

Welcome to the web based questionnaire for Strategic Research Environment! Before you start reporting, make sure to read the instruction and prepare the Excel files that has been attached in a previous e-mail.

#### FRÅGA 1



**This report concerns the research environment named Biodiversity and Ecosystem services in a Changing Climate - BECC (akronym: EffnatLu). If you have more than one environment to report, please be sure that you fill in the information in the relevant report!**

#### FRÅGA 2



**Q. QUESTIONS FROM THE GOVERNMENT**

#### FRÅGA 3



**Q1. Please state the main priorities within the environment in 2013.**

Biodiversity and Ecosystem Services in a Changing Climate (BECC) is a research programme within the Strategic Research Area (SRA) "Effekter på naturresurser, ekosystemtjänster och biologisk mångfald".

Our vision is to create a world-leading interdisciplinary research programme on climate- ecosystem-biodiversity relationships at multiple scales, bringing together ecological modelling with empirical studies and linking this with policy and governance for the sustainable management of ecosystems and biodiversity in a rapidly changing world. To this end the main priorities during 2013 have been:

\* To further integrate our high quality research across disciplines, thereby increasing our ability to predict consequences of climate change on sustainable production, biodiversity and ecosystem services.

\* To stimulate research development and integration of research in education, by creating career opportunities for promising young researchers in relevant fields and by recruiting new researchers with relevant competence both as permanent staff and guest researchers.

\* To strengthen and increasingly use infrastructures important for research on climate, land use and biogeochemical cycles, including the MAX IV synchrotron facility at Lund University (LU).

\* To increase BECC's contribution to policy development on climate change and ecosystem services by promoting interaction with authorities from the local to the European level.

Since BECC is a large and growing research environment, comprising 180 researchers and 70 PhD-students across disciplines, an important priority during the past year has been the further development of a strong and effective management, support to researchers and efficient outreach.

## FRÅGA 4

**Q2. Please describe the major activities within the environment in 2013.**

BECC has significantly developed and consolidated as a research environment since its creation four years ago. BECC research remains on a scientifically high standard, resulting in publications in highly ranked international journals, frequent citations and the attraction of large grants from national and international research councils.

This year the board initiated an internal review, identifying ways to strengthen cross-disciplinary research and policy relevance. The review was discussed within BECC and with the scientific advisory board. Our stakeholder reference group (jointly with the MERGE-SRA), was used to identify areas for joint research and synthesis. Mechanisms set up to promote cross-disciplinary research have resulted in significant research grants and collaborative projects with stakeholders.

An internationally leading scientist in molecular spectroscopy of organic material and mineral surfaces, Professor Per Persson, has been recruited into the BECC environment. Several young researchers have been recruited as senior lecturers and researchers and are now establishing promising independent careers. The environment has been further strengthened by several new PhD-studentships with a cross-disciplinary focus.

The Skogaryd Research Catchment established by researchers at Earth Sciences, University of Gothenburg (UGOT), was selected as one of the key terrestrial and limnic stations in the Swedish Infrastructure for Ecosystem Science (SITES), a key national infrastructure. In a successful, competitive bid, Sweden and LU was selected to host the Carbon Portal, a central facility of the Integrated Carbon Observation System, ICOS, a European infrastructure for ecosystem and atmospheric greenhouse gas research and monitoring.

BECC has invested in making research relevant and used for policy. BECC researchers are active as scientific advisors and experts, and in synthesis activities in close collaboration with stakeholders. Initiatives like the BECC annual meeting theme on the "green economy" aim to promote relevance and outreach by making stakeholder concerns and policy agendas better known to the BECC researcher community.

## FRÅGA 5

**Q3. Please describe the major results within the environment in 2013.**

Some highlights from the BECC environment during 2013 are:

In findings of high interest in global carbon cycle research, BECC researchers have demonstrated that carbon in the soil of a boreal forest largely originates from roots and root associated microorganisms, and that carbon losses from agricultural and grasslands soils can be strongly influenced by the properties of the soil food web.

BECC has developed ecosystem modelling and related methodology. The dynamic vegetation model LPJ-GUESS has been expanded to include managed vegetation, to target additional ecological interactions, and to evaluate adaptation options for forest management under climate change.

By combining modelling, monitoring and experiments, to examine synergies between climate change and lake brownification in detail, it was found that biological community responses to global change are determined by properties of the food-web. These results provide an important framework for predicting future aquatic ecosystems and their ecosystem service provisioning.

Arctic ecology studies have demonstrated important interactions between climate change and altered land use (reindeer grazing) in their effects on vegetation in the Scandian mountains as driven by climate change and their combination.

Regional climate modelling, ecosystem modelling and palaeoecological analysis of past land use and land cover combined using an innovative statistical approach has for the first time discriminated the relative influences of past human land use and natural vegetation dynamics on land cover-climate interactions in Northern Europe over past centuries to millennia.

In a seminal book, political scientists analysed climate and ecosystem governance in relation to international institutions as well as in the national context. This research provides new insights into how climate change creates new forms of social order and the role of the State for climate and environmental governance.

## FRÅGA 6



## A. GENERAL QUESTIONS

Only changes during 2013 are to be stated.

## FRÅGA 7



## A1. What effect has the strategic research initiative(s) had on your university?

The strategic research initiatives have helped highlight cross-disciplinary research at Lund University. They have enhanced research and they have created added values for the university – and potentially for the national level. The BECC initiative has significantly strengthened cross-disciplinary research and discourse at LU, involving researchers from disciplines ranging from the biological and physical sciences to economics and political science, as well as collaboration between researchers at LU and UGOT.

The strategic initiatives have raised new challenges in terms of leadership and management. LU has responded by launching a two-year leadership program for the coordinators and deputy coordinators of the initiatives. This program is now completed.

The strategic research initiatives promote the knowledge triangle. In addition to generating scientific breakthroughs, they develop education by bringing scientific frontiers of the themes represented by the respective initiatives into research schools and undergraduate programs. Thus they play a decisive role in implementing the university's goal to provide research-based education of high quality. This year BECC has been strengthened by new PhD-studentships with a cross-disciplinary focus. Strategic research initiatives contribute significantly to the advancement of research infrastructure, and by making this infrastructure accessible to user groups beyond their own, they contribute to the propagation of knowledge, competence and research opportunities. This year BECC has begun to use the new synchrotron radiation facility MAX IV in Lund for ecosystem service and climate research. The strategic research initiatives are also active on the innovation front and new patents are under way as are deepened collaborations with industry and the public sector. BECC has significantly contributed to policy development regarding climate change and ecosystem services through interaction with authorities from the local to the European level.

Several of the initiatives have come a long way with implementing a very promising developmental dynamics by recruiting young researchers who contribute different expertise and different angles to the research challenge and by empowering them to develop their own line of thinking. Several young researchers recruited by BECC are now establishing promising independent careers. The Centre for Climate and Environmental Research (CEC) acts as a knowledge hub for cross-disciplinary research interactions and outreach activities, contributing to the long-term development of BECC. Guest researchers have strengthened BECC's international collaborations. Yet another bonus effect is that the strategic initiatives, including BECC, have made possible strategic recruitments, including a BECC-associated professorship in molecular geochemistry.

The research environments created by virtue of the strategic initiatives represent a very valuable resource for the future. A greater variety of attractive research environments are available on both a university and a national level, providing opportunities for talented researchers, both in a starting phase or a truly advanced phase of their careers.

## FRÅGA 8


**A2. Describe the model according to which the resources have been allocated.**

Of the Government strategic research funding of 24 137 000 SEK to BECC, 22 % has been allocated to the co-applicant Higher education institution University of Gothenburg in the same way as the previous year, which is according to the distribution given in the application and decision by the Government.

As in the previous year the overall strategy for allocation of funding within BECC has been suggested by the collaboration board, having representatives from LU and the UGOT. A joint steering committee for BECC and MERGE at GU, with representatives also from LU, has detailed the allocation within GU. The final decision has been taken within each university according to internal rulings.

Of the funding of 18 827 000 SEK allocated to use within LU, 5 % has been used for actions benefitting all twelve strategic research areas within LU to enhance strategic planning and quality assurance. The actions include two leadership programmes, common administrative support and coordination, a senior advisor in strategic research questions, coordinated profiling and communication and internal follow-up. The rest of the funding to LU has in the same way as previous years been allocated to the LU-internal board of BECC for further distribution.

These activities comprise management, infrastructure, research projects and outreach according to the aims defined and challenges identified in 2010. Proposals from BECC researchers, generated by discussions in research groups were discussed in meetings within thematic research clusters and formed a further detailed work plan on which the budget decision was based. The main criteria used for allocating resources to research was the contribution to the central aims of BECC, e.g. fostering links between empirical ecology and modelling and between natural and social science. Similarly, at UGOT, resources have been allocated using the same principles as in 2010. The basic difference is that allocation of resources follows a research plan accepted by University of Gothenburg, resulting in substantial co-funding. The research plan is closely linked to the overall strategy for BECC as decided by the BECC board.

## FRÅGA 9


**A. GENERAL QUESTIONS**

Only changes during 2013 are to be stated.

## FRÅGA 10


**A3. What effect has the strategic research initiative(s) had on the co-applicant university/universities (if any)?**

In 2012 the University of Gothenburg decided on a new vision and long term strategy for 2020 (Vision 2020). It includes the principle of Strong Civic Responsibility, i.e. engagement in close cooperation with the surrounding society and for sustainable development. Emphasis is put on complete academic environments which are based on interaction between research, education and cooperation with the society. The strategic research area BECC fits well into the vision and will support its implementation. Thus the University has prolonged the co-funding (50% of the means directly from the Government) for the coming years and the appointment of the coordinator.

During 2013 the BECC programme at the University of Gothenburg has continued to work according to the plan that was decided at the start. One important recruitment was made during 2013: a position as lecturer in Plant Ecophysiology. The collaboration with Lund University has deepened in several ways. There are several research projects involving staff from both universities, combining different skills and competences. The joint (Lund University and University of Gothenburg, BECC and MERGE) research school ClimBEco had its third round of acceptance of PhD students in 2013. Its mentoring programme, with activities in Lund and Göteborg, for the second round of PhD students, has been highly appreciated by the PhD students. To stimulate research synthesis and collaboration with Lund University and with MERGE, a call for project proposals in the autumn of 2012 based on 2 MSEK, which were not allocated at the start of the SFO, has in 2013 resulted new projects, several representing collaboration with Lund University. During 2013 an internal evaluation of the BECC SFO was conducted on the initiative by the BECC board. It resulted in a joint report for the activities at Lund University and the University of Gothenburg and showed strong research achievements by the BECC research environment, including high level research and stakeholder interaction. Several successful research areas within BECC are the result of collaboration between the universities. The planning for BECC activity in 2014-2015 has started; the activity will represent deepened interaction with Lund University, e.g. by a common call for proposals in early 2014.

## FRÅGA 11



**A4. Will the university monitor and assure the development within the strategic research environment(s)? Please state how and why.**

Cross-disciplinary research is at the core of the research strategy of Lund University and we therefore carefully monitor and assure the development of the strategic research areas.

During 2012 the Assistant Vice-chancellor of research conducted follow-up and planning talks with 29 strong research environments at Lund university, including 12 strategic research areas (9 with LU as leading partner and 3 as associate partner), resulting in a comprehensive report which was finalized in 2013. The report gives a bird's eye perspective on the research environments in terms of SWOT analyses and a summary of their plans and visions for the future. The report also proposes criteria for evaluation of the research environments and forms for their development. The criteria include dimensions such as quality, creativity/vitality, added value (notably, their ability to create opportunities for education and young researchers), sustainability, branding and story (what was the situation before the instigation of the research environment, what has the environment contributed, what is the potential for the future). Forms of development discussed include networks, centres, institutes and schools. The interdisciplinary or cross-boundary conditions of the research environments sometimes present challenges and the report includes good examples and best practice derived from the research groups' experiences with problems and solutions.

In spring 2014, Lund University will organize a national conference on the Strategic Research Areas. The purpose of the conference is to present and discuss their role for Sweden as a research nation and for challenge-driven research, not the least Horizon 2020. The conference will also be offered as a LERU (League of European Research Universities) conference and selected pro-vice chancellors of research from LERU will be invited to present their strategies for strong research environments and their role in the development of European research initiatives.

Further, Lund university has decided to implement a new assessment procedure, replacing the previously planned follow-up of RQ08, "RQ14". Instead, we will create a continuous process where a main responsibility lies with the individual faculties working with goals, strategies, evaluation and benchmarking. Cross-disciplinary aspects of this process are planned to be strengthened with a special cross-disciplinary committee.

During 2013 the BECC board in dialogue with the PI's undertook an internal review of the scientific progress and development since 2010 in relation the objectives as stated in the BECC proposal. Progress, gaps and possible measures to fill them were identified and the report was discussed with the Scientific Advisory Board (SAB) and the BECC community at the 2013 annual meeting.

## FRÅGA 12



**B. DESIGN**

## FRÅGA 13



**B1. Strategic research programme**

**Only changes during 2013 are to be stated.**

## FRÅGA 14



**a. List and describe the major challenges of the strategic research programme.**

The challenges were described in the 2010 reporting. No new major challenges have arisen since then.

## FRÅGA 15



**b. Describe the initiatives taken to meet these challenges.**

\* A key challenge in BECC is to integrate our high quality disciplinary research into cross-disciplinary interactions needed for predicting the consequences of and identifying measures in the face of climate change impacts on sustainable production, biodiversity and ecosystem services. During 2013, the BECC board initiated an internal review encompassing an inventory of the current cross-disciplinary activities and achievements since the start of the program in 2010. The report identifies the gaps, and proposes and prioritizes the activities to fill these gaps.

\* Little is known about the molecular processes that control the transformation of C and nutrients, and this limits our ability to predict how ecosystems services like C sequestration and mobilization of nutrients will respond to climate changes. However, molecular geochemistry is under rapid development due to the applications of novel spectroscopic methods. To become an active part of this development, the BECC environment has during 2013 recruited an internationally leading scientist in molecular spectroscopy of organic material and mineral surfaces, Professor Per Persson.

\* During 2013, BECC has participated in developing several important infrastructures that will significantly promote research within the area of Climate, land use and biogeochemical cycles. ICOS-Sweden (the Swedish part of Integrated Carbon Observation System) is a European research infrastructure to quantify and understand the greenhouse gas balance of the European continent that is coordinated by researchers at Physical Geography and Ecosystem Sciences, LU. The Skogaryd Research Catchment (SRC) station has been established by researchers at Earth Sciences, UGOT. SRC was recently selected by the Swedish Research Council to be one of the key terrestrial and limnic stations in the Swedish Infrastructure for Ecosystem Science (SITES). BECC is also through the recruitment of Per Persson involved in the development of the MAX IV synchrotron facility at LU. Another important area of infrastructure that is currently being promoted in BECC is the development of web-based tools for analysing climate data and scenarios, and for storing and disseminating data generated by the BECC research community.

\* BECC promotes new cross-disciplinary research by stimulating interactions among researchers, e.g. through the new multi-disciplinary research faculty "CEC fellows", or by promoting establishment of new cross-disciplinary projects, e.g. the new ERA-NET Rural Development through Governance of Multifunctional Agricultural Land-use. Furthermore, new cross-disciplinary research in risk analysis and decision making has resulted in new externally-funded research projects. We have proposed a methodological framework to produce decision support that aims to develop guidance and case-studies of scientific principles behind evidence-based management. This framework, referred to as environmental evidence synthesis, brings together multi-criteria decision problems, stakeholder involvement, quantitative modelling, predictive statistical inference, meta-analytical evaluations and an extended perspective of risk and uncertainty.

## FRÅGA 16



**c. Are there any major changes in the research programme introduced in 2013? Please, describe and motivate. This information is important in order to monitor the development of the strategic research environment.**

There are no major changes in the research programme compared to the plan given in the application.

## FRÅGA 17



**B2. Strategy and plan for process of knowledge transfer and utilization of research findings**

Only changes during 2013 are to be stated.

## FRÅGA 18



**a. Describe the major challenges concerning knowledge transfer and utilization of research findings.**

The challenges were described in the 2010 reporting. No new major challenges have arisen since then.

## FRÅGA 19



**b. Describe the initiatives taken to meet these challenges.**

During 2013 we have worked with our stakeholder reference group (jointly with the MERGE-SRA) comprising representatives of key stakeholder groups, to identify areas for joint research and synthesis projects. Several new research projects actively involve partners from society and private companies, e.g. regional administrative boards, the Swedish environmental protection agency and farmer advisor consultants. Examples include a project with the Region Skåne on regional consequences of climate strategies, and a project with farmer advisors on accounting for ecosystem services in decision making. The Centre for Environmental and Climate Research (CEC) at Lund University has launched a publication series for research syntheses, the first, based on another joint project with the Region Skåne, dealing with ecosystem services and their management in agricultural landscapes of Skåne.

BECC researchers have been engaged in official efforts, from the global to the local scale, targetting science-based management of climate, biodiversity and ecosystem services, as well as the public debate surrounding such issues. BECC researchers are also engaged in solving environmental questions by using scientific knowledge in environmental management, e.g. through the Mistra Council for Evidence-based Environmental Management (<http://www.eviem.se/en>) where BECC researchers carry out systematic reviews (soil carbon, wetlands for N and P removal).

During 2013 researchers organized a number of BECC workshops and seminars centred on topics of interest to stakeholders as well as workshops involving stakeholders, focusing on e.g. monitoring and governing carbon stocks in forest, forestry in a changing climate, emission of greenhouse gases from organic soils, and the use of cultural heritage information for the interaction between urban planning and climate-environmental research. BECC's annual meeting focused on how to consider ecosystem services in society under the theme "Green Economy".

BECC has made significant contributions to public outreach, e.g. through the Anthology "15 Touch-downs into Climate research-Past, Present, Future" (15 nedslag i klimatforskningen), to which several BECC researchers contributed. Another initiative taken during 2013 is the BECC Policy and Science Briefs series that targets both stakeholders and the public.

## FRÅGA 20



**c. Have there been any major changes in the planned activities during 2013? Please, describe and motivate. This information is important in order to monitor the development of the strategic research environment.**

No major changes during 2013.

## FRÅGA 21



**B3. Collaboration/strategic alliance partners in 2013**

## FRÅGA 22



Please upload the excel file B 3 Collaboration/strategic alliance partners, in which you have listed the collaboration/strategic alliance partners in 2013, in relation to the strategic research environment. Define the extent of the collaboration according to the scale below.

## Extent of collaboration

**3: Collaboration/strategic alliance partner that is part of the core of the environment. The collaboration/strategic alliance partner is contributing with long-lasting resources to the environment.**

**2: Collaboration/strategic alliance partner which supports and participates in subprojects in the environment.**

**1: Collaboration/strategic alliance partner that participate in open activities without contributing with resources to the environment.**

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 23

**B4. Recruitment**

Only changes during 2013 are to be stated.

## FRÅGA 24



**a. Describe the strategies for recruitment to the strategic research environment.**

BECC has continued to pursue a strategy of facilitating the migration of promising early- and mid-career researchers in relevant fields to tenure-track or permanent academic positions, in dialogue with involved departments. During 2013 researchers active within BECC have been recruited to senior lectureships in physical geography and ecosystem science (LU), senior lectureships in plant and environmental science (GU) and environmental economics (GU), and a new professorship in ecosystem science (LU). Three of these recruitments are women.

Strategic recruitments is a way to promote critical research areas; during this year an internationally leading scientist in molecular spectroscopy of organic material and mineral surfaces, Per Persson, was recruited as professor.

Parallel to promoting academic recruitments, BECC is supporting researchers from postdoc level in preparing high-quality proposals for external funding, to facilitate their development as independent researchers. For example, two postdoc-level researchers at LU have gained substantial FORMAS research council grants during 2013 in areas contributing to core objectives of BECC.

## FRÅGA 25



**b. Describe career opportunities offered by the strategic research environment to young researchers.**

As stated above, BECC has actively pursued a strategy for creating career opportunities for promising young researchers in relevant fields. In addition, numerous time-limited postdoctoral positions have been created during the course of BECC to establish or expand research within specific thematic areas. Three of the postdocs, employed 2011, were extended through 2013 following an application by the postdoc supervisor/host confirming good progress towards original objectives and motivating a need for extension (for example to address new questions raised by the original research). A tenure-track junior lectureship in political science, partly funded by BECC for 4 years, will become a permanent senior lectureship, subject to a successful evaluation for promotion, in 2015.

BECC further supports senior lecturers, doctoral students and persons on non-permanent researcher contracts with part-time salary support. There is also support to researchers in preparing high-quality proposals for external funding, to facilitate funding of permanent positions.

## FRÅGA 26



**c. Describe the strategy/plan for staff mobility between the university (universities) and business or public sector (e.g. staff exchange program).**

BECC has a guest researcher programme that primarily targets internationalisation and exchange among academic researchers within the thematic scope of BECC. There is no specific strategy for staff mobility beyond academia. However, several BECC researchers have collaboration and links with non-university research organisations and institutes.

Within the stakeholder reference group there is ongoing dialogue on collaborations and possibilities for joint projects involving discussions about possibilities for staff exchange between BECC/MERGE and various stakeholder organisations and authorities.

During 2013 Per Erik Karlsson from IVL Swedish Environmental Research Institute has been a visiting professor at Gothenburg University within BECCs area of research. BECC researcher Ben Smith has spent 1 month as a visiting scientist at Commonwealth Scientific and Industrial Research Organization (CSIRO), Canberra, Australia, supporting the development of carbon accounting modelling in Australia. BECC researcher Thomas Sterner leads the economics team of Environmental Defense Fund (<http://www.edf.org/>), New York.

## FRÅGA 27



**B5. Education**

**Only changes during 2013 are to be stated.**

## FRÅGA 28



**The integration of education, research and innovation needs to be strengthened (knowledge triangle). Describe how curricula, teaching and examination, at all levels of education including doctoral level, are developed in relation to the strategic research environment.**

BECC promotes the cross-disciplinary training of PhD-students through the graduate research school ClimBEco. ClimBEco is a joint resource for the BECC and MERGE SRAs and associated research groups. It exposes and promotes learning and collaboration among young scientists in cross-disciplinary aspects of climate/Earth system, impacts, ecosystems and environmental management research, as well as linkages with policy and governance. ClimBEco annually admits PhD students to a two-year research school program, including biannual meetings, access to disciplinary and inter-disciplinary PhD courses, eligibility to apply for research travel grants, and an optional mentor programme aiming to strengthen personal development and career planning skills. During 2013 the programme accepted 22 new PhD students, hosted 8 PhD courses, hosted an international workshop, arranged two general meetings, granted funding for international research stays of 5 PhD students, and initiated a new mentor programme. In addition, PhD-students in BECC are encouraged to and participate extensively in BECC ordinary activities such as seminars, workshops and annual meetings.

BECC and its researchers play an important role in multiple undergraduate programs, including biology, environmental science, geology, environmental economics, physical geography and ecosystem science, and political science both at LU and UGOT. BECC promotes integration of education and research in several ways. During 2013 several researchers in BECC have been appointed as senior lecturers, in successful competition with other candidates in an open recruitment process. Within the BECC environment research activities are considerably more extensive than teaching activities and as a consequence we have highly competent teachers that bring research activities into courses and program curricula both at bachelor and masters levels, with several courses having close ties to specific areas of BECC research. The integration of research activities in teaching is a progression from using scientific principles in basic courses to participation in research projects and pushing skills of research development further in postgraduate and PhD courses. BECC researchers participate as teachers in our programmes and are active in examination and supervision of bachelor and masters theses. A significant number of bachelor and masters theses building on the research facilities and theoretical skills of active BECC researchers were conducted during 2013 at both universities. Young researchers and PhD students are encouraged to participate in courses in teaching skills, offered both by LU and UGOT, as a part of their career development.

## FRÅGA 29



**B6. Industrial and Societal problems addressed.**

**Only changes during 2013 are to be stated.**

## FRÅGA 30



**a. Describe industrial and/or societal problems and needs that are addressed.**

The industrial and/or societal problems and needs that are addressed were extensively described in the 2010 report. That description is still valid. However, BECC continuously work with keeping up to date with the development of the relevant policy agenda and societal needs at levels from the local to European.

The stakeholder reference group established in 2012, together with MERGE, has met during 2013 to discuss current and future needs and, in the light of these needs, identified possibilities for co-operation. BECC has additional direct links to stakeholders and decision-makers; e.g. the coordinator is a member of the "Miljöforskningsberedningen", an arena for dialogue between the Minister of the Environment and the research community; BECC researchers are involved in key national and international bodies dealing with societal research needs as listed in question D2F Policy Impact, as well as interactions with stakeholders within individual research projects.

In several of these contexts, the switch to a bio-based economy as an indirect consequence of climate change has been highlighted as a significant policy issue in need of additional research to highlight possible consequences for biodiversity and ecosystem services and propose ways to minimize negative impacts. Although this is in line with the original outline of BECC, it has been identified as an area in need of increased attention in BECC.

## FRÅGA 32



## C. PRECONDITIONS

## FRÅGA 33



## C1. Organization and leadership of the strategic research environment in 2013

## FRÅGA 34



**a. Describe how the strategic research environment is organized, including the set-up with co-applicant Higher education institutions (if any), and collaborating research institutes (if any) Specify the main bodies in the environment with an organization chart (please upload the organization chart below).**

BECC is headed by a joint board consisting of six members, five from Lund University and one from the University of Gothenburg. The board is headed by the coordinator, Prof. Henrik Smith. Within Lund University, BECC forms one of the cornerstones of the Centre for Environmental and Climate Research (CEC) at the Faculty of Science. CEC is led by a board comprising 13 delegates from various faculties at Lund University. CEC organizes activities jointly for the BECC and MERGE environments, such as a common research school and a communication office.

At the University of Gothenburg, BECC and MERGE are managed by a common steering committee, consisting of the Gothenburg coordinators for the two SRAs, the main coordinators of BECC and MERGE from Lund University and two scientists from the University of Gothenburg representing the two faculties involved. This arrangement will ensure that priorities set at the University of Gothenburg will be in line with the overall priorities of BECC and MERGE. The steering committee in Gothenburg reports yearly to the University of Gothenburg and makes a revised budget plan to fulfil the commitments associated with the 50% co-funding of the SRAs by the university.

BECC has a Scientific Advisory Board consisting of Frank Biermann, Vrije Universiteit (NL), Claus Beier, Norwegian Institute for Water Research (NIVA), Norway, Paula Harrison, Oxford, University (UK) and Kirsten Halsnaes, Risø (DK).

## FRÅGA 35



**Upload organization chart here**

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 36



**b. Describe the leadership and management (the main strategic and operative bodies) of the strategic research environment, including number of men and women in the management team, the decision-making procedure, and who is in charge. Also upload the excel file "C1 b List of personnel in management" that was sent out together with the instructions for reporting. The excel file should include name of person, name of institution/organization, gender and role in management (refer to the organization bodies in the organizationchart) for those active within the management during 2013.**

The BECC LU board has had some minor changes during 2013. The CEC board pro-longed the BECC BECC board consisting of Henrik Smith, Benjamin Smith, Anders Tunlid and Katarina Hedlund for the time period March 2013 to December 2014 as well as appointed Annica Kronsell as BECC board member from July 2013 to December 2014. Adjunct board member and acting cluster leader from January 2013 to July 2013 was Jessica Coria from the department of Economics at University of Gothenburg as well as Fariborz Zelli who was adjunct board member and acting cluster leader from March 2013 to July 2013.

## FRÅGA 37



**Upload excel file "C1b List of personnel in management" here**

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 38



**C2. List of participating personnel in the strategic research environment in 2013**

## FRÅGA 39



**a. Please upload the Excel-file "C2 a List of personnel" that was sent out together with the instruction for reporting. The Excel-file should include name of person, name of institution, gender, position, role in research environment etc for those participating more than 10 percent of full time in the environment during 2013.**

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 40



**Please also state the number of relevant personnel (female and male) participating more than 10 % of full time in strategic research environment (regardless of financing) during 2013. The number should be the same as the number of personnel that has been listed in the excel-file C 2 a Number of personnel.**

	Female	Male
Number of personnel	95	156

## FRÅGA 41



b. If the principal investigators differ from 2012, please comment.

Since last year 20 new PIs have been added. The new PIs are researchers on permanent positions that are now much involved in BECC research and activities (Anneli Poska, Daniel Conley, Dörte Lehsten, Fariborz Zelli, Fredrik Lagergren, Helena Filipsson, Johan Lindström, Johannes Rousk, Jonas Ardö, Jörgen Ripa, Karin Hall, Lars Eklundh, Lars Pettersson, Maj-Lena Linderson, Nils Cronberg, Robert Björk, Salim Belyazid, Tina Dhertefeldt, Tobias Rütting and Veiko Lehsten).

## FRÅGA 42



C3. Economic report for year 2013

## FRÅGA 43



a. Specify the income during 2013 to the strategic research environment. Include "in-kind contributions" and specify such contributions in question D3 (other comments). Use the same delimitation of your strategic research environment as in the last follow-up years, when specifying incomes.

	Government strategic research funding	Co-funding from main applicant Higher education institution	Co-funding from co-applicant Higher education institutions	Funding from collaborating research institutes	Funding from other collaborators	Other external funding
Funding in SEK	24137000	30433872	6150000	0	0	81150831

## FRÅGA 44



Please specify the types of funding sources included in "Other external funding" from the table above, together with a rough estimate of their relative contribution. (E.g. funding from public agencies, public research foundations, EU-framework programmes, other international funding, private non-profit organisations, or private companies). N.B an exhaustive list is not required.

Other external funding

Largest financiers year 2013 (%)	LU	UGOT
The Swedish Research Council (VR)	34%	0%
Swedish Research Council, Formas	29%	36%
Swedish International Development Agency (SIDA)	0%	38%
The European Union (EU)	12%	0%
Other financiers	25%	26%

## FRÅGA 45



b. Specify how the strategic research funding from the Government in 2013 (box one above) has been used. The use of funding shall include the use at co-applicant higher education institutions. "High cost equipment" is investments in infrastructure and shall be reported as purchase value or depreciations. Use the same model as in the last follow-up for years. "Infrastructure running costs" are costs for using infrastructure e.g. electricity, premises, rents and so on. "Other costs shall be specified in the box below.

	Personnel	Running costs	High cost equipment	Infrastructure running costs	Other costs
Costs in SEK	18142089	2050683	182511	0	8339670

## FRÅGA 46



Please specify the types of costs included in "Other costs" from the table above, together with a rough estimate of their relative size. N.B an exhaustive list is not required.

Other costs corresponds to the indirect costs according to the normal accounting systems at the universities involved.

## FRÅGA 48



C3. Economic report for year 2013

## FRÅGA 49



d. Specify the distribution of the Government funding 2013 to the strategic research environment.

	Share allocated to co-applicant Higher education institutions	Share allocated to collaborating research institutes	Share allocated to other collaborators
Share (in percent of Government funding)	22		

## FRÅGA 50



e. If the share allocated 2013 to the co-applicant Higher education institutions (if any) do not correspond to the one given in the application, please comment.

## FRÅGA 51



f. If collaboration with research institutes was intended in the application; does the share allocated or the amount of money spent on collaborative efforts 2013 correspond to the one given in the application? Please comment.

## FRÅGA 52



**C4. Use of research infrastructure**

This question regards the use of research infrastructure within the environment in 2013. For more information see the document FAQ 2013.

## FRÅGA 53



a. Please upload the Excel-file "C4 a Research infrastructure" that was sent out together with the instruction for reporting. The Excel-file should include the name of each infrastructure used within the environment 2013, what type of infrastructure (national/international), the objective for using the infrastructure (what the infrastructure is used for, free text, max 20 words), the extent of usage (alternatives: minor usage, some usage, extensive usage) and the relevance of the infrastructure for the environment (alternatives: for convenience, important, critical).

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 56



**D. RESULTS FROM THE STRATEGIC RESEARCH ENVIRONMENT IN 2013**

## FRÅGA 57

**D1 Scientific quality in international comparison**

## FRÅGA 58

**a. Describe the most important results during 2013, including development of new methods.**

In a finding that challenges a central dogma of carbon cycle research, BECC researchers have shown that soil carbon in boreal forest largely originates from roots and root-associated microorganisms, rather than above-ground biomass as commonly assumed. In another seminal study, it was for the first time demonstrated the C losses from agricultural and grasslands soils can be strongly influenced by the properties of the soil food web. These and related BECC findings highlight the need to conserve soil biodiversity across the world.

BECC has during 2013 finalised new developments of the LPJ-GUESS ecosystem model to represent managed vegetation and C-N biogeochemical interactions. Novel methodology for climate adaptation studies was demonstrated in an ecosystem model-based analysis of adaptation options for Swedish forest management under climate change.

Using modelling, monitoring and experimental data, BECC researchers have for the first time in detail characterised synergies between climate change and brownification, showing that biological community responses to global change are determined by food-chain length. The study will provide an important framework for predicting future the provision of ecosystem services and water resources from aquatic ecosystems.

Regional climate modelling, ecosystem modelling and palaeoecological analysis of past land use and land cover combined using an innovative statistical approach has for the first time discriminated impacts of past human land use and natural vegetation dynamics on Holocene land cover and its feedbacks to the climate of Northern Europe.

Arctic ecology studies within BECC have demonstrated important interactions between climate change and altered land use (reindeer grazing) in their effects on vegetation in the Scandian mountains as driven by climate change and their combination.

In a seminal book BECC researchers analysed climate and ecosystem governance in relation to international institutions as well as in the national context. This research provides new insights into how climate change creates new forms of social order and the role of the State for climate and environmental governance. Other research on an incentive-based mechanism of global climate governance has demonstrated how successful implementation depends on the political and social context.

## FRÅGA 59



**b. Describe briefly the development since the start and the standing of the strategic research in an international context (state of the art).**

BECC research remains on a scientifically high standard and researchers increasingly engage in cross-disciplinary efforts to target issues in the climate-biodiversity-ecosystem service field. Large external grants demonstrate that BECC is increasingly recognized, nationally and internationally, for high-quality disciplinary and cross-disciplinary research in this field. Space only allows a few highlights:

\* The LPJ-GUESS dynamic vegetation-ecosystem model platform integrates process knowledge and observational data, and can address climate and land use impacts on ecosystems on scales not amenable to experimental or field observation. LPJ-GUESS is also used within Earth (climate) system modelling, accounting for vegetation- and carbon cycle-mediated feedbacks in a global (EC-EARTH) and a regional (RCA-GUESS) ESM. Within BECC it is being developed with the aim to provide a state-of-the-art tool for studies of the coupled climate-landuse-ecosystem feedback system.

\* BECC is at the research forefront by combining modelling and molecular methods to understand biogeochemical processes in a changing climate. This development, including the strategic recruitment of a professor in molecular geochemistry and proposals of using the synchrotron radiation facility MAX IV, has resulted in a major grant from KAW to study molecular interactions controlling soil carbon sequestration.

\* BECC research on indirect effect of climate change on agricultural and silvicultural land use, involving both large field-studies and ecological-economic modelling, has resulted in the coordination of the ERA-NET project MULTAGRI and BECC-participation in several European research projects.

\* BECC is in the scientific forefront when it comes to revealing direct impact of climate change on biodiversity. Monitoring data administered by Lund University is increasingly used in collaborative international research.. BECC limnologists have developed a combination of field monitoring and mesocosm experiments to understand aquatic regime shifts and their relation to climate change. Their standing is shown by the coordination of the ERA-NET project LIMNOTIP.

\* BECC has developed strongly in the field of ecophysiological vegetation responses to elevated ozone and carbon dioxide concentrations as well as rising temperature. An important related area concerns the acclimation responses of trees to altered temperatures, including also genetic aspects, where BECC researchers contribute to a large European gradient study from France to Central Sweden.

\* Biogenic emissions of greenhouse gases (GHG) is an area of strength with important findings on the conditions promoting soil emissions of nitrous oxide based on cutting edge measurement and experimental techniques. BECC researchers quantify the substantial role of drained wetland for the emissions of biogenic GHGs, contributing to the understanding of the relative importance of different sources of GHGs. This research is of importance for decisions on land-use.

\* BECCs strong research on climate change impacts and feedbacks in the Arctic has significantly developed through the establishment of the Nordic Top-level Research Initiative DEFROST that seeks to bridge existing gaps between climate modelling, cryospheric science, and Arctic ecosystem science.

\* Governance research in BECC has attracted major book contracts: *Governing the Climate: New Approaches to Rationality, Politics and Power* (Cambridge Univ. Press), *Rethinking the Green State: Environmental Governance towards Climate and Sustainability Transitions* (Routledge/Earthscan) The internationally leading Environmental Economics research group at Gothenburg University has utilized BECC to increase cross-disciplinarily, by joint research projects with ecologists at both LU and GU.

## FRÅGA 60



**D1. Scientific quality in an international comparison**

## FRÅGA 61



**c. Please upload the Excel-file "D1 c List of degrees" that was sent out together with the instruction for reporting. The Excel-file should include name of person, gender, type of degree obtained in 2013.**

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 62



Please also state the number of obtained doctoral and licentiate degrees (male and female) during 2013, from the strategic research environment. The numbers in the boxes below should be the same as the number of degrees that have been listed in the excel-file D 1 c.

	Female	Male
Number of PhD degrees	6	7

## FRÅGA 63



	Female	Male
Number of Lic degrees	2	0

## FRÅGA 64



D.1 Scientific quality in an international comparison

## FRÅGA 65



**d. Publications 2013**

Please only list articles published during 2013, not submitted papers or manuscripts. Please upload the Excel-file "D1 d i-iii List of publications" that was sent out together with the instruction for reporting. All sheets in the excel-file should be filled in with information on the following areas before uploading.

i. Scientific peer-reviewed publications in refereed journals. Including: Authors, Title, Journal, Volume, Issue, Pages (x-y) and Year of Publication.

ii. Peer-reviewed conference papers.

iii. Other scientific publications (books, theses etc).

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 66



Please also state the number of publications in 2013 from the strategic research environment. The number should be the same as the number of publications that has been listed in the excel-file D 1 d i-iii.

	Number of scientific peer-reviewed publications	Number of peer-reviewed conference papers	Number of other scientific publications (books, thesis etc.)
	255	15	60

## FRÅGA 67



D.1 Scientific quality in an international comparison

## FRÅGA 68



e. Conferences, research visits and visiting researchers in 2013

Please upload the Excel-file "D1 e i-iii List of conferences etc" that was sent out together with the instruction for reporting. All sheets in the excel-file should be filled in with information on the following areas before uploading:

i Major conferences and seminars arranged.

ii Visiting researchers (not included in C2a) and duration (more than 2 weeks). (Name, position, home university etc).

iii Research visits by personnel in the strategic research environment (included in C2 a) and duration (more than 2 weeks). (Name, position, host university, department etc.).

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 69



Please also state the number of conferences, visiting researchers and research visits during 2013. The number should be the same as the number that has been listed in the excel-file D1 e i-iii.

	Number of conferences	Number of visiting researchers	Number of research visits
	3	22	23

## FRÅGA 70



## D.2 Strategic importance for the business sector and society

It needs to be stressed that there is a significant time-lag between the production of results and their impact on the business sector and society.

## FRÅGA 72



## b. Innovation impact in 2013

Some research has an impact on industry and society e.g. concerning improved methods for treatment, improved effectiveness etc.

i. Please state names and business registration numbers (only for Swedish organizations) of the organizations that during 2013 have utilized results and competence from the strategic research environment in the development of improved methods etc.

Start by specifying the number organizations utilizing results and competence from the strategic research environment in the development of improved methods etc. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of organization, business registration number and comments (if any).

Number of organizations

Name of organization	Business registration number	Comments (e.g. type of innovation)

## FRÅGA 73



## D2. Strategic importance for the business sector and society

## FRÅGA 74



## b. Innovation impact in 2013 (cont.)

Some research has an impact on industry and society e.g. through supporting the development of new goods, services or processes.

ii. Please state names and business registration numbers (only for Swedish organizations) of the organizations that during 2013 have utilized results and competence from the strategic research environment in the development of goods, services or processes.

Start by specifying the number of organizations utilizing results and competence from the strategic research environment in the development of goods, services or processes. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of organization, business registration number and comments (if any).

Number of organizations

Name of organization	Business registration number	Comments (e.g. type of innovation)

## FRÅGA 75



## D2. Strategic importance for the business sector and society

## FRÅGA 76



## b. Innovation impact in 2013 (cont.)

iii. Have new or improved products/groups of products such as services or goods been utilized by public organizations during 2013?

Yes

No

## FRÅGA 77



iv. Have new or improved products/groups of products such as services or goods been introduced in the market during 2013?

Yes

No

## FRÅGA 78



D2.Strategic importance for the business sector and society

## FRÅGA 79



b. Innovation impact in 2013 (cont.)

v. Were new private or public companies established during 2013 as a consequence of research and activities related to the strategic research environment?

Yes

No

## FRÅGA 80



D2.Strategic importance for the business sector and society

## FRÅGA 81



b. Innovation impact in 2013 (cont.)

vi. If new private or public companies were established during 2013 ("yes" on previous question), please list names and business registration numbers of the new companies in 2013.

Start by specifying the number of new private or public companies. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of organization, business registration number (only for Swedish organizations) and comments (if any).

Number of new companies

Name of organization	Business registration number	Comments

## FRÅGA 82



D2. Strategic importance for the business sector and society

## FRÅGA 83



## c. Immaterial property rights in 2013

i. Has there been any application for immaterial property rights (IPR) during 2013? (Immaterial property rights consist of patents, design patents and trade mark protection).

Yes

No

## FRÅGA 84



## D2. Strategic importance for the business sector and society

## FRÅGA 85



## c. Immaterial property rights in 2013

ii. If there has been any applications for immaterial property rights (IPR) during 2013 ("yes" on previous question), please list the applications below. Immaterial property rights consist of patents, design patents and trade mark protection.

Start by specifying the number of applications for immaterial property rights (IPR) during 2013. Click on OK and the specified number of rows will be created. Fill in the created table by stating patent/ID-number and type of IPR.

Number of immaterial property rights

Patent/ID-number

## FRÅGA 86



## D2. Strategic importance for the business sector and society

## FRÅGA 87



## d. Mobility in 2013

Please upload the Excel-file "D2 d i-iii Mobility" that was sent out together with the instruction for reporting. All sheets in the excel-file should be filled in before uploading. The Excel-file should include name of person, gender, name of organization etc in the following areas:

i. List of persons from industry who have been employed or engaged within the framework of the strategic research environment during 2013. (By employed we mean at least 10 percent of a full time employment. By engaged we mean e.g. in kind contributions. By industry we mean privately and publicly owned companies active in a market.)

ii. List of persons from organizations outside of academia other than industry, who have been employed or engaged within the framework of the strategic research environment during 2013. (By employed we mean at least 10 percent of a full time employment. By engaged we mean e.g. in kind contributions.)

iii. List of researchers from the strategic research environment who have been employed or engaged by industry or industrial research institutes during 2013. (By employed we mean at least 10 percent of a full time employment. By engaged we mean e.g. in kind contributions.)

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

## FRÅGA 88



Please also state i) the number of persons from industry, ii) the number of persons from organizations outside of academia other than industry, and iii) the number of researchers from the research environment who have been employed or engaged by industry/industrial research institutes during 2013. The number should be the same as the number of persons that has been listed in the Excel-file D 2 d i-iii.

	Number of persons from industry	Number of persons from organizations outside of academia other than industry	Number of researchers from the research environment who have been employed or engaged by industry/industrial research institutes
		1	2

## FRÅGA 89



## D2. Strategic importance for the business sector and society

## FRÅGA 90



## e. Education in 2013

i. Has the strategic research environment carried out contract education on behalf of external clients during 2013?

Yes

No

## FRÅGA 91



D2.Strategic importance for the business sector and society

## FRÅGA 92



e. Education in 2013

ii. If the strategic research environment has carried out contract education during 2013, please list clients on whose behalf the strategic research environment has carried out contract education.

Start by specifying the number of clients. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of external client, subject area of contract education, number of participants of the contract education and extent of contract education (days).

Number of clients

Name of external client	Subject area of contract education

## FRÅGA 93



D2. Strategic importance for the business sector and society

## FRÅGA 94



f. Policy impact in 2013

Some research has impact in the public realm, e.g. through supporting government in setting policy or standards. Please, list any such impacts during 2013.

Start by specifying the number organizations where these impacts have taken place. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of organization, area of activity, role and kind of impact.

Number of organizations

Name of organization	Area of activity	Role	Kind of impact
Environment Climate Data Sweden (ECDS)	Policy of Science	Expert (L. Eklundh)	Member of the ECDS board

Name of organization	Area of activity	Role	Kind of impact
Food and Agriculture Organization of the United Nations (FAO)	Communication of science to policy makers: UN	Expert (Å. Kasimir Klemedtsson)	Oral presentation at workshop "Towards sustainable land management practices for peatlands: special focus on drained areas" 7-9 May 2013
Intergovernmental Panel on Climate Change (IPCC)	Communication of science to policy makers: Intergovernmental panel	Expert (Å. Kasimir Klemedtsson)	Reviewer (aim to improve IPCC guidelines) of IPCC TFI TSU, Second Order Draft of the 2013 Revised Supplementary Methods and Good Practice Guidance arising from the Kyoto Protocol.
Intergovernmental Panel on Climate Change (IPCC)	Communication of science to policy makers: Intergovernmental panel	Expert (Å. Kasimir Klemedtsson)	"Reviewer (aim to improve IPCC guidelines) of IPCC TFI TSU, Second Order Draft of the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands"
Intergovernmental Panel on Climate Change (IPCC)	Communication of science to policy makers: Intergovernmental panel	Expert (H.Linderholm)	Expert reviewer of IPCC Assessment report 5
Intergovernmental Panel on Climate Change (IPCC) Emission Factor DataBase (EFDB)	Communication of science to policy makers: Intergovernmental panel	Expert (Å. Kasimir Klemedtsson)	Elected member of the Editorial Board (LULUCF Sector) of the EFDB for four years (2011-2014) by the Task Force on National Greenhouse Gas Inventories (TFI)
Intergovernmental Panel on Climate Change (IPCC) Working Group 2	Communication of science to policy makers: Intergovernmental panel	Lead Authors and Expert Reviewers (U. Molau and T. Christensen)	Elected lead authors
Intergovernmental Panel on Climate Change (IPCC) Working Group 1	Communication of science to policy makers: Intergovernmental Panel	Contributing author (A. Ahlström)	Invited lead author
International Cooperative Programme on Effects of Air Pollution on Natural Vegetation and Crops (ICP vegetation)	Communication of science to policy makers: UN	Expert (H. Pleijel)	Oral presentation "Ozone risk assessment for the 21st century based on ozone and climate change scenarios" on the ICP Vegetation under the LRTAP Convention annual meeting 2013

Name of organization	Area of activity	Role	Kind of impact
Mistra Council for Evidence-based Environmental Management	Science based policy support	Expert (H.G.Smith)	Member of executive board of Mistra Council for Evidencebased Environmental management (EviEM)
Region Skåne	Communication of Science to policy makers area: regional authority	Experts (J. Dänhardt, K. Hedlund, K. Birkhofer, H. Bracht Jörgensen, M. Brady, C. Brönmark, S. Lindström, L. Nilsson, O.Olsson, M. Rundlöf, M. Stjernman, H. G. Smith)	Authored the report "Ecosystem services in the Scanian agricultural landscape" CEC Syntes Nr 01 2013.
Region Skåne	Communication of Science to policy makers area: regional authority	Experts (J. Dänhardt, K. Hedlund, M. Brady, L. Nilsson, M. Rundlöf, H. G. Smith)	Stakeholder symposium "Ecosystem services in agricultural landscapes in Scania" November 11 2013
Swedish Board of Agriculture	Communication of Science to policy makers area: Governmental Agency	Experts (S. G. Nilsson and P-A. Olsson)	Commenting on Consideration report "Översyn av det generella biotopskyddet" for Lund University.
Swedish Board of Agriculture	Communication of Science to policy makers area: Governmental Agency	Experts (M. Rundlöf and A. Jönsson)	Oral presentations at Conference at workshop "Gynna mångfalden" October 22 2013.
Swedish Board of Agriculture	Communication of Science to policy makers area: Governmental Agency	Experts (H.G. Smith, J. Ekroos, Jönsson A M, K. Hedlund, Bracht-Jörgensen H, Dänhardt J)	Meeting in Jönköping in January 2013 to discuss potential future collaboration
Swedish Board of Agriculture	Communication of Science to policy makers area: Governmental Agency	Expert (M. Brady)	Oral presentation "Econimal value of Eocsystem services" at Conference "Theme Day on biological control" by Among others Swedish board of Agriculture November 4 2013
Swedish Energy Agency	Communication of science to policy makers: Governmental Agency	Expert (C. Akselsson)	Expert in synthesis group within the Forest Fuel Program at the Swedish Energy Agency, in 2013 author of a policy oriented version of the report "Impact of increasing biomass harvesting on forest production and environmental services"

Name of organization	Area of activity	Role	Kind of impact
Swedish Environmental Protection Agency (EPA)	Communication of science to policy makers: Governmental Agency	Experts (C. Akselsson and S. Belyazid)	Experts suggesting new indicators for the national Swedish environmental goal "Natural Acidification Only"
Swedish Environmental Protection Agency (EPA)	Communication of science to policy makers: Governmental Agency	Experts (A-M. Jönsson, F. Lagergren, C. Akselsson, S. Belyazid, P A. Olsson)	Commenting on Consideration report "Långsiktigt hållbar markanvändning – del 1." Delbetänkande av Miljömålsberedningen (All Party Committee on Environmental Objectives) for Lund University.
Swedish Environmental Protection Agency (EPA)	Communication of science to policy makers: Governmental Agency	Heading the Swedish Bird Survey-the nation wide monitoring Scheme (Å. Lindström)	Running nation wide biodiversity monitoring and calculating biodiversity indices
Swedish Environmental Protection Agency (EPA)	Communication of science to policy makers: Governmental Agency	Expert (Å. Lindström)	Produced indicators, on the basis of the Swedish Breeding Bird Survey, for 7 of the 16 Swedish Environmental Objectives.
Swedish Environmental Protection Agency (EPA)	Communication of science to policy makers: Governmental Agency	Heading the Swedish Bird Survey-the nation wide monitoring Scheme (L. Pettersson)	Running nation wide biodiversity monitoring and calculating biodiversity indices
Swedish Environmental Protection Agency (EPA)	Communication of Science to policy makers area: Governmental Agency	Expert (K. Hedlund)	"Commenting on consideration report to ""SOU 2013:68 Synliggöra värdet av ekosystemtjänster – Åtgärder för välfärd genom biologisk mångfald och ekosystemtjänster"" for Lund University."
Swedish Environmental Protection Agency (EPA)	Communication of Science to policy makers area: Governmental Agency	Expert (Å. Kasimir-Klemetsson, A. Lindroth and H.G. Smith)	Commenting on Consideration report "6537 - Underlag till en färdplan för ett Sverige utan klimatutsläpp 2050" for University of Gothenburg.
Swedish Environmental Protection Agency (EPA)	Communication of Science to policy makers area: Governmental Agency	Expert (A. Lindroth and H.G. Smith)	Commenting on Consideration report "6537 - Underlag till en färdplan för ett Sverige utan klimatutsläpp 2050" for Lund University

Name of organization	Area of activity	Role	Kind of impact
Swedish Environmental Protection Agency (EPA)	Communication of Science to policy makers area: Governmental Agency	Expert (H.G. Smith)	"Member of EPA reference group for the Swedish Governments Official Report ""SOU 2013:68 Synliggöra värdet av ekosystemtjänster – Åtgärder för välfärd genom biologisk mångfald och ekosystemtjänster"
Swedish Forest Agency	Communication of science to policy makers: Governmental Agency	Expert (C. Akselsson)	Reviewer of a report on new recommendations for N fertilization in forests by Skogsstyrelsen.
Swedish Forest Agency	Communication of science to policy makers: Governmental Agency	Expert (A. Nordén)	Oral presentation "Payments for ecosystem services in relation to forest protection" at Forest workshop at the Swedish Forest Agency January 11 2013 ( <a href="http://www.siani.se/event/focali-och-skogsstyrelsen-samarrangerar-workshop-i-jonkoping-den-11-januari/january-2013">http://www.siani.se/event/focali-och-skogsstyrelsen-samarrangerar-workshop-i-jonkoping-den-11-januari/january-2013</a> )
Swedish Ministry for Rural Affairs	Communication of science to policy makers: Governmental Agency	Expert (M.Brady)	Providing scientific decision support for the swedish stand on CAP reform proposal
Swedish Ministry of the Environment	Communication of Science to policy makers area: Governmental Agency	Expert (E. Kritzberg)	Commenting on Consideration report "Förslag till direktiv om havsplanering och integrerad kustförvaltning" for Lund University.
Swedish Ministry of the Environment	Communication of Science to policy makers area: Governmental Agency	Expert (E. Kritzberg)	Commenting on Consideration report "Promemoria - Hushållning med havsområden" for Lund University.
Swedish Ministry of the Environment	Communication of Science to policy makers area: Governmental Agency	Experts (O.Olsson and H.G.Smith)	Commenting on Consideration report "Biologisk mångfald, sammanställd information om ekosystemtjänster och grön infrastruktur" for Lund University.
Swedish Ministry of the Environment	Communication of Science to policy makers area: Governmental Agency	Expert (H.G.Smith)	Member of Miljöforskningsberedningen

Name of organization	Area of activity	Role	Kind of impact
The Arctic Council	Science based policy support area: Intergovernmental forum	Expert (U.Molau)	Scientific leader (coordinating lead author) of chapter 4 "Thresholds in the Arctic" of the Arctic Resilience Report
The Arctic Council	Science based policy support area: Intergovernmental forum	Expert (L.Ström)	Member of the the expert Group on SLCFs (Short-Lived Climat Forcers)
The Arctic Council	Science based policy support area: Intergovernmental forum	Expert (L.Ström)	Policy advisor for "Snow, Water, Ice and Permafrost in the Arctic" (SWIPA)
The Arctic Council	Science based policy support area: Intergovernmental forum	Expert (L.Ström)	Advisory board member for setting the standards for future biodiversity monitoring in working group "Conservation of Arctic Flora and Fauna" (CAFF)
The Arctic Council	Science based policy support area: Intergovernmental forum	Expert (L.Ström)	Contributing author to the Arctic Biodiversity Assessment in working group "Conservation of Arctic Flora and Fauna" (CAFF)
The European Commission	Communication of Science to policy makers area: European Commission	Expert (K. Hedlund)	Member of the Joint Research Centres (EC) Technical Working Group on developing a sectoral reference document on best environmental management practice in the agriculture - crop and animal production sector.
The European Environment Agency (EEA) agency of the European Union	Communication of Science to policy makers area: European Union	Expert (L. Pettersson)	One of the authors of the report The European Grassland Butterfly Indicator: 1990-2011, EEA Technical report 11/2013
The Global Research Alliance	Communication of science to policy makers: international alliance	Expert (Å. Kasimir Klemedtsson)	Swedish representative in the subgroup "Croplands".
The National Institute of Economic Research (NIER)	Science-based policy support area: national Institute	Expert (K. Bäckstrand)	Member of Scientific Advisory Board of the Environmental Economics Unit
The Swedish Agency for Marine and Water Management (SwAM)	Communication of Science to policy makers area: Governmental Agency	Expert (E. Kritzberg)	Expert in a hearing about Hanöbukten a part of a SWAM Government mission.

Name of organization	Area of activity	Role	Kind of impact
The Swedish Agency for Marine and Water Management (SwAM)	Communication of Science to policy makers area: Governmental Agency	Expert (E. Kritzberg)	Commenting on Consideration report "Redovisning av regeringsuppdraget marint områdesskydd inom regleringsbrevet för budgetåret 2013 avseende Havs- och vattenmyndigheten" for Lund University.
The Swedish Agency for Marine and Water Management (SwAM)	Communication of Science to policy makers area: Governmental Agency	Expert (U. Sahlin)	Providing scientific decision support to the report Marmorkrebs in River Mårstaån. Risk assessment and action proposals. Aqua reports 2013:17
The Swedish Agency for Marine and Water Management (SwAM)	Communication of Science to policy makers area: Governmental Agency	Expert (U. Sahlin)	Providing scientific decision support in the project PLAN FISH (Planktivore management – linking food web dynamics to fisheries in the Baltic Sea) on behalf of SwAM
The Swedish Agency for Marine and Water Management (SwAM)	Communication of Science to policy makers area: Governmental Agency	Expert (C. Akselsson)	"Oral presentation ""År skogsbruket den stora surgöraren idag? Hur kan vi i så fall bromsa utvecklingen?"" at the conference ""Havs- och vattenforum" April 16-17 2013
UN ECE Convention on Long-range Transboundary Air pollution (LRTAP)	Communication of science to policy makers: UN	Expert (S. Belyazid)	Contributed to the Swedish, French and Swiss reporting to the LRTAP convention.
Swedish Ministry of Environment	Communication of science to policy makers: UN	Expert (A.Kronsell)	Member of reference group to "Klimatfärdplan 2050"

## FRÅGA 95



D2. Strategic importance for the business sector and society

## FRÅGA 96



## g. Public impact in 2013

Please list public impacts through for instance media, textbooks, conferences, popular science presentations and policy lobbying etc during 2013.

Start by specifying the number of activities. Click on OK and the specified number of rows will be created. Fill in the created table by stating type of activity, purpose of activity, name of activity and reference (e.g. <http://www.xxx.yy>)

Number of activities

59

Type of activity	Purpose of activity	Name of activity	Reference
Book	Communication and dissemination of science	"15 Touch-downs into Climate research-Past, Present, Future" (15 nedslag i klimatforskningen), 2013	Website: <a href="http://www4.lu.se/images/CEC/Klimatinitiative/CEC_klimatpocket_12mb.pdf">http://www4.lu.se/images/CEC/Klimatinitiative/CEC_klimatpocket_12mb.pdf</a>
Media article	Communication and dissemination of science	"Stora mängder växthusgaser från skogsmarker"/"Large GHG emission from forested land" Sveriges radio	Website: <a href="http://sverigesradio.se/sida/artikel.aspx?programid=104&amp;artikel=5669611">http://sverigesradio.se/sida/artikel.aspx?programid=104&amp;artikel=5669611</a> (Å. Kasimir Klemedtsson)
Media article	Communication and dissemination of science	"Danish and Greenlandic ministers visit Zackenberg in Greenland" Denmark radio	(L. Ström)
Media article	Communication and dissemination of science	"Därför behöver skogen den giftiga mossan"/"Why does the forest need toxic moss" Forskning och framsteg (8/2013)	Website: <a href="http://fof.se/tidning/2013/8/artikel/darfor-behoover-skogen-den-giftiga-mossan">http://fof.se/tidning/2013/8/artikel/darfor-behoover-skogen-den-giftiga-mossan</a> (J.Rousk)
Media article	Communication and dissemination of science	"Microfossiles archive of climate change" January 30 2013 LUM	Web-site: <a href="http://www4.lu.se/o.o.i.s?id=12344&amp;news_item=8976">http://www4.lu.se/o.o.i.s?id=12344&amp;news_item=8976</a> (H.Filipsson)
Media article	Communication and dissemination of science	"143 million to science and technology" October 4 2013 LUM	Web-site: <a href="http://www.lum.lu.se/143-miljoner-kronor-till-naturvetenskap-och-teknik-i-lund/">http://www.lum.lu.se/143-miljoner-kronor-till-naturvetenskap-och-teknik-i-lund/</a> (A. Tunlid)
Meeting with Högstad Enclosed Estate	Communication and dissemination of science	"Ecosystem Service in agricultural landscapes" October 31 2013	(H.G. Smith)
Meeting with Stakeholder reference group	Communication of Science to policy makers	Meeting with stakeholder reference group	Biodiversity and Ecosystem services in a Changing Climate, Gothenburg August 28 2013
News paper article	Communication and dissemination of science	"Gamla torvmarker bakom utsläpp"/"Old peatlands behind emissions" ATL	Website: <a href="http://www.atl.nu/skog/gamla-torvmarker-bakom-utsl-pp">http://www.atl.nu/skog/gamla-torvmarker-bakom-utsl-pp</a> (Å. Kasimir Klemedtsson)

Type of activity	Purpose of activity	Name of activity	Reference
News paper article	Communication and dissemination of science	"Ökad risk för skadeinsekter i skogen"/"Increased pest risk in forests" Skogseko nr 1 2013	Website: <a href="http://www.skogsstyrelsen.se/Global/aga-och-bruka/Skogseko/e-tidning/SKEH-130001%5B1%5D.html">http://www.skogsstyrelsen.se/Global/aga-och-bruka/Skogseko/e-tidning/SKEH-130001%5B1%5D.html</a> (A M. Jönsson)
News paper article	Communication and dissemination of science	"Skogen kan ge kolutsläpp"/"The forest could emitt carbon" Skogseko nr 1 2014	Website: <a href="http://www.skogsstyrelsen.se/Global/aga-och-bruka/Skogseko/e-tidning/SKEH-130001%5B1%5D.html">http://www.skogsstyrelsen.se/Global/aga-och-bruka/Skogseko/e-tidning/SKEH-130001%5B1%5D.html</a> (B. Smith)
News paper article	Communication and dissemination of science	"Vindfällning och konkurrens styr hur många granbarkborrarna blir"/"The number of spruce bark beetle is controlled by wind felling and competition" Skogseko nr 3 2013	Website: <a href="http://www.skogsstyrelsen.se/Global/aga-och-bruka/Skogseko/e-tidning/SKEH-130003.html">http://www.skogsstyrelsen.se/Global/aga-och-bruka/Skogseko/e-tidning/SKEH-130003.html</a> (AM. Jönsson)
News paper article	Communication and dissemination of science	"Tufft för skogen i ett framtida klimat"/"Forests have a tough future due to climate change" SKOGEN October 16 2013	Website: <a href="http://skogen.se/nyheter/tufft-for-skogen-i-ett-framtida-klimat">http://skogen.se/nyheter/tufft-for-skogen-i-ett-framtida-klimat</a> (A M. Jönsson)
Newspaper article	Communication and dissemination of science	"First mapping of skua migration route" Weekend avisen	(L. Ström)
Opinion paper	Communication and dissemination of science	"I kväll när jordgubbarna plockas fram, skänk en tanke till de bin och flugor som gjort det möjligt" "Think about the bees when eating strawberries" Sydsvenskan June 20 2013	Website: <a href="http://www.sydsvenskan.se/opinion/aktuella-fragor/i-kvall-nar-jordgubbarna-plockas-fram-skank-en-tanke-till-de-bin-och-flugor-so/">http://www.sydsvenskan.se/opinion/aktuella-fragor/i-kvall-nar-jordgubbarna-plockas-fram-skank-en-tanke-till-de-bin-och-flugor-so/</a> (G. Andersson, J. Dänhardt, L. Herbertsson, A. Persson, M. Rundlöf, H. Smith, J. Ekroos)
Opinion paper	Communication and dissemination of science	"Glöm inte vildbina"/"Do not forget the wild bees" Fria Tidningen May 11 2013	Website: <a href="http://www.skanesfria.se/artikel/97783">http://www.skanesfria.se/artikel/97783</a> (G. Andersson, J. Dänhardt, L. Herbertsson, A. Persson, M. Rundlöf, H. Smith, J. Ekroos)

Type of activity	Purpose of activity	Name of activity	Reference
Opinion paper	Communication and dissemination of science	"Massdöd av bin hotar jordbruket"/"Bee mass mortality a threat to agriculture" Göteborgsposten May 5 2013	Website: <a href="https://www.gp.se/nyheter/debatt/1.1636384-massdod-av-bin-hotar-jordbruket">https://www.gp.se/nyheter/debatt/1.1636384-massdod-av-bin-hotar-jordbruket</a> (G. Andersson, J. Dänhardt, L. Herbertsson, A. Persson, M. Rundlöf, H. Smith, J. Ekroos)
Opinion paper	Communication and dissemination of science	"Acceptera osäkerhet vid beslut"/"Accept uncertainty in decision making" April 22 2013	Website: <a href="http://www.sydsvenskan.se/opinion/aktuella-fragor/acceptera-osakerhet-vid-beslut/">http://www.sydsvenskan.se/opinion/aktuella-fragor/acceptera-osakerhet-vid-beslut/</a> (U.Sahlin)
Opinion paper	Communication and dissemination of science	"Landskapet har andra värden än livsmedelsproduktion"/ "The landscape have other value other than food production" January 2 2013	Web-site: <a href="http://www.dn.se/debatt/landskapet-har-andra-varden-an-livsmedelsproduktion/">http://www.dn.se/debatt/landskapet-har-andra-varden-an-livsmedelsproduktion/</a> (H.Smith)
Pod-radio interview	Communication and dissemination of science	"Forskarna som vill lösa mysteriet med bidöden"/"Researchers want to solve the bee death mystery" Land Lantbruk August 14 2013	Website: <a href="http://www.lantbruk.com/podcast/avsnitt-7-samlaren">http://www.lantbruk.com/podcast/avsnitt-7-samlaren</a> (M. Rundlöf and G. Andersson)
Popular Science article	Communication and dissemination of science	"Sandstäppen i Skåne – dåtid, nutid och framtid"/"The sand steppe in southern Sweden - Past, Present and Future"	Svensk Botanisk Tidskrift, 107: 73-79 (2013) A. Ödman
Popular Science presentation	Communication and dissemination of science	Living Soil Forum 22-26 juli 2013	Website: <a href="http://www.summerofs oil.se/forum/">http://www.summerofs oil.se/forum/</a> (H. Wallander)
Popular Science presentation	Communication and dissemination of science	Synvända Inspirationskonferens/ "Synvända Inspiration Conference" 7-8 september 2013	Website: <a href="http://xn--stjrnsund-x2a.nu/event/synvanda-inspirationskonferens/">http://xn--stjrnsund-x2a.nu/event/synvanda-inspirationskonferens/</a> (H. Wallander)
Popular Science presentation	Communication and dissemination of science	Film för förändring: Symphony of Soil 26 november 2013	Website: <a href="https://www.facebook.com/film.for.forandring">https://www.facebook.com/film.for.forandring</a> (H.Wallander)
Popular Science presentation	Communication and dissemination of science	"Jord" Open Lecture at Ängelholm Library	(H. Wallander)
Popular Science presentation	Communication and dissemination of science	"Jord" Open lecture at Dalby library	(H. Wallander)

Type of activity	Purpose of activity	Name of activity	Reference
Popular Science presentation	Communication and dissemination of science	Soil Open lecture at Lunds Konsthall	Website: <a href="http://www.sasnet.lu.se/sites/default/files/wallandersoil.pdf">http://www.sasnet.lu.se/sites/default/files/wallandersoil.pdf</a> (H. Wallander)
Popular Science presentation	Communication and dissemination of science	Nomination and award winning (garden book of the year) of the book "Jord"	Website: <a href="http://www.gartnersallskapet.se/?p=1117">http://www.gartnersallskapet.se/?p=1117</a> (H.Wallander)
Popular Science presentation	Communication and dissemination of science	"Kvävenedfall kopplat till övergödning- och försurningsmålen, risker för kväveutlakning och förändringar i markvegetation, kritisk belastning och data på lufthalter."/ "Nitrogen deposition"	Website: <a href="http://www.luftvast.se/news/read/id/inbjudan-till-traff-for-matansvariga-den-18-oktober--13">http://www.luftvast.se/news/read/id/inbjudan-till-traff-for-matansvariga-den-18-oktober--13</a> (C. Akselsson)
Popular Science presentation	Communication and dissemination of science	"Lär dig mer om pollinatörer, skadedjur och biologisk bekämpning"/ "Learn more about pollinators, pests and biological control"	Website: <a href="http://www.cec.lu.se/o.o.i.s?id=31372&amp;list_mode=id&amp;calendar_id=12543">http://www.cec.lu.se/o.o.i.s?id=31372&amp;list_mode=id&amp;calendar_id=12543</a> (G. Andersson)
Popular Science presentation	Communication and dissemination of science	Tree Johan (Träd Johan)	J. Uddling- Fredin
Popular Science presentation	Communication and dissemination of science	"Anpassningsstrategier i skogsbruket i ett förändrat klimat"/ "Adaptation strategies of forestry in a changed climate" Mistra SWECIA excursion "Klimatanpassning av svenskt skogbruk" Västmanland, September 18-19, 2013.	Website: <a href="http://www.mistra-swecia.se/Samverkan/Samverkan/klimatanpassning-av-svenskt-skogsbruk-1.33854">http://www.mistra-swecia.se/Samverkan/Samverkan/klimatanpassning-av-svenskt-skogsbruk-1.33854</a> (A M Jönsson and F. Lagergren)
Popular Science presentation	Communication and dissemination of science	"The Swedish Bird Survey" The Ornithological Society in Uppland April 13 Uppsala	Website: <a href="http://www.zoo.ekol.lu.se/birdmonitoring/nytt.htm">http://www.zoo.ekol.lu.se/birdmonitoring/nytt.htm</a> (Å. Lindström)
Popular Science presentation	Communication and dissemination of science	"Luftföroreningar och vår natur. Försurning, övergödning, marknära ozon."/ "Air pollution and our nature" Open lecture at Ecocentrum, Gothenburg, 9 October 2013	(H.Pleijel)

Type of activity	Purpose of activity	Name of activity	Reference
Popular Science presentation	Communication and dissemination of science	"Kunskapens och osäkerhetens dynamik i vår förmåga att förutsäga framtiden – en naturvetares mardröm eller riskforskarens lekplats"/"Dynamics of knowledge and insecurity in our ability to predict the future - a scientists nightmare or a risk researcher's playground" at Lund Philosophy circle	Website: <a href="http://video ldc.lu.se/fc13h1.htm">http://video ldc.lu.se/fc13h1.htm</a> (U.Sahlin)
Popular Science presentation	Communication and dissemination of science	"Ecosystem services and biodiversity-possibilities and conflicts" November 10 2013	Website: <a href="http://skane.naturskyddsforeningen.se/2013/10/22/nu-upprepar-visuccen-fran-2010/">http://skane.naturskyddsforeningen.se/2013/10/22/nu-upprepar-visuccen-fran-2010/</a> (H.G.Smith)
Popular Science presentation	Communication and dissemination of science	"Från humla till jordgubbe: om pollinerande insekter och deras tjänster"/"From bumblebee to strawberry" November 10 2013	Website: <a href="http://skane.naturskyddsforeningen.se/2013/10/22/nu-upprepar-visuccen-fran-2010/">http://skane.naturskyddsforeningen.se/2013/10/22/nu-upprepar-visuccen-fran-2010/</a> (M. Rundlöf)
Popular Science presentation	Communication and dissemination of science	"Klimatanpassning av Svenskt skogsbruk"/"Climate change adaptation of Swedish forestry"	Website: <a href="http://www.mistra-swecia.se/Samverkan/Samverkan/klimatanpassning-av-svenskt-skogsbruk-1.33854">http://www.mistra-swecia.se/Samverkan/Samverkan/klimatanpassning-av-svenskt-skogsbruk-1.33854</a> (F. Lagergren)
Press release	Communication and dissemination of science	"En femtedel av Sveriges växthusgasutsläpp uppmärksammas inte"/"A fifth of Swedish GHG emissions is not considered a problem"	Website: <a href="http://www.science.gu.se/aktuellt/nyheter/Nyheter+Detalj/en-femtedel-av-sveriges-vaxthusgasutslapp-uppmarksammas-inte.cid1185720">http://www.science.gu.se/aktuellt/nyheter/Nyheter+Detalj/en-femtedel-av-sveriges-vaxthusgasutslapp-uppmarksammas-inte.cid1185720</a> (Å. Kasimir Klemedtsson)
Press release	Communication and dissemination of science	"Decrease in number of montane birds" Lund University	Website: <a href="http://miljoaktuellt.idg.se/2.1845/1.537133/antalet-faglar-i-fjallen-minskar">http://miljoaktuellt.idg.se/2.1845/1.537133/antalet-faglar-i-fjallen-minskar</a> and <a href="http://sverigesradio.se/sida/artikel.aspx?programid=98&amp;artikel=5723699">http://sverigesradio.se/sida/artikel.aspx?programid=98&amp;artikel=5723699</a> December 4 2013
Press release	Communication and dissemination of science	"Consequences of bushmeat hunting in tropical forests" March 20 2013	Website: <a href="http://www.lu.se/nyheter-och-press/pressmeddelanden?visa=pm&amp;pm_id=2117">http://www.lu.se/nyheter-och-press/pressmeddelanden?visa=pm&amp;pm_id=2117</a> (O.Olsson)

Type of activity	Purpose of activity	Name of activity	Reference
Press release	Communication and dissemination of science	"Mossornas giftighet gäckar forskare"/"Researchers concerned by toxic mosses" April 19 2013	Website: <a href="http://www.lu.se/nyheter-och-press/pressmeddelanden?visa=pm&amp;pm_id=2137">http://www.lu.se/nyheter-och-press/pressmeddelanden?</a> visa=pm&pm_id=2137 (J.Rousk)
Press release	Communication and dissemination of science	"Hotade fjärilar kan räddas med enkla insatser"/"Threatened butterflies can easily be saved" December 3 2013	Web-site: <a href="http://www.lu.se/article/hotade-fjarilar-kan-raddas-med-enkla-insatser">http://www.lu.se/article/hotade-fjarilar-kan-raddas-med-enkla-insatser</a> (L. Pettersson and S.G.Nilsson)
Radio Interview	Communication and dissemination of science	"Ekologisk odling verkar göra störst nytta för pollinerande insekter i monotont landskap"/"Organic farming positive for pollinators especially in homogenous landscapes" P1 Swedish National Radio Science radio	Website: <a href="http://sverigesradio.se/sida/artikel.aspx?programid=406&amp;artikel=5667948">http://sverigesradio.se/sida/artikel.aspx?programid=406&amp;artikel=5667948</a> (G. Andersson)
Radio Interview	Communication and dissemination of science	"Kan den globala uppvärmningen bero på något annat än koldioxid?"/"Global warming caused by something else than carbon dioxide" Vetandets värld Swedish National Radio P1	Website: <a href="http://sverigesradio.se/sida/avsnitt/255064?programid=412">http://sverigesradio.se/sida/avsnitt/255064?</a> programid=412 (H. Linderholm)
Radio Interview	Communication and dissemination of science	"Tufft för skogen när klimatet förändras"/"Forest has a tough future due to climate change" (October 1, 2013) Swedish National Radio Vetenskapens värld P1	Website: <a href="http://sverigesradio.se/sida/avsnitt/259567?programid=412">http://sverigesradio.se/sida/avsnitt/259567?</a> programid=412 (A M. Jönsson)
Science article	Communication and dissemination of science	"Investigating the long-term legacy of drought and warming on the soil microbial community across five European shrubland ecosystems" 2013	Featured research paper in "Science for environmental policy", a news service published by the European Commission's Environment Directorate-General (J. Rousk)

Type of activity	Purpose of activity	Name of activity	Reference
Science article	Communication and dissemination of science	"General Yield vs. Quality trade-offs for wheat in response to carbon dioxide and ozone" 2013	Featured research paper in "Science for environmental policy", a news service published by the European Commission's Environment Directorate (H. Pleijel and J. Uddling)
Science presentation article	Communication and dissemination of science	"We don't know what we're doing and we know it" NORDFORSK magazine 2013	Website: <a href="http://issuu.com/07interaktiv/docs/nfm_en">http://issuu.com/07interaktiv/docs/nfm_en</a> (L. Ström and T. Christensen)
Science presentations at seminar	Communication and dissemination of science	"Skogsbruk i förändrat klimat – hur påverkas mångfald och miljö"/"Swedish forestry in a changed climate-how does it affect biodiversity and environment " at KSLA 16 october 2013	Website: <a href="http://www.ksla.se/aktivitet/skogsbruk-i-forandrat-klimat-hur-paverkas-mangfald-och-miljo/">http://www.ksla.se/aktivitet/skogsbruk-i-forandrat-klimat-hur-paverkas-mangfald-och-miljo/</a> (C. Akselsson, S. Belyazid, A-M Jönsson, H. Wallander, H. Pleijel and Per Erik Karlsson)
Science presentations at seminar	Communication and dissemination of science	"Navigating the Jungle" at Lund university May 7 2013	Website: <a href="http://www.cec.lu.se/o.o.i.s?id=31372&amp;list_mode=id&amp;calendar_id=11788">http://www.cec.lu.se/o.o.i.s?id=31372&amp;list_mode=id&amp;calendar_id=11788</a> (F. Zelli, F. Lagergren, L. Eklundh, W. Dubber, T. D. Nielsen, A. Nordén)
Science presentations at seminar	Communication and dissemination of science	"Multifunctional landscapes within the constraint of sustainability" at the KSLA symposium "På G för Sverige-Gröna näringar, grön ekonomi, grön framtid" November 7 2013	Website: <a href="http://www.ksla.se/aktivitet/pa-g-for-sverige/">http://www.ksla.se/aktivitet/pa-g-for-sverige/</a> (H.G.Smith)
Science presentations at seminar	Communication and dissemination of science	"Ecosystem services, knowledge and development in Sweden" November 27 2013	Website: <a href="http://www.mistraurbanfutures.org/en/ekosystemtj%C3%A4nster">http://www.mistraurbanfutures.org/en/ekosystemtj%C3%A4nster</a> (H.G. Smith and H.Pleijel)
Short film	Communication and dissemination of science	"Climate Change Adaptation in Sweden"	Website: <a href="http://klimatanpassning.se/nyhetsarkiv/climate-change-adaptation-in-sweden-watch-the-film-1.31734">http://klimatanpassning.se/nyhetsarkiv/climate-change-adaptation-in-sweden-watch-the-film-1.31734</a> (M. Brady)

Type of activity	Purpose of activity	Name of activity	Reference
Text book, author	Communication and dissemination of science	Ecology- an introduction (Ekologi - en introduktion)	Book shop: <a href="http://www.adlibris.com/se/bok/ekologi---en-introduktion-en-introduktion-9789140681256#details">http://www.adlibris.com/se/bok/ekologi---en-introduktion-en-introduktion-9789140681256#details</a> (H. Pleijel)
Textbook, co-author of chapter	Communication and dissemination of science	Methods in Biogeochemistry of Wetlands	Website: <a href="https://portal.sciencesocieties.org/resources/files/Downloads/pdf/B60992.pdf">https://portal.sciencesocieties.org/resources/files/Downloads/pdf/B60992.pdf</a> (T. Rütting)
TV interview	Communication and dissemination of science	"Danish and Greenlandic ministers visit Zackenberg in Greenland" Danmarks radio (21 Søndag)	(L. Ström)
TV interview and several newspaper articles	Communication and dissemination of science	Research Friday: "Autumn experiment"	Website: <a href="http://forskarfredag.se/massexperiment/">http://forskarfredag.se/massexperiment/</a> (L. Eklundh)
Media article	Communication and dissemination of science	Klimapenge. Kan man sætta pris på regnskoven?/ "Can you put a prize-tag on rain forests?" Politikken,	Website: <a href="http://www.svet.lu.se/documents/ht2013_TD_N_artikel_politiken.pdf">http://www.svet.lu.se/documents/ht2013_TD_N_artikel_politiken.pdf</a>

## FRÅGA 97



D3. Other comments

## FRÅGA 98



Other comments