Grant agreement n°: **642420**

Project acronym: **BiodivERsA3**

Project title: **Consolidating the European Research Area on Biodiversity and Ecosystem Services**

Horizon2020 ERA-net Cofund Scheme

Start date of project: **1st February 2015** Duration: **5 years**

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

BiodivERsA Project clustering workshop (23-24 June, Brussels, BELSPO)

Improving the Science-Policy Interface of BiodivERsA funded projects: how to develop relevant "clustered policy briefs" and other potential collaborations among projects"

Report

WP10: Science-Society/science-policy/science-business interactions and communication

WP leader: Belgian Science Policy Office (Belspo)

Task 10.3: Survey and promotion of outputs and outcomes of funded projects
Task leader: Belgian Science Policy Office (Belspo)

MS10.1 : Organising a Clustering Workshop of project PIs

To cite this report:
Balian E. & Eggermont H. 2015. Outputs of the Clustering Workshop „Improving the Science-Policy Interface of BiodivERsA funded projects: how to develop relevant clustered policy briefs and other potential collaborations among projects", Brussels June 23-24, Belspo. BiodivERsA report, 29 pp.

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Acknowledgements

We would like to sincerely thank all keynotes speakers and partipants for their active contribution to this workshop, and report. We also wish to thank our colleagues from the Helmholtz-Zentrum für Umweltforschung UFZ (Heidi Wittmer), the NERC Centre for Ecology and Hydrology CEH (Juliette Young), the Fondation pour la Recherche sur la Biodiversité FRB (Claire Bléry, Frédéric Lemaître and Xavier Le Roux) and the Belgian Biodiversity Platform (Pierre Berhault and Sonia Vanderhoeven) for facilitating the discussions, and co-drafting sections in this report.

Introduction

As more and more urgent issues regarding biodiversity and ecosystem services are coming on top of the policy agenda (e.g. pollinator health, invasive species, sustainable use, synthetic biology), there is a crucial need for policy makers to have access to the best available knowledge in order to make well-informed decisions. This is where the concept of the science-policy interface (SPI) comes into play. The SPIRAL EU funded project has studied SPIs on biodiversity and ecosystem services and defines them as follow: *"SPIs are the many ways in which scientists, policy makers and others link up to communicate, exchange ideas, and jointly develop knowledge for enriching policy and decision making processes and/or research. They involve exchange of information and knowledge leading to learning, and ultimately to changed behaviour"*. A SPI can also refer to activities developed by research projects to improve interactions between the projects, policy–makers and other stakeholders; and to ways in which project results are communicated to policy actors. In this context, communication strategies and tools are critical and need to go beyond the usual one-way communication "Science speaks to Policy". Science-Policy-Society dialogues and interfaces are more and more explored to overcome this restricted one way communication.

In this context, the BiodivERsA ERA-net has explored for several years how its funded projects could best engage with their stakeholders throughout the research development process (from co-design, over implementation, to dissemination of project outputs) and has also promoted the production of policy briefs linking results from BiodivERsA funded projects to major EU policies. So far, BiodivERsA policy briefs have been developed on the successful results of individual projects. Yet, in some cases, communication building on clustered results of several related projects, and engaging in a more pro-active interaction with relevant policy makers might be more appropriate. This will be particularly relevant for implementing BiodivERsA's third phase, during which a new series of policy briefs will be produced using the results of projects funded by the past (2011-2012, 2012-2013, 2013-2014) and forthcoming calls (2015).

The main goals of this 'project clustering' workshop were 1) to provide a space for dialogue between relevant policy makers and researchers from BiodivERsA funded projects in order to build relationships and common understanding, 2) to promote the development of policy briefs based on clustered results from several BiodivERsA projects addressing current policy needs.

Specific objectives were to 1) Identify current policy needs/hot topics for which BiodivERsA funded projects could contribute valuable information and support decision making; 2) Co-build (with researchers and policy makers) clear, relevant and manageable policy questions that could be addressed by a policy brief compiling results from several related BiodivERsA projects, 3) Start putting together teams of projects and think of preliminary schemes for "clustered" policy briefs identifying contributing projects, key ideas and target audiences; and 4) Help BiodivERsA-supported researchers to network and generate potential future collaborations among them.

Methods

The workshop was organized in 3 main sessions (see the programme in Annex 1):

During the **introductive session (day 1: 23rd June)**, framing presentations were given on science policy interfaces, stakeholder engagement, strengths and weaknesses of policy briefs, and current research priorities at EU level (see Annex 1). In addition, each BiodivERsA-funded project present at the meeting gave a flash presentation of 3' to provide key information on the project current or future results and give an overview before the working groups to help identify the potential clusters of projects.

The **second session** was based on facilitated group discussions on 4 topics:

1. Multifunctional Landscape Management
2. Invasive Alien Species
3. Resilience, Tipping points, Scenarios
4. Ecosystem Services: from Valuation to Management

Project participants were assigned to the themes based on potential links with their project topics while policy makers and knowledge brokers were invited to choose the topic they wanted to work on. In the first discussion round, participants were invited to identify and develop a maximum of three timely, policy relevant questions that could be tackled by putting together results from several BiodivERsA projects. In a second round of discussions, a selection of six questions (voted for by the participants) were further detailed and discussed. The objective was to clarify and document each question (target audience, key sub-questions, etc.), and identify potential projects interested to contribute to answer them (i.e. existing or potential inputs).

Finally a **third session (day 1: 23rd June)** was organized to explore other potential collaborations among project scientists, with a first plenary brainstorming and a group discussion on some of the ideas that emerged from the first brainstorming.

Summary of the results

A. Who was present

Thirty-two scientists from 27 funded projects attended. Some scientists represented several projects, while some projects were represented by several researchers. Three knowledge brokers were present. Nine national or regional policy makers, including some BiodivERsA partners, contributed to the meeting.

BiodivERsA partners and workshop organisers invited European policy makers to join and contribute to the discussions, but due to conflicting commitments at the same date few attended this workshop.

B. Session 2: Policy relevant questions and first scheme/ideas regarding clustered policy briefs

We here report on the set of policy relevant questions (topics) identified in each discussion group (see methodology above); and on the questions that were chosen to be elaborated/discussed on in more detail (indicated with *) in the perspective of developing policy briefs. A few open issues/comments remain, indicated in green.

Group 1: Multifunctional landscape management

Facilitators: Helene Soubelet & Xavier Le Roux

The two potential policy relevant topics/policy briefs identified by the group were:

1. *Tackling the problem of 'policy silos' (i.e. disconnected, sometimes even contradicting policies – neglecting intersectoral linkages and synergies) to improve the governance of biodiversity and ecosystem services at local/landscape level*

(Number of votes for this question[1]: 5 red (from scientists), 1 green (from policy makers), 1 yellow (from knowledge brokers). Total votes= 7)

As policies are developed independently in each sector, they often lack coherence and integration for ensuring efficient conservation and management of biodiversity and sustainability of socio-ecological systems. For instance, policy decisions taken by a specific sector, such as energy, can have an unexpected (domino) effect on the implementation and efficiency of other policies. This policy brief would compile results from BiodivERsA projects mainly focusing on governance systems applied to multifunctional land- or seascapes (possibly also small regions), illustrating how policy siloing restricts our capacity to promote multi-functionality at this scale and providing recommendations on governance and trans-sectorial approaches.

Target audience: EU policy makers from a range of sectors

[1] Participants were invited to vote with 3 sticky dots for the questions that would be further elaborated in the workshop: scientists with red dots, policy makers with green dots and knowledge brokers with yellow dots. In total the 32 participants could distribute up to 96 votes

Interested projects: TALE, CoForTips, ECODEAL, CONNECT, VINEDIVERS, BASIL, FARMLAND, ECOSERVE, VITAL, BUFFER (SCIN?)

2. *Good indicators for land management policy impact on biodiversity and ecosystem services **

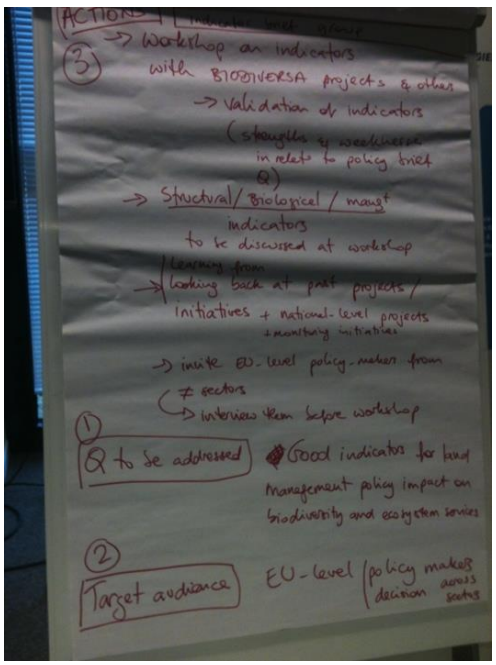
(Number of votes for this question : 6 red, 1 green, 1 yellow- Total votes= 8. This question was further elaborated)

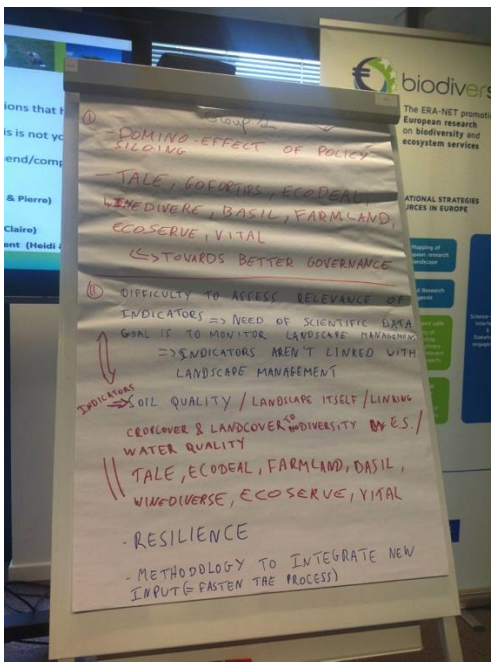
This policy brief would address the proxies to be used for the monitoring of (management-dependent) landscape features favourable to biodiversity and multifunctionality. It would assess the effectiveness of existing indicators and possibly propose to explore and validate new ones. This would include indicators dealing with the landscape characteristics (diversity of habitats, including crop diversity, in time and space; connectivity; genetic diversity indicators, etc.), while accounting for relevant soil quality indicators. When relevant, indicators based on the socio-ecosystem features will also be taken into account.

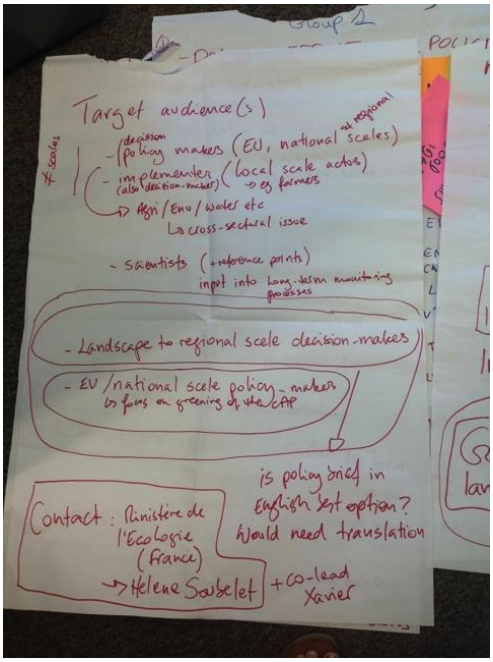
Target audience: EU level policy makers from different sectors (agriculture, environment, water etc)

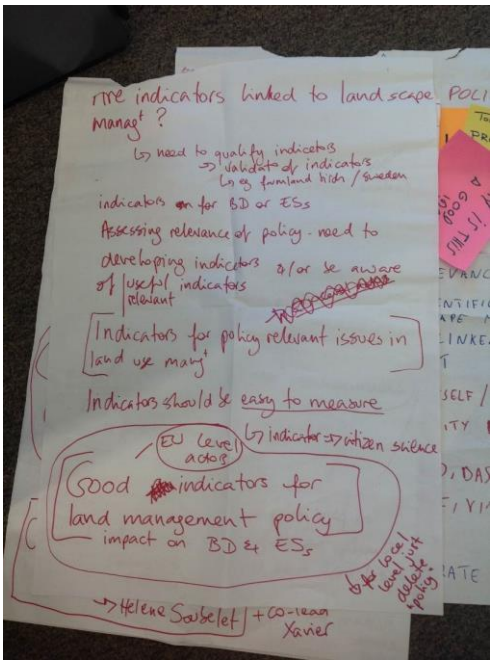
COMMENT: Next step (actions) could be to organise a workshop on "indicators" to evaluate the status of (multifunctional) landscapes, with BiodivERsA projects and others (national level projects working on indicators; projects/ monitoring initiatives at European scale) and mobilizing relevant European policy makers. The workshop would focus on three types of indicators: structural (indicators based on the type of landscape matrix and connectivity), biological (indicators based on taxonomic groups or functional groups of organisms) and management (indicators based on the types of human activities across the landscape). The aim would be to identify strengths and weaknesses of existing indicators and possibly to develop new ones.

Interested projects: TALE, ECODEAL, VINEDIVERS, BASIL, FARMLAND, ECOSERVE, VITAL, APPEAL, LINKTREE and TIPTREE









Group 2: Invasive Alien species (IAS)

Facilitators: Hilde Eggermont & Tim Adriaens

The three potential topics/policy briefs emerging from the discussion are listed below. In addition, it was mentioned that the 'cross-border' challenge (i.e. how to coordinate IAS issues across borders/supra-regional, incl. overseas) is a universal one.

1. *Which IAS should we focus on?*

(Number of votes for this question: None)

This would include:

- Clear definitions for 'IAS'
- Clear set of criteria for (biodiversity) impacts – i.e. for being detrimental (for economy, environment & biodiversity)
- Consideration of societal values included (cf. SALMONINVADE)
- Advice on prioritization tools.

This should also account for anticipated environmental changes or future effects of trade, horticulture etc.

Target audience: Work is already carried at EU level, but Member States will have to implement the EU regulation and they would be interested to have more information at national level.

COMMENT: there is a need to clarify if we need a specific work here (i.e. revisiting / completing the ones already done) or not (i.e. only synthetizing what has already been made)

Interested projects: SALMONINVADE, RESIPATH, PROBIS – but other IAS projects can likely also contribute to some extend

2. *How to manage IAS?* *

(Number of votes for this question: 10 red, 8 green, 1 yellow- Total votes= 19. This question was further elaborated)

After further discussion/elaboration on this topic, it was decided that this topic could lead to 2 separate policy briefs.

> **Policy Brief 1:** "Economics of IAS management."
> This would include case studies illustrating cost-benefits of IAS management practices (i.e. a cost-benefit analysis, including cost of non-action), and the definition of guidelines on how to access this

COMMENT: This policy brief needs to be further clarified, especially as regards the kind of recommendations it will provide (e.g. approaches for improving benefit-to-cost ratio of IAS management?)

> **Policy Brief 2:** "No one size fits all"
> This would include:
> - An illustration of the species/habitat/country/scale-specificity of IAS management tools
> - An illustration of the need to consider the time frame (early detection/rapid response vs long term management)
> - Recommendations how to set up good and best practices: what issues need to be addressed; what is the need for follow-up?
> - Discussion on efficiency (adaptive behaviour of management) and effectiveness
> - Identification of research needed (gaps) in this context

COMMENT: As this topic is quite general, there is a need to be more specific. BiodivERsA funded projects can not really be involved in the reactive approach in which authorities and policymakers respond to a newly found threat. Indeed, this would requires some quick response and scientific review processes that do not match the scope of a BiodivERsA-funded research projects. Yet, BiodivERsA research projects could focus on the investigation of known threats to find better ways to predict potential impacts. Sharing results and expertise would then be of great value.

Target audience: EU, MS and local authorities

Interested projects: INVAXEN, RESIPATH, PROBIS, DIARS, LINKTREE

3. *Increase general sensitivity/awareness to IAS issue.* *

(Number of votes for this question: 6 red, 4 green, 2 yellow- Total votes= 12. This question was further elaborated)

This would include:

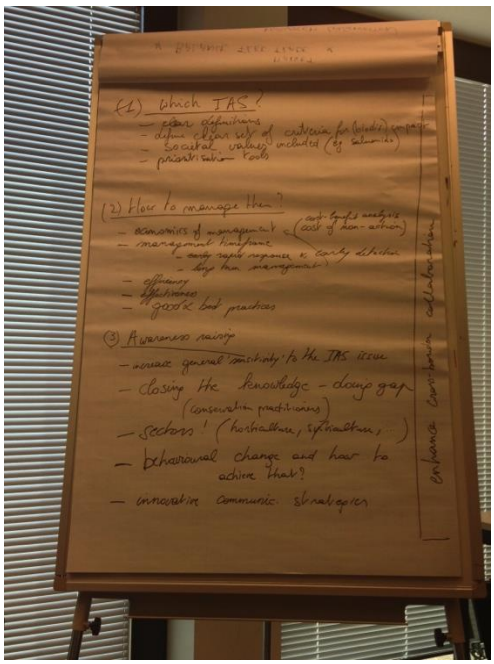
- increasing general 'sensitivity' on the IAS issue
- illustration of the need of closing the knowledge-doing gap (involving conservation practitioners), and bringing together various sectors (horticulture, sylviculture, …)

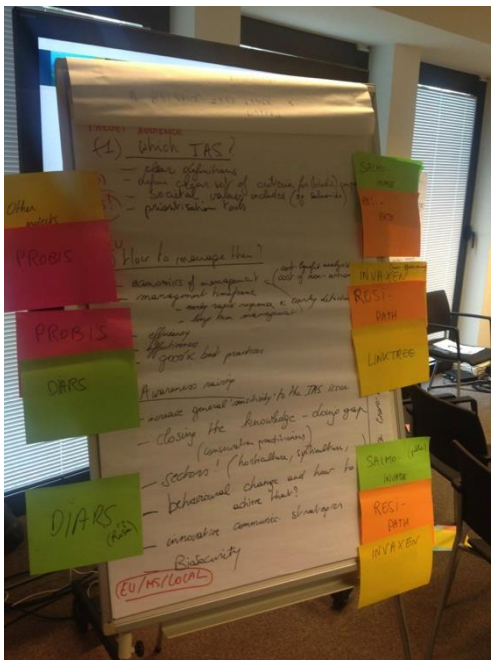
- illustration of (the effectiveness of)methods for behavioral change
- illustration of the need for innovative communication strategies
- raising awareness on biosecurity issues

COMMENT: Bringing together scientific groups and projects with policymakers and responders (i.e. together evaluating success stories and best practices) as a means to develop better responses could be very effective. It could also be interesting to produce a risk assessment procedure that would assist in developing management strategies adapted to environmental responses. Clearly, this policy brief still needs to be clarified and more focused on specific aspects.

Target audience: EU, MS and local authorities; also many sectors (health, horticulture, sylviculture, fisheries, agriculture…)

Interested projects: SALMONINVADE, RESIPATH, INVAXEN, PROBIS, DIARS





Group 3: Tipping points, Resilience & Scenarios

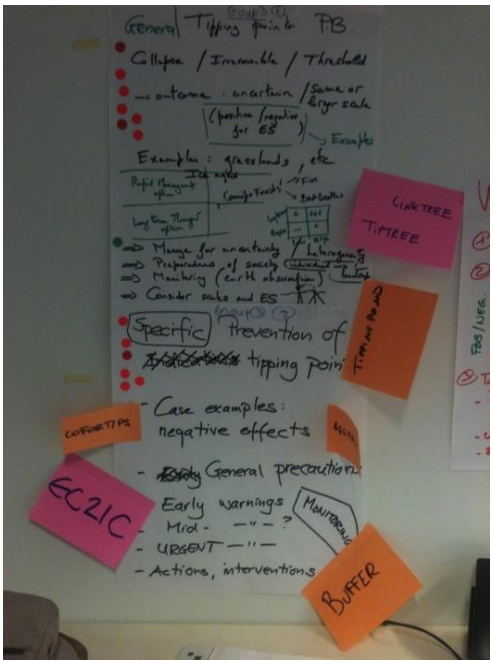
Facilitators: Juliette Young and Claire Bléry

The three potential topics/policy briefs emerging from the discussion are listed below.

Q1 & Q2 relates to Tipping Points, whereas Q3 relate to Resilience & Scenarios

1. *What are tipping points especially in relation to ecosystem services and how can tipping points be prevented**

(Number of votes for this question: 7 red + 1 green for item 1; 6 red for the second item- Total Votes= 15. This question was further elaborated)



After further discussion/elaboration on this topic, it was decided that this topic could lead to 2 separate sections.

The first section of the brief would address the general question of: "What is a tipping point?"

1- Essential elements in the definition:

- Non-linear shift from one state to another
- Reaching a threshold, leading to a collapse, irreversible
- Outcome: highly uncertain, can be on the same or larger scale

2- Examples of tipping points:

Tipping points can have positive or negative effects on ES; examples can be provided by several BiodivERsA projects: Tippingponds, BeeHope, Resipath, TipTree (irreversible evolutionary tipping points). It would also be interesting to find examples from a period when anthropogenic pressure were minimal (e.g. Ice Age), or on a different time-scale. A possible example is proposed by A. Green (APPEAL project) with respect to the

biodiversity in Antarctica. It exemplifies a nice tipping point in which the vegetation shifts from being controlled by the general climate (enough water) to being confined to microsites where there is sufficient water and other resources and so experiences microclimate. At the moment, this occurs at 72 degrees south and is certainly not a result of anthropogenic pressure although warming or precipitation shifts will move the point.

3- Key challenges when dealing with tipping points:

- Need to manage uncertainty/heterogeneity (from individual to landscape)
- Need to prepare society to deal with the "unkown"; need to be prepared to change
- Need to consider scales and ecosystem services (e.g. with climate, or in TipTree: within populations and at landscape level)

A key challenge is linked to the fact that predicting a tipping point is very difficult and usually it is identified after it occurs.

COMMENT: This first section looks more like an information leaflet than (part of) a policy brief as it is not clear which recommendations will be provided beyond very general ones like "be prepared to the unknown" or "need to consider scales". If a more specific topic was discussed, it should be clearly exposed.

A second section of the brief would tackle: "How can tipping points be prevented and/or managed?"

1- Negative effects of tipping points

- Case studies/examples could demonstrate negative effects of tipping points
- Some recommendations could provide general precautions to avoid these effects

COMMENTS: The brief should be more precise about these "general precautions" for a large diversity of types of tipping points and systems experiencing possible tipping points. Suggestion from participants: "Precautions derived from the ongoing scientific projects will be stated"

2- The role for monitoring/indicators

- Are there early warnings?
- Examples of warning systems, including those using participatory science/monitoring (e.g. ASHDIEBACK with ASHTAG system, or AGIIR (for insect species))
- Mid-term warning signs?
- Urgent warning signs?
- Advocated/validated actions/interventions
- Possible typology of responses/management options (in some cases, changes can't be avoided and it is also important to work on adaptation (e.g. creation of new opportunities for livelihoods, etc...)?

COMMENTS: By bringing together various research teams as proposed by this general clustering idea is probably the best way to spot tipping points or if we are approaching them. Detailed analysis of past events, sort of data mining and interpretation would be a valid way to get a better idea. One example would be the collapse of fishing stocks (Cod).

Target Audience: Policy makers (national and EU) for a range of sectors likely submitted to tipping points in the future

Interested projects: BUFFER, CoForTips, EC21C, RESIPATH, LinkTree, TipTree, TIPPINGPOND

COMMENTS (on format): The majority of the group was in favour of having both general and specific aspects tackled under a single 4-page policy brief. In addition, explore a video format.

2. *What are the main processes leading to socio-ecological systems (SES) tipping points?*

Main elements/statements to be captured in this policy brief:

- Steering for biodiversity and resilience of SES
- Building resilience for SES and for humans
- Socio-ecological interactions must be considered for building resilience
- Social-ecological innovation should be developed for building resilience and global change adaptations

Therefore, the participants decided that the policy brief should have the following title: **Social-ecological innovation for global* change adaptation** as it encompasses the different statements

Knowledge / concrete examples from the projects:

- REGARDS: example of local governance innovation to support adaptation to climate change
- BUFFER: delegation of authority / consultations as socio-ecological innovation to support global change adaptation
- BUFFER / CoForTips: vulnerability / dependency assessments allowing to identify unexpected winners and losers
- SCIN / URBES: account for cultural values of SES in land/sea-scape management for successful adaptation to global/climate change
- INVALUABLE
- LINKTREE: Examples in LinkTree are available where silviculture can change the number and density of adult trees and affect the genetic diversity of seedlings and thus, sustainability and adaptive ability of a forest.

The participants also identified a series of recommendations that should be addressed in the policy brief:

- Ensure feedback loops between the different actors to build resilience for SES
- Implement cross-sectoral policy addressing SES vulnerability and ensure:
    - The up-scaling of success stories
    - Cross-scale interactions between and among the actors, the institutions (e.g. market institutions) and the concerned ecosystems (CONNECT should be able to provide results on this point)
- Take into account different spatial and temporal scales as well as SES boundaries

Target audience: There are two parallel audiences (it is not sure they could be addressed at the same time): policy makers and landscape/marine spatial planners

Interested projects: SCIN, URBES, BUFFER, CoForTips, LinkTree/TipTree, REGARDS, Signal, VineDivers (+ INVALUABLE?)

3. *Is a healthy ecosystem in a cultural landscape resilient?*

(Number of votes for this question: 5 red 1 green. Total votes= 6)

COMMENT: The title might need to be clarified to avoid confusion (possible example: a plant growing in a relatively unstressed environment with good soil and no excessive fruit loads, will withstand the normal fulctuations of the environment with no action required by the farmer. So an unstressed environment is a resilient environment and has room to manouver)

This would include to:

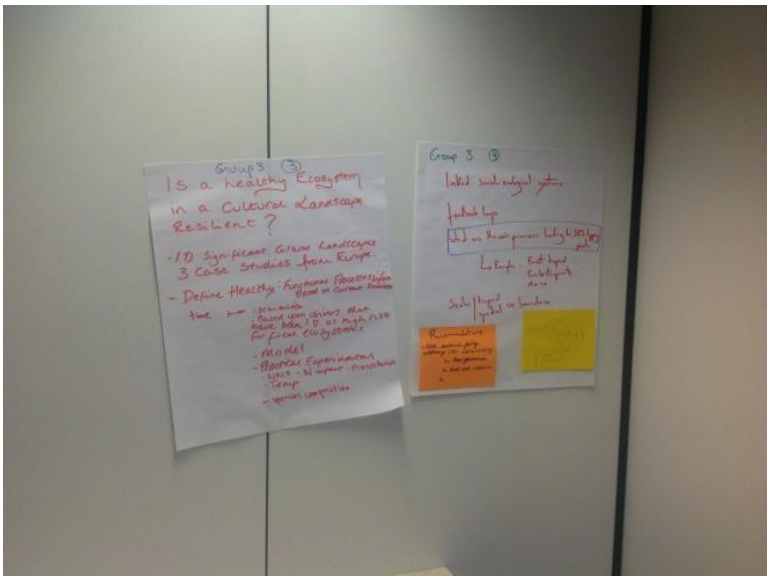
- Identify cultural landscapes with interesting features – 3 case studies from Europe.
- Define healthy in terms of functional processes in/over time (based on current knowledge)
- Develop scenarios:
    i. Based upon drivers that have been identified as high risk for local ecosystems
    ii. Develop models
    iii. Make use of practical experimentation sites
    iv. NNS, N impact, precipitation, temperature, species composition

COMMENT: This section on developing scenarios would need to be completed and further elaborated

Target audience: so far, undefined

Interested projects: CONNECT, EC21C, VINEDRIVERS

EU funded projects that could maybe contribute: HERCULES



Group 4: Ecosystem Services (ESS): from valuation to management

Facilitators: Heidi Wittmer and Frédéric Lemaître

The two potential topics/policy briefs emerging from the discussion are

A. *How can trade-offs between ESS and trade-offs between ESS and other policy goals be dealt with in local planning/at the local level?*

(Votes not captured – but there were enough to further elaborate this question)

COMMENT: This topic is close to the policy brief on indicators proposed by Group 1. It could be envisaged that a single brief could cover the two topics (even partly) at the same time to reach out to wider the audience. Group 1 is a detailed example of one way forward.

What can BiodivERSA projects contribute to the policy brief:

- Support of the process of involving stakeholders, identifying trade-offs, making them transparent (tools include different forms of multi-criteria decision analysis, MCDA). ECNC has developed a handbook for local planners on how to include ESS in planning. COFORTIPS can contribute examples e.g. through role games, exploring how different people value the outcomes of policy scenarios. Invaluable has done economic valuation of ESS as a tool to inform dialogue. APPEAL has explored the value systems of farmers, and the limits to monetising them
- Making trade-offs transparent (content wise) and inform what the implications of the various choices are. CONNECT has done systematic reviews on several ESS trade-offs. For some trade-offs, there is consistent evidence; for others, it is less clear. Sometimes direction is clear but magnitude is not. BASIL will identify different opportunity costs that will reveal trade-offs in intensive production systems (in agriculture). ECOSERVE will work on biomass production ESS at the local level, so they can provide input on this. FARMLAND/VINEDIVERS/TALE/ECOSERVE will work on options to reduce trade-offs between ESS and agricultural production.
- Instruments or tools "to change behaviour". INVALUABLE has examples of using economic instruments such as "payment for environmental services" (PES) or agri-environmental measures, mitigation banking, but also of the legal reglementation necessary to frame these economic instruments effectively.

This could be illustrated by case studies showing options for optimization taking diverging preferences into account. The conceptual framework could be the ESS Staircase (from benefits to ESS to ES functions).

A more focused one page policy brief within this general topic will be drafted by Joachim Spangenberg, in particular addressing the issue: "How to take landscape heterogeneity into consideration when planning land use?"

OCTA can share knowledge on the relevance of all of these issues and connect to actors in Overseas.

Target audience: policy makers at the local level, particularly planners. Most projects present work on agriculture, but if there is interest to work on other fields, e.g.

OpenNESS (FP7 project) has urban case studies on this topic as well. They also have tools and a selfstanding (to be kept after the end of project duration) online platform to make information on "how to operationalize ESS and apply the concept in decision making" called Oppla (contact from workshop: Ben Delbaere).

Interested projects: COFORTIPS, BASIL, FARMLAND, VINEDIVERS, TALE, ECOSERVE, CONNECT, APPEAL, BUFFER

EU funded projects that could maybe contribute: OpenNESS

B. *In ESS mapping and accounting (at the national and EU level): which assumptions are reliable/ what are potential pitfalls in:*
   - *spatial aggregation*
   - *ecosystem services categorisations (also with regard to adding up across services)*

in order to make informed policy decisions? (avoid unintended side-effects due to oversimplification). Adding up requires commensurability, which is a priori not given. In practice, it is done by defining a common denominator such as utility or price, but that adds up aspects of each ESS, not the quantity of ESS themselves.

(Votes: 2 red)

Target audience: still to be identified
Interested projects: CONNECT, BASIL

C. *What are the best options to ensure pollination? What is a good equilibrium between promoting beekeepers and wild non-managed pollinators.*

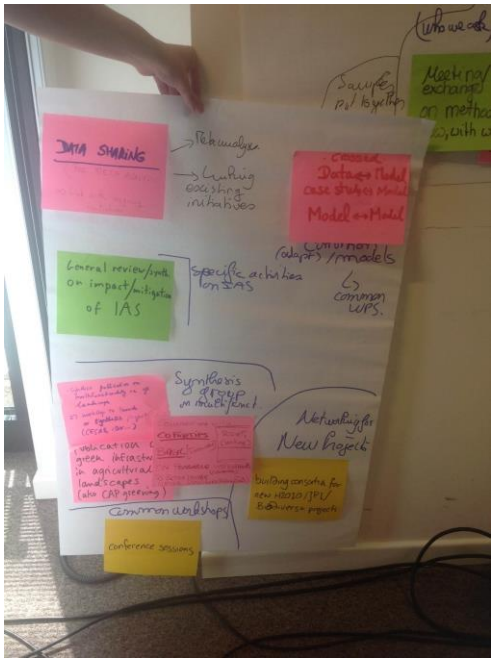
(Votes: 2 red)

Target audience: National, Regional & local policy makers

Interested projects: BEEHOPE, CONNECT

C. Session 3: Opportunities for collaboration between projects

Participants identified some 10 possible types of collaboration; some of them were then further discussed in small groups



1- Common activities linked to annual meetings:

A few suggestions from the participants include:

- Existing JPIs are organising common meetings for their projects; maybe BiodivERsA could consider something similar.
- Maybe explore the use of inspiring guest speakers that could appeal to the whole range of topics.
- A possibility could also be to organize an internal call for mini-symposiums, with predefined participants.
- A funded BiodivERsA project could also have some BiodivERsA funds to invite to a mini-symposium at least one National and/or European granted projects working on related topics and/or methodologies. This sharing of experience would then benefit both projects and contribute to the success and use of the research funded by BiodivERsA. This would also generate a positive momentum in European scientific communities, and contribute to the building of an efficient European research network on biodiversity topics.
- Such meetings or mini-symposia could also involve already completed BiodivERsA projects.

2- Collaboration in engaging stakeholders

Further discussion led to some first recommendations:

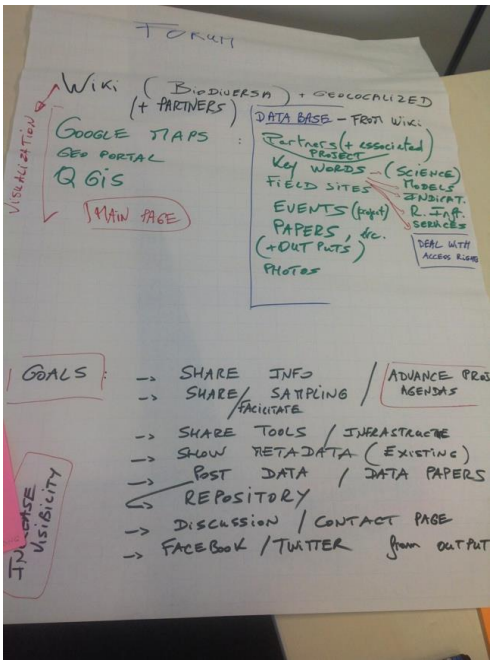
- share best practices on how others have engaged
- organise common brochure (e.g. on results of ecological research) for local and regional actors
- share experiences or do common activities when same stakeholders are approached (e.g. farmers)

3- Mobility/staff exhange/field visits

Further discussion led to some first ideas:

- Making use of BiodivERsA as a leverage, it could be possible to mobilise some other funds such as ERASMUS to promote the exchange of PhD and MSc. Students (to share experiences across projects and to get to know other projects)
- Organise meetings of all projects in a call: it could be important to get all projects to work on concepts together. This could lead to common publications/opinion papers (e.g. PLOS One accepts opinion papers from PhD and post-doc students)
- Explore the possibility to fund short-stay grants for scientists to come to see other projects, to give talk or just to open the door to serendipity. These grants are difficult to mobilise.

The added value of these actions would be development of common concepts, building capacity, development of common methods etc. Moreover, these actions will encourage the training of young researchers able to work at European scale to study and find solutions to environmental problems for which common scientific approaches are required at EU level. This would efficiently contribute to identifying strategies to protect European biodiversity.



4- Developing an interactive forum (wiki) to help projects interact

Tool to visualize the existing projects & partners (Google Maps/Geoportal/Q GIS), linked to a Wiki forum

In this Wiki – there could be several pages where projects can upload their data regarding:

- Key information on BiodivERsA projects (Title, Partners, Keywords, Study sites)
- Output (papers, newsletters, non-academic output > here, we will probably need to deal with access rights)
- Images databases (also free for use by BiodivERsA partners, provided they acknowledge properly)
- Events
- Data & Models/Research Infrastructures
- Discussion forum

The main goal of this wiki would be to

- Share info
- Share/facilitate sampling
- Share tools/infrastructures
- Show (existing) metadata
- Repository/sharing of outreach products incl peer-reviewed papers
- Discussion amongst PIs

- Increasing general visibility as it would also be easier for BiodivERsA to pick up new items and advertise them on the BiodivERsA website and Twitter Etc.

However – this wiki might not be so easy to set up, and/or maintain as researchers usually see this as "something that can be done tomorrow." The US uses pressure so that if the data are not uploaded by a certain deadline then no more research money (not ideal, but this seems to work)

5- *Data sharing and linking with existing initiatives*

This could also be linked up to the above-mentioned wiki

6- *Specific activities on IAS*

Projects such as SIGNAL, RESIPATH, SALMONINVADE, PROBIS could work on common themes, problems differences
Possible questions:

- Why do humans spread IAS
- Meta-analysis: effects of con versus heterospecific invaders
- Management implications

7- *Specific activity/paper on a synthesis of the projects on multifunctional landscape*

- there is a need to identify shared interest and data
- meta-analysis on common research interests could be done for identifying possible collaborators, e.g. by scanning through the short summaries of projects in the BiodivERsA database.
- possible basis for collaboration would be: similar questions, systems, case studies (either through BiodivERsA or through other projects)
- possible topics: Multifunctional agricultural system and Aquatic Systems (the topics might overlap at different points: ecosystems, their handling, etc.)
- What is the proposal going to be: a Nature paper, Synthesis, Meta-analysis, position paper?
- Invite externals for topics or parts we cannot cover ourselves
- BiodivERsA facilitation and potentially funded workshop
- Identified partners who are interested in the possible topic of multifunctional agricultural systems: BASIL, ECODEAL, ECZIC, REGARD, CONNECT, APPEAL, TALE, FARMLAND, EC21C

8- *Model sharing on agricultural landscapes*

Regional/landscape scale assessments combining

- land uses (vineyards, arable F., grasslands)
- ecosystem parts (above versus below ground)
- Parts of EU policies (CAP EFAS, AE Schemes)
- Ecosystem services

from different projects

COMMENT: CONNECT developed a toolbox with ecosystem services models. This is open-source written in R and will be put online soon on the website of VU University, Netherlands.

9- Building consortia for new projects

10- Organising common workshops and other networking activities

Conclusions

Participants were able to identify a wide range of potential issues/questions that could be tackled by putting results of several projects together. However, few policy makers attended the workshop and it will be necessary for each of these questions to be again discussed with additional relevant policy makers and with professional knowledge brokers to make sure the wording and the expectations are appropriate. In addition, each of these potential policy brief needs to be further elaborated

We suggest the following approach:

- Step 1: Set-up a consultation with policy makers (both those who were present at the meeting, and others) to explore which policy brief topics are of highest interest to them (the current order in table 1 is only reflecting workshop participants interest), and to identify which issues will need to be further explored
- Step 2 (i.e. once the topics have been selected): The main points for each brief should be further detailed with clear(er) identification of how the different projects could contribute (using Table 1 as a basis). Maybe, one of the PIs could act as a lead for this task
- Step 3: The actual writing of the policy briefs should be done by the contracted knowledge broker selected through a call for tender, but in close collaboration with the BiodivERsA scientists, and policy makers. This will be key to the production of relevant, credible and attractive policy briefs.

Table 1: Summary of policy briefs/topics that were discussed. The ones that received the most votes (and hence further detailed) are highlighted in bold

Topic	Question/policy brief	Interested projects
Multifunctional landscapes	Tackling the problem of 'policy silos' (i.e. disconnected, sometimes even contradicting policies – neglecting intersectoral linkages and synergies) to improve the governance of biodiversity and ecosystem services at local/landscape level	TALE, CoForTips, ECODEAL, CONNECT, VINEDIVERS, BASIL, FARMLAND, ECOSERVE, VITAL, SCIN
	Good indicators for land management policy impact on biodiversity and ecosystem services	TALE, ECODEAL, VINEDIVERS, BASIL, FARMLAND, ECOSERVE, VITAL, APPEAL, LINKTREE and TIPTREE
IAS	Which IAS should we focus on?	SALMOINVADE RESIPATH, PROBIS
	Economics of management.	INVAXEN, RESIPATH, PROBIS, DIARS, LINKTREE
	No one size of management fits all	INVAXEN, RESIPATH, PROBIS, DIARS, LINKTREE

	Increase general sensitivity/awareness to IAS issue.	SALMONINVADE, RESIPATH, INVAXEN, PROBIS, DIARS
Tipping points	**What are tipping points especially in relation to ecosystem services, and how can tipping points be prevented and/or managed?**	BUFFER, CoForTips, EC21C, RESIPATH, LinkTree, TipTree, TIPPINGPOND
	What are the main processes leading to socio-ecological systems (SES) tipping points?	Potential leader: Joachim CLaudet SCIN, URBES, BUFFER, CoForTips, LinkTree/TipTree, REGARDS, Signal, VineDivers, INVALUABLE
Resilience	Is a healthy ecosystem in a cultural landscape resilient?	Hercules, Connect, Buffer, EC21C, VineDivers
Ecosystem services	How can trade-offs between ESS and trade-offs between ESS and other policy goals be dealt with in local planning/at the local level?	COFORTIPS, BASIL, Farmland/VineDivers/TALE/Ecoserve, CONNECT, APPEAL, BUFFER
	Specific Policy brief on: "How to take landscape heterogeneity into consideration when planning land use?"	Potential leader: Joachim Spangenberg APPEAL, Farmland
	In ESS mapping and accounting (at the national and EU level): which assumptions are reliable/ what are potential pitfalls in: • spatial aggregation • ecosystem services categorisations (also with regard to adding up across services) in order to make informed policy decisions? (avoid unintended side-effects due to oversimplification). Adding up requires commensurability, which is a priori not given. In practice, it is done by defining a common denominator such as utility or price, but that adds up aspects of each ESS, not the quantity of ESS themselves.	CONNECT, BASIL
	What are the best options to ensure pollination? What is a good equilibrium between promoting beekeepers and wild non-managed pollinators.	Beehope, Connect.

Annexes

Annex 1: Final Programme

Tuesday 23 June 2015

(BiodivERsA project researchers, policy makers and knowledge-brokers are invited to this session)

10.00 – 12.30: Welcome and Introductory session

10:00-10-20 Ice-breaking exercise & Aims of the workshop & practicalities (E.Balian & H. Eggermont, Belspo/BBPF)

10:20-10:40 Challenges of the Science Policy Interface- and potential ways to Improve the SPI dialogue, lessons from the SPIRAL project (J. Young, CEH)

10:40- 11:00 Communication and Stakeholder engagement in research projects (Matt Smith, JNCC)

11:00-11:20 Policy briefs: strengths and weaknesses (P. Sjogren-Gulve, SEPA, E. Balian, Belspo/BBPF)

11:20- 11:40 A policy perspective on policy briefs (C. Fragakis, European Commission-DG RTD)

11:40– 12.30: Flash presentations of BiodivERsA projects

12:30-13:30 Lunch Break

13:30- 17.00 Round table discussion

Introduction to the round table discussion process (E. Balian)
Part1 (60'): Discussion on current hot policy topics and co-building of policy relevant questions. Participants are assigned to the following topics:
Part1 Plenary reporting (30')

Coffee break (15')

Part2 (60'): Development of draft policy briefs on previously discussed policy questions
Part2 Plenary reporting (30')

The objective is to have, at the end of the day, a team of projects working on a specific policy relevant question with a draft scheme for a policy brief that might be developed further after the workshop, and a direct contact with policy makers awaiting for the brief.

18:30 Cocktail

Wednesday 24th June (am)

(Only BiodivERsA project researchers are invited to this session)

9.30 – 9.45: Wrap-up of 1st day work (E.Balian)

9:45- 10:00 Project life cycle and opportunities for clustered activities (F. Lemaître, FRB)

10.00 – 11.30: Discussion on other potential collaborations between BiodivERsA projects

Plenary discussion (35')
Now that they know other projects better, researchers will be asked to reflect on other collaborations between projects they think would be profitable to them.

Coffee break (15')

Round table discussion (40')
From the results of the plenary discussion, smaller groups will be invited to further explore these collaboration possibilities and identify:

- objectives of the collaboration and added-value
- necessary means
- possible challenges and ways to overcome them

11.30 – 12.30: Reporting and Conclusions/next steps

12.30 – 14.00: Lunch

Annex 2: list of participants

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