to meet them.

The programme of the workshop is in ***Annex I.***

The participants were divided into two groups based on the three identified major themes:

1. **The tourism group** included the coordinators of the research projects with an interest for touristic activities (in particular the Arctic), and representatives of the tourism industry, ranging from sustainable tourism consultants to tour operators and industry groupings.
2. **The agriculture & forestry group** included the coordinators of the research projects with a link to agricultural practices and forestry, and stakeholder representatives, including forest

and landowners, agricultural advisors, wood industry companies and science-technology platforms.

This report summarises the main outcomes from the discussions and the group work, organised around a) recommendations from stakeholders and researchers on how to work together and b) more precise avenues for collaboration between BiodivScen researchers and invited stakeholders.

For more information on the invited stakeholder organisations, see ***Annex IV***. The presentations from the workshop are available here.

Fig. 1 Participants during the Workshop

3. WORKING TOGETHER/COLLABORATIVE WORK

A. Recommendations

This section 'Recommendations' draws 1) from what they identified as possible uses of the projects' or more generally biodiversity scenarios' research results in their specific operational contexts, 2) from the different remarks and thoughts shared by private sector stakeholders throughout the discussions.

1. Tourism

How could private companies use the results of the research projects?
Ideas were submitted by the participants, then sorted out in thematic subjects, synthetized below. Detailed results for this session can be found in ***Annex IV****.*

EDUCATION
Tourism companies can use the research on biodiversity scenarios to get valuable information on the evolution and state of the environment they work in by accessing reliable data on: climate

change, wildlife, ecosystems, fragile regions, community dynamics, dispersal of alien species... In turn, they can educate their customers and raise awareness of environmental issues, and the consequences of environmental changes on livelihoods.

INVOLVEMENT

Building on the research results, companies can get involved in activities with strong links with the environment and sustainability, creating a sustainable tourism that would attract customers solicitous of environmental issues.

Additionally, customers can participate in biodiversity research through citizen science, for example during cruises and expeditions.

BUSINESS PLANNING

Businesses can use scenarios as a decision-support tool as well as a long-term strategy support tool. Researchers in scenarios could in turn take into account the needs and future plans of businesses in order to produce scenarios that would be better used for shaping their decisions.

DEVELOPMENT OF MARKET

Through the consideration and use of biodiversity scenarios, tourism companies could enhance their showcasing of a sustainable tourism strategy, create new markets in the field of ecotourism, while adapting to their customers' future needs and expectations.

Research on biodiversity scenarios can also allow them to identify the aesthetic value of biodiversity and ecosystems, and better match the preferences of the customers.

POLICY

By building a common voice between science and business, there is a path for the development of a better policy/regulatory framework reconciliating both business and environmental objectives for the companies.

BEST PRACTICES/REDUCE IMPACTS

Scenarios of biodiversity and the strong scientific arguments they deliver can be used in business contexts to support evidence-based decisions to reduce the impact of touristic activities of the company and develop best practices to be applied across the sector.

Fig.1 Sharing ideas in the Tourism group

General recommendations to researchers and stakeholders:

Stakeholder engagement at relevant levels is key to good results, including:

- Taking into account the local communities into the research (e.g. include the impact on local fishermen);
- Asking what the country/region/community wants in terms of tourism;
- Thinking about influencing the expectations & perceptions of the tourists (e.g. the perception of what is beautiful or not can be changed, in particular through education);
- Joining voices to influence policy, with recommendations & agreements on fundamental principles between science and socio-economic organisations in the area.

There is a need to consider increased threats with increased tourism, but not only:

- Tourism is not necessarily a threat, it can also be a protective instrument (e.g. to support the creation of protected areas; as a driver for better management; to help in writing guidelines which are better/stricter than the current regulations…);
- Similarly, conservation and cultural values are not to be seen as untouched and to keep away from tourism for them not to be further damaged by it: for example, some local communities that are considered at risk mainly because of tourism were actually already damaged for other reasons.

Overall, the participants shared the vision that tourism & conservation/science have joint interests and that biodiversity scenarios can have an informative role.

Fig.3 Clustering of recommendations for tourism group

2. Forestry & agriculture

How could private companies use the results of the research projects?

The main elements of this discussion are reported under the part ***B. Collaborations****. Overall, the specific discussions related to:*

- Identifying existing work that could be useful, for example a number of EIP-AGRI focus and operational groups have carried out or are carrying out work of relevance to some projects, and could be a good way to get results applied in practice, and possibly co-design briefs or organise dialogue events. In addition, a number of data sources, case-study sites, guidance and existing research of relevance to the projects' work have been identified.

- Help in identifying relevant stakeholder groups: some organisations offered help in identifying other stakeholder organisations and contacts.
- Reflect on specific aspects of projects' plans: for example, AlienScenarios could explore distinguishing invasive species according to the sector they are detrimental to, in order to raise relevance for decision-making for businesses operating in e.g. agriculture
- Ideas on how to take part or use work planned in projects, for example, global aerial migrants flows (GloBAM) work could be linked with the EIP-AGRI Integrated Pest Management related focus groups.
- Help disseminate the tools produced: for example, ENVISION discussed sharing the tools they will develop through EIP-AGRI.
- Ideas for potentially new research work, for instance discussing on the theme of AlienScenarios, to help connect the bluetongue disease in sheep (transmitted by mosquitos) and the conservation of certain bird species (in areas where mosquito numbers are lower), and also GLOBAM, related to the development of warning systems on the migration of pests to reduce the use of pesticides.

Fig. 4 Discussions in the Agriculture & Forestry group

General recommendations on stakeholder engagement in agriculture and forestry:

- Consider time availabilities and best ways to engage: for some actors (e.g. farmers), the best way is to go directly to them, and consider the "rings of influence" they have in order to reach out to others surrounding them;
- Fostering adhesion: there is a need for multi-actor approaches and to involve stakeholders all at the project design phase. When it comes to farmers, there is a need to engage in more bottom-up/society-driven approaches, as top-down approaches are less well received. Overall it was seen as important to have actual discussions and considerations with such stakeholders, and not to position yourself as an observer or give what can be perceived as external recommendations on how to act.

B. Collaborations

In the tables under this section are listed the potential collaborations or exchanges that were mentioned by the participants, at any moment of the workshop.

1. Tourism

Table 1: Potential specific collaborations between projects and businesses for tourism sector

Project	**Stakeholder organisation**	**Pathways for collaborations or exchanges**
All the projects	AECO - Association of Arctic Expedition Cruise Operators	AECO is interested in connecting with all the projects (from the 'Tourism' group) and especially to focus more on social sciences (e.g. contact/engage with local communities). They invited interested researchers to attend their 'Optimal Tourism Balance workshop' in Svalbard, Norway from 11 to 13 September: https://www.aeco.no/events/optimal-balance/
BioDiv-support	Team Tourism	Team Tourism is highly interested in getting the results of the BioDiv-support project, as it is related to their tourism activities in mountainous areas.
REEF-FUTURES	Team Tourism	Team Tourism expressed interest in the findings of the research on aesthetic value of biodiversity (reefs and fish appealing to the public), since they could make use of them to understand better the desires of customers as far as diving activities go.
ARCTIC-BIODIVER	All tourism organisations	Researchers in ARCTIC-BIODIVER expressed interest in building from citizen science through cruise expeditions; although the work plan will prove too busy for this specific project, they plan on exploring this possibility for later research.

Fig.5 Groups work on Tourism

2. Forestry & Agriculture

Table 2: Potential specific collaborations between projects and businesses for agriculture and forestry sectors

Project	Stakeholder organisation	Pathways for collaborations or exchanges
SALBES	EIP-AGRI	SALBES could use the EIP-AGRI report on how farmers can improve biodiversity (including via green infrastructures).
SALBES	Agridea	SALBES could contribute to proposals/pilot of the regional agricultural strategy in Switzerland currently developed by four different cantons, for which the ecological infrastructure plays an important role. AGRIDEA moderates the process of developing the pilot projects (to be followed-up in July).
SALBES	Agridea	Agridea could provide contacts of resource persons for local activities related to ecological infrastructures.
LimnoScenES	EIP-AGRI	EIP-AGRI operational group dealing with water issues. EIP-AGRI could check how to provide access to these groups, and possibilities for co-design of briefs and/or dialogues.
LimnoScenES	EIP-AGRI	EIP-AGRI has organised focus groups dealing with agriculture and water > results published can be of interest for LimnoScenES.
LimnoScenES	EIP-AGRI	EIP-AGRI workshop on agriculture and water, with lots of projects (LIFE, H2020…): could be interesting projects they could link up with.

LimnoScenES	Norra Timber	LimnoScenES could link up with the GRIP on LIFE-IP project in which Norra Timber is involved (along with Swedish forest agency, fishing advisory company, etc). Also relevant for the OSCAR project (BiodivERsA call 2015-16).
AlienScenarios	Norra Timber	Norra Timber has a specific interest in projections on bark beetle invasions (eats dead wood) – AlienScenarios to check the different scenarios to be produced for the different countries. Check if there is information, if there is an existing technology to control it, etc.
AlienScenarios	EUFRAS	EUFRAS has a need for better anticipation of tomorrow's invasions, to prevent rather than cure – could have an interest in work on efficiency of policies to mitigate / control spread of alien species. AlienScenarios to consider whether distinctions can be made in the species depending on the sector they impact (e.g. agriculture).
OBServ	ELO – European Landowners' Organisation	ELO recommends participating to the European bee award as a way to reach out to general public.
OBServ	EIP-AGRI	EIP-AGRI can recommend projects to share information on pollination and provide data.
GLOBAM	EIP-AGRI	GloBAM research has possible links with Integrated Pest Management related focused groups. Could be interested in the results of the project in terms of pest management.
SECBIVIT	EIP-AGRI	Willemine Brinkman of EIP-AGRI sent Silvia Winter from project SECBIVIT links to Focus Groups with a relevance to viticulture.

Fig. 6 Groups work on Agriculture & Forestry

C. Research/knowledge needs

A specific group work was organised around this topic on the 2nd day to understand what are the needs in terms of scientific research and knowledge from the companies' perspective. These various needs for research are organised and reported in the tables below, identifying if these relate rather to natural/earth sciences, social sciences, or both, and also finally whether participants identified needs for infrastructures (either research related, e.g. long-term biodiversity monitoring, or governance-related, e.g. clearing house mechanism).
Under each broad category (A, B, C, D), individual needs are classified according to the relative importance they were given by the participants during the session.

1. Tourism

Table 3: Identified research needs for tourism sector

<table>
<tr><th></th><th>Potential needs in natural/earth sciences</th><th>Potential needs in social sciences (incl. economics, governance and management)</th><th>Potential needs for additional infrastructures</th></tr>
<tr><td rowspan="3">⇨ A. To have a better understanding of the (changing) environment.</td><td></td><td></td><td>A1. Develop infrastructures for data sharing on the environment of the sites/regions</td></tr>
<tr><td colspan="2">A2. Research that helps understanding the dynamics of territories, how they work from a socio-ecological point of view (e.g. symbiosis between ecosystems & communities and the impacts if this symbiosis is affected)</td><td></td></tr>
<tr><td></td><td>A3. Identify the preferences of tourists regarding nature: would help understanding the potential for eco-tourism</td><td></td></tr>
</table>

		A4. Study the evolution of the number of tourists in the Arctic	
⇨ **B. What are the impacts of tourism?**	B1. Understand and measure the impacts of tourism on wildlife and on the environment, with the objective to minimize the negative impacts		
	B2. A clearing house mechanism for applied research results (or any system that could allow for the collection and distribution of information)		
	B3. Understand the economic and local benefits of tourism: focus not only on the negative impacts, but also on the positive impacts of: human activities in potentially sensitive areas; the effects of tourism on local communities; etc.		
	B4. Evaluate the impact of HFO (Heavy Fuel Oil) on the environment		
	B5. Study the effects of site use (wear and tear)		
⇨ **C. Identify best practices**	C1. Calculate the maximum 'tolerable' amount of tourists for a specific place/region/destination: carrying capacity, whether social or environmental		
	C2. List concrete measures for CO_2 emissions reduction		
	C3. Research on local adaptation measures to changes in the environment and climate change		
	C4. On how to achieve the positive impacts of tourism on biodiversity and mitigate the negative ones		
		C5. Study how local waste handling can be improved	
	C6. Evidence-based risk assessment procedures		
⇨ **D. Scenarios research**	D1. Research in the consequences of climate change on the tourism activity		
	D2. Research on forward predictions for biological changes for any reason (climate change, human activity…) (e.g. tree cover)		
	D3. Sea-ice scenarios in the Arctic, and evolution of coastlines		
	D4. Evolution of the danger along with environmental changes (e.g. more rock or ice falling)		

Fig.7 Presentation of groups work results

2. Forestry & agriculture

Table 4: Identified research needs for agriculture and forestry sectors

	Potential needs in natural/earth sciences	Potential needs in social sciences (incl. economics)	Potential needs for additional infrastructures
⇨ **A. Get a better understanding of the environment & conservation measures**	A1. How to reach more areas with ecological quality & what is quality? Is it size, networking, structure, variety of plants?		
	A2. How to maintain protected habitats/species with "little hope"? Is there a Plan "B"?		
	A2. Favourable conservation status of species of common interest: when is a population genetically viable? How to quantify? Which are the indicators?		
	A3. Forests and the effects of climate change		
	A4. Ecological & social long-term monitoring – as farming/landscape systems vary depending on markets & climate		
⇨ **B. Threats & solutions**	B1. The effect of climate change on population dynamics and distribution of plant and animal species		
	B2. How to deal with invasive alien species (incl. for landowners with limited tools to fight expansion)		
	B3. Research on the European bark beetle (invasive species threatening forests, real threat in climate change context)		
	B4. Research on moose & their eating preferences (young trees, especially broad		

	leaf trees like birch and aspen)		
	B5. Which type of trees to plant, in view of the climate change situation?		
	B6. The importance of predator control for community interest species		
	B7. Relationships between landscape features & crop production to support, for example, pest control & pollination: cost-benefit analysis of these landscape features including ecological and societal benefits		
	B8. Climate change: what are the impacts on biodiversity (plants species, composition, dryness, higher temperatures, heavy rain,…) and how do these impact production?		
⇨ **C. Measures & best practices**	C1. Effective practices that result in win-win situations for agriculture and biodiversity: which (small and large scale) measures have a positive impact on biodiversity on arable land while having acceptable risk/investment rations? C2. Development of new measures to promote biodiversity (for example on production areas)		
	C3. Research in agro-biodiversity and development of new sustainable production systems, including e.g. agroforest systems (and their impact on biodiversity, soil fertility, humus content)		
	C4. Possibilities/measures to promote biodiversity and produce food on the same field		
			C5. Benchmarking data & processes to improve farm productivity & sustainability performance
		C6. Best forest management tools in order to realise the Paris Agreements (while maintaining financial profit). Characterisation of existing collective approaches improving forest management in the climate change context	
	C7. Forest practices & climate change: - Local/regional guidelines for innovative silvicultural practices on how to adapt to future conditions - Carbon dynamics and fire regime in forests		
	C8. Which possibilities exist for conservative soil management without pesticides use? Methods for pesticides reduction - specifically in the fields of viticulture, vegetables, orcharding (e.g. promoting beneficial insects)		
	C9. Standard ways of measuring environmental impact		
	C10. High Nature Value farming systems: Better understanding, Innovation, Technical & management solutions		
	C11. Crop production & Ecological Focus areas		

	C12. Cost-benefit analysis of landscape features looking at the profitability for farms and others		
	C13. Embedding strategies into civil society initiatives: need for a stronger scientific basis		
⇨ **D. Acceptance & incentives**		D1. How acceptance for ecological aspects can be enhanced and which factors enhance acceptance?	
		D2. What encourages forest owners to take on measures that increase biodiversity? Top-down policy or voluntary measures? What discourages for voluntary measures? Increasing biodiversity while managing forests? Research on bright spots	
		D3. How to make climate change adaptation incentives more effective in forestry/forest management?	

Fig. 8 Presentation of groups work results

3. Example of a research plan

After listing the research needs, the participants were asked to vote for the ones they found the most relevant. The three needs that received the most votes were used in an exercise to imagine how they could be met by research-business collaboration.

Fig. 9 Researchers and stakeholders setting up a research plan

Below is an example of an implementation plan for a collaboration between a research project & a private company to answer the following question/needs "*What are the impacts of tourists on wildlife and on the environment?*"

The team worked in three steps:

1/ Design of the experiment:

- Approach tourism industry visiting a site "X"
- Together, co-design of the experiments
- Learn about the environment of "X" (e.g. latitudinal differences, ocean currents, …)
- Learn about the activities of the tourists

2/ Creation of a map with selected experimental sites:

The sites are either visited or not visited, and will be continued to be visited / stop being visited, leading to 4 types:

- Very visited and continue to visit during experiment
- Very visited but stop visiting during experiment
- Rarely visited and still rarely visited during experiment
- Rarely visited and start visiting more during experiment

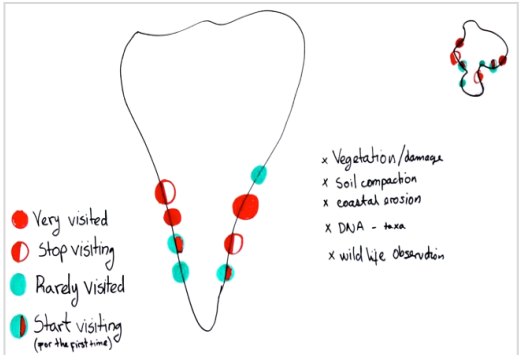

Fig. 10 Example of an implementation plan for a collaboration between a research project & a company/business

3/ Research and analyses will be performed on:

- Vegetation/damage and its evolution
- Soil compaction
- Coastal erosion
- DNA – taxa (spatial and temporal occurrences)
- Wildlife observation

4. CONCLUSIONS/FOLLOW-UP

This workshop has reached its overall ambition of facilitating a connection between BiodivScen-funded projects and mobilized socio-economic sector representatives through several concrete achievements.

Identifying shared interests

First, by creating a fertile dialogue between researchers and private sector representatives, the workshop allowed for a better mutual understanding of common interests in relation to biodiversity and ecosystems. The tourism group in particular seemed less acquainted with one another, and demonstrated enthusiasm and an apparent eagerness to develop stronger ties between research and business activities, for instance through citizen science or strategic business planning. Overall, a clear message from both groups' discussions is that there are shared interests at the science-business interface to improve biodiversity and ecosystems' management and conservation for these sectors. The workshop further helped in building a common culture between researchers working on scenarios of biodiversity and ecosystem services and those businesses operating and depending on these same ecosystems.

Follow-up: BiodivScen will follow up with researchers and private sector representatives throughout the life of the programme to identify examples where contacts established in the workshop eventually develop into **longer-lasting collaborations**. In particular, participants in the workshop may be invited to further develop emerging ideas in the context of the **BiodivScen handbook on the development and use of scenarios for decision-making**.

Identifying concrete potential collaborations

Secondly, concrete potential collaborations between BiodivScen-funded projects and organisations represented were identified during the workshop, including additional uses of the scenarios that will be developed in the projects.
For example, the **Team Tourism** representative expressed interest in the **BioDiv-support** scenarios to support strategic planning of its activities in mountainous areas, especially in the Alps.
Similarly, the **AGRIDEA** and **SALBES'** representatives discussed projects' potential engagement in a pilot action for ecological infrastructures in Switzerland, including potential additional case studies for the research work.
Beyond these specific collaborations built on existing research BiodivScen-funded projects, opportunities for future collaborations were raised. For **ARCTIC-BIODIVER**, for example, developing citizen science in touristic cruises in the Arctic proved of interest for both ARCTIC-BIOIDVER researchers and attending companies operating in the region. On the subject of invasive species and their impact on agriculture, representatives of project **AlienScenarios** and **Norra Timber** touched upon the possibility of framing future research on invasive species according to species of specific relevance to the sector (for example regarding the bark beetle).

Follow-up: BiodivScen will pay specific attention to the **opportunities identified for collaboration** in the framework of the existing projects, as listed in tables 1 and 2. This will be implemented i) through **direct contacts** with researchers and representatives in the short run, to check whether specific potential collaborations identified at the workshop materialize, and whether any help can be provided at the programme level; and ii) through the **review of projects' reporting.**

Identifying knowledge needs from business and practice

Finally, through brainstorming and interactive sessions, the workshop produced a number of research needs when it comes to scenarios of biodiversity and ecosystem services, which may provide input for:

i) Researchers' future projects, with specific research questions of interest for business activities in their area of work. For example, it has been said that in the field of tourism, operators lack detailed, precise projections of the harm done by visitors in specific environments (such as the Arctic), leading to the co-development of a draft research plan which could eventually be implemented.

ii) Research programmers and funders at national and international levels (e.g. through the Belmont Forum, BiodivERsA Partnership, or national agencies involved in BiodivScen Action). Knowledge needs identified in this workshop can serve as an input for Strategic Research and Innovation agendas.

Follow-up: The uptake of knowledge needs identified during the workshop will be promoted in **programming activities** of the two bodies behind the BiodivScen programme (BiodivERsA and Belmont Forum) and reported upon, while the researchers will be invited to share potential future research projects that would seek to **address the needs identified during this workshop**.

The contact persons for this are Mari Solerød, RCN and Cécile Jacques, FRB.

5. ANNEXES

Annex I - Programme of the workshop

BiodivScen Research & Innovation Workshop on the future of natural resources

Draft agenda

Venue:

Hilton Strand
John Stenbergin ranta 4
00530 Helsinki

May 15, Day 1 – 2 to 6 PM

Plenary:

1400 Welcome and Introduction, by Mari Solerød

1415 How we will work and who we are, by Frédéric Lemaître and Cécile Jacques

Group work:

1530 Brief introduction on the research projects and on invited businesses' strategy towards sustainability

1645 Discussion: what could businesses use the project results for?

Plenary:

1735 Discussion: How can research and business collaborate to make sure research efforts are useful for business actors?

1750 Wrap up

... ***Dinner invitation*** ...

May 16, Day 2 – 9 AM to 1 PM

0900 – 0915 Coffee and mingling

Plenary:

0915 Introduction by Frédéric/BF

0925 Presentations of businesses, approach to sustainability, use and needs for research

1030 How to use natural resources in a sustainable way, tbc

Group work:

1030 Discussion: What are your knowledge needs?

1100 Coffee and mingling

1130 Discussion: Prioritizing of needs and how to meet them

Plenary:

1220 Discussion: What are the business actors most urgent knowledge needs and how to meet them?

1250 Wrap up and what next?

1300 Lunch

Annex II - List of participants

LAST NAME	FIRST NAME	TYPE	PROJECT/COMPANY/ORGANISATION
AGUILAR	Satu	Private sector	Norra
ANDERSSON	Camilla	Researcher	Biodiv-Support
BARTOMEUS	Ignasi	Researcher	OBServ
BAUER	Silke	Researcher	GloBAM
BEJARANO	Sonia	Researcher	REEF-FUTURES
BLÉRY	Claire	BiodivScen	FRB
BONNET	Marie-Paule	Researcher	BONDS
BOUVIER	Elodie	Private sector	Grands Espaces
BRINKMAN	Willemine	Private sector	EIP-AGRI
CASTRO DE LA GUARDIA	Laura	Researcher	ACCES
CHENIN	Eric	Researcher	BONDS
CROWE	Tasman	Researcher	Land2Sea
EPP	Laura	Researcher	FATE
GERMANN	Sophie	BiodivScen	ANR
GOEDKOOP	Willem	Researcher	ARCTIC-BIODIVER
GOMEZ ACEBO	José	Private sector	European Landowner's Organization
GOUDESEUNE	Lise	BiodivScen	BelSPO
HAUTALA	Harri	BiodivScen	AKA
IGNAT	Aare	BiodivScen	ETAg
IRAZOQUI SOLER	Luciana Azul	BiodivScen	SGCTEIP
JACQUES	Cécile	BiodivScen	FRB
KÜGLER	Michael	Private sector	EUFRAS
LANG	Ilja	Private sector	AECO
LATOMBE	Guillaume	Researcher	AlienScenarios
LEMAÎTRE	Frédéric	BiodivScen	FRB
MARTIN	Romina	Researcher	LimnoScenES
RAYMOND	Christopher	Researcher	ENVISION
RERIG	Gaby	BiodivScen	DFG
SANDERCOCK	Brett	Researcher	Future BirdScenarios
SCHEP	Stijn	Private sector	Wolfs Company
SOLEROED	Mari	BiodivScen	RCN
UNGVARI-MARTIN	Judit	BiodivScen	BELMONT FORUM
VERDADE	Luciano	BiodivScen	FAPESP
WARD-PERKINS	David	Private sector	Team Tourism
WATTS	Phillip	Researcher	WILD HEALTH
WEISSHAUPT	Nadja	Researcher	GloBAM
WICHOROWSKI	Marcin	Researcher	ACCES

WINTER	Silvia	Researcher	SECBIVIT
ZANDER	Peter	Researcher	SALBES
ZURBRÜGG	Corinne	Private sector	AGRIDEA

Annex III - Short description of the organisations

1. AECO - Association of Arctic Expedition Cruise Operators (Norway)

The Association of Arctic Expedition Cruise Operators (AECO) is an international association for expedition cruise operators operating in the Arctic and others with interests in this industry.

The association was founded in 2003 and has since become an important organisation representing the concerns and views of Arctic expedition cruise operators. AECO is dedicated to managing responsible, environmentally friendly and safe tourism in the Arctic and strive to set the highest possible operating standards.

The association's geographical range is considered to encompass the Arctic area north of 60 degrees north latitude. The core areas are Svalbard, Jan Mayen, Greenland, Arctic Canada, the Russian Arctic National Park and Iceland.

Website: https://www.aeco.no

2. AGRIDEA - The centre for Agricultural Advisory and Extension Services (Switzerland)

AGRIDEA promotes the exchange of knowledge and experience between people working in agricultural extension and advisory services, research, practice, administration or policy in various thematic domains. The cantons and some 40 organisations active in agriculture and the rural areas are members of the AGRIDEA association.

On the national level, AGRIDEA represents the link between science and farming. It is the preferred partner in working groups or projects in which various participants exchange their experiences and wish to achieve common goals.

Both on the European and global levels, AGRIDEA has developed a broad network of links with agricultural training bodies or actors involved in agricultural policy.

Website: https://www.agridea.ch/en/

3. EIP-AGRI – The agricultural European Innovation Partnership (Europe)

The agricultural European Innovation Partnership (EIP-AGRI) was launched by the European Commission in 2012 as a new way of helping the agricultural and forestry sectors to become more productive, sustainable and capable of tackling current challenges such as fiercer competition, more volatile market prices, climate change and stricter environmental rules.

It works to foster competitive and sustainable farming and forestry that 'achieves more and better from less'. It contributes to ensuring a steady supply of food, feed and biomaterials,

developing its work in harmony with the essential natural resources on which farming depends.

Website: https://ec.europa.eu/eip/agriculture/

4. EUFRAS – European Forum for Agricultural and Rural Advisory Services (Europe)

EUFRAS is a European network and representative association of public and private rural and agricultural extension services. It is designed to play an advocacy role for the members addressing particularly EU-Institutions in the field of agricultural politics and rural development.

The organisation is open for public and private advisory services and intitutions whose work aims at supporting farming families, agricultural organisations, local groups and individuals involved in agriculture or rural development and addresses current and emerging problems.

EUFRAS wants to support advisory services in their efforts to promote innovation and knowledge transfer in rural areas and in agriculture. Conferences, seminars and events shall offer a platform for exchange and cooperation between advisory services from all over Europe. Another important goal of EUFRAS is to improve the quality of advisors' qualification.

Website: http://www.eufras.eu/index.php

5. ELO - European Landowner's Organization (Europe)

The European Landowners' Organization is a non-profit organisation representing the interests of the owners and managers of rural land, and rural businesses, within the EU.

ELO is committed to promoting a sustainable and prosperous countryside and to increasing awareness relating to environmental and agricultural issues. Engaging various stakeholders, ELO develops policy recommendations and programmes of action. ELO organises interdisciplinary meetings gathering together key actors from the rural sector and policy makers at the local, regional, national and European level. Its ability to do all of this assures ELO its unique position among the think tanks in the agricultural, environmental and rural activities' sectors.

Website: https://www.europeanlandowners.org

6. Grands Espaces (France)

For more than 20 years, Grands Espaces has been organising trips to secret and remote places in the world, on a polar exploration cruise and on discovery tours.

Website: https://www.grands-espaces.com

7. Norra Timber (Sweden)

Norra Timber is part of the Norra Group, a member-owned company with a climate focus in a growing bioeconomy. The Group is owned by 17,000 private forest owners with combined forest holdings of over a million hectares in northern Sweden.

Norra Timber® is a registered trademark owned by Norra Group, one of northern Sweden's leading companies in the wood industry. They work with a raw material from large expanses of forest in the provinces of Ångermanland, Västerbotten, Lappland and Norrbotten.
With access to the forests of 17,000 members and their own production capacity that covers all aspects of forestry products, they have full control over all stages of the manufacturing process from raw materials to finished goods.

Website: https://www.norratimber.com

8. TEAM Tourism consulting (United Kingdom)

TEAM has a large network of experienced tourism consultants operating throughout the UK and internationally.

Together they offer expertise and experience in destination management and marketing and can undertake major tourism consultancy, training and operational assignments for destinations in any part of the world.

Website: https://www.team-tourism.com

9. Wolfs Company (Netherlands)

Wolfs Company supports civil society organisations, and the public, private and financial sectors in maximizing, measuring, and communicating the benefits of investing in sustainable development. Wolfs Company demonstrates the economic, social and environmental contribution of sustainable investments and nature conservation.

Their mission is to contribute towards the development of a sustainable economy. They believe that evidence based research on the value of natural and social capital contributes to business performance, well-being, conservation of natural resources and sustainable development in general. The core team is a skilled and flexible group of professionals with international experience and backgrounds in business, economics, ecology and law. They conduct research in close cooperation with the Institute for Environmental Studies at the VU University Amsterdam in the Netherlands. In addition, they are supported by an extensive network of international experts in statistics, biology, hydrology and finance.

Website: https://www.wolfscompany.com

Annex IV – Recommendations on use of the results of research projects: tourism session

EDUCATION (staff & tourists)

- To promote care for environment
- To provide material for awareness-raising and information about: climate change, biodiversity, wildlife (mammals & birds), ecosystems, fragile regions, community dynamics, dispersal of alien species by humans, …
- To demonstrate the consequences of pollution/land use change/climate change
- To understand the transformation of coastal environments and their communities
- To explain the importance of sea-ice to people & the economy
- To promote citizen science/research
- To do popular science/vulgarisation
- To explain future predictions/projections
- To increase their services
- To show the cultural/history/science links & help people to remember
- To inform the decision-makers/public about the opportunities connected to tourism

INVOLVEMENT

- To involve and win customers
- To explore perceptions & consider how to influence them
- To create meaning for tourists by making them contribute to research (observations; citizen science; collecting samples for researchers…)
- To engage tourists in the monitoring of ecosystem change

PLANNING

- To know what to expect, to prepare for and adapt to change(s)
- To facilitate fact-based decisions & discussions with stakeholders for tourism development
- To be informed on future trends / data (e.g. sea ice in 10-20 years)
- To account for business objectives in scenarios' development
- To map risks and opportunities for business activities
- To support the planning of future activities & investments: areas for hiking, biking, cruising, skiing; time/season for activities; …

MARKETING

- To help showcase sustainable economy & foster long-term business survival
- To guarantee the consistency of income through change(s)
- To understand the economic values of ecosystem services
- To become more 'green' & improve public relations/attractiveness for clients & promote it as 'sustainable'
- To ensure divers' satisfaction
- To identify preferred landscapes, species, and experiences
- To raise useful questions regarding cultural value
- To develop new markets, eco-tourism, sustainable business strategies

POLICY

- To develop guidelines/best practices for sustainable tourism
- To develop low impact regulations
- To help defining policies for 'emerging' tourism destinations (e.g. Arctic)
- To steer planning or licensing processes with better information about likely restrictions
- To be used as a basis for co-management strategies

BEST PRACTICES/REDUCE IMPACTS

- To inform on most suitable destinations
- To understand the potential impacts of activities (to avoid/modify them + to comply with regulations)
- To inform on the best exposition methodology
- To reduce the need for self-funded Environmental Impact Assessment
- To help create frameworks for decisions, based on strong scientific arguments
- To put some stakes in the ground regarding societal impacts ("5 principles")[1]
- To optimize the positive and lessen the negative (external) impacts

[1] As identified in the report of the Bruntland Commission on sustainable development (1987):

- Intergenerational equity;
- Intragenerational equity, social justice and poverty alleviation;
- Public participation;
- Environmental protection as part of economic development;
- Dealing cautiously w/ risks and uncertainty.