

The purpose of this newsletter is to disseminate the results of the project **Status and Trends of European Pollinators (STEP)** among stakeholders and the general public and to continue the dialogue between administrators, managers and policy-makers from one side and the scientific community on the other side on pollinator-related issues. It will be used as a communications tool for dissemination of information to interested parties and will keep them informed of all planned activities and recent news. The STEP project will run from February 2010 until January 2015.

To subscribe to this newsletter please contact: pavel.e.stoev@gmail.com

Dear readers,

We are proud to present you the first newsletter of the new STEP project. The newsletter will provide you information about the progress, recent achievements, and important forthcoming activities related to pollinators and insect-pollinated plants, the trends in their decline and the potential mitigation measures that may be taken. More information is provided on our website www.step-project.net. Via the website you will be able to access further in-depth information about project results, PR material, all publications of the project, as well as detailed partner information. Information about job opportunities and training workshops can also be found there. Our main target groups of the newsletter are administrations and NGOs in the policy and management field, as well as scientists working on pollinators and general biodiversity conservation issues.

We hope this newsletter will keep you informed on the state-of-the-art developments in the field of biodiversity conservation and will greatly facilitate your work.

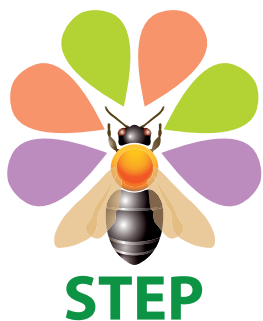
Kindest regards,

Dr. Simon G. Potts
STEP Project Co-ordinator



CONTENTS:

- 2 The project
- 4 Recent progress/results from STEP
- 5 Selected recent outputs from STEP
- 7 Conferences



1. The project Status and Trends of European Pollinators (STEP)

Background:

Halting biodiversity loss is a key international priority, and central to the Convention on Biological Diversity and EU policy. The majority of global (and European) biodiversity is made up of insects and other invertebrate taxa, but little is known of the distributions and abundance of most such species, and even less is known about their dynamics and the threats they face. This lack of knowledge concerning the status and trends of the majority of Europe's species is worrying, but it is even greater concern for species that play important functional roles, such as pollinators. Pollination is an essential ecosystem service, vital to the maintenance both of wild plant communities and agricultural productivity. These pollination services depend on both domesticated and wild pollinator populations, and both may be affected by a range of recent and projected environmental changes, with unknown consequences.

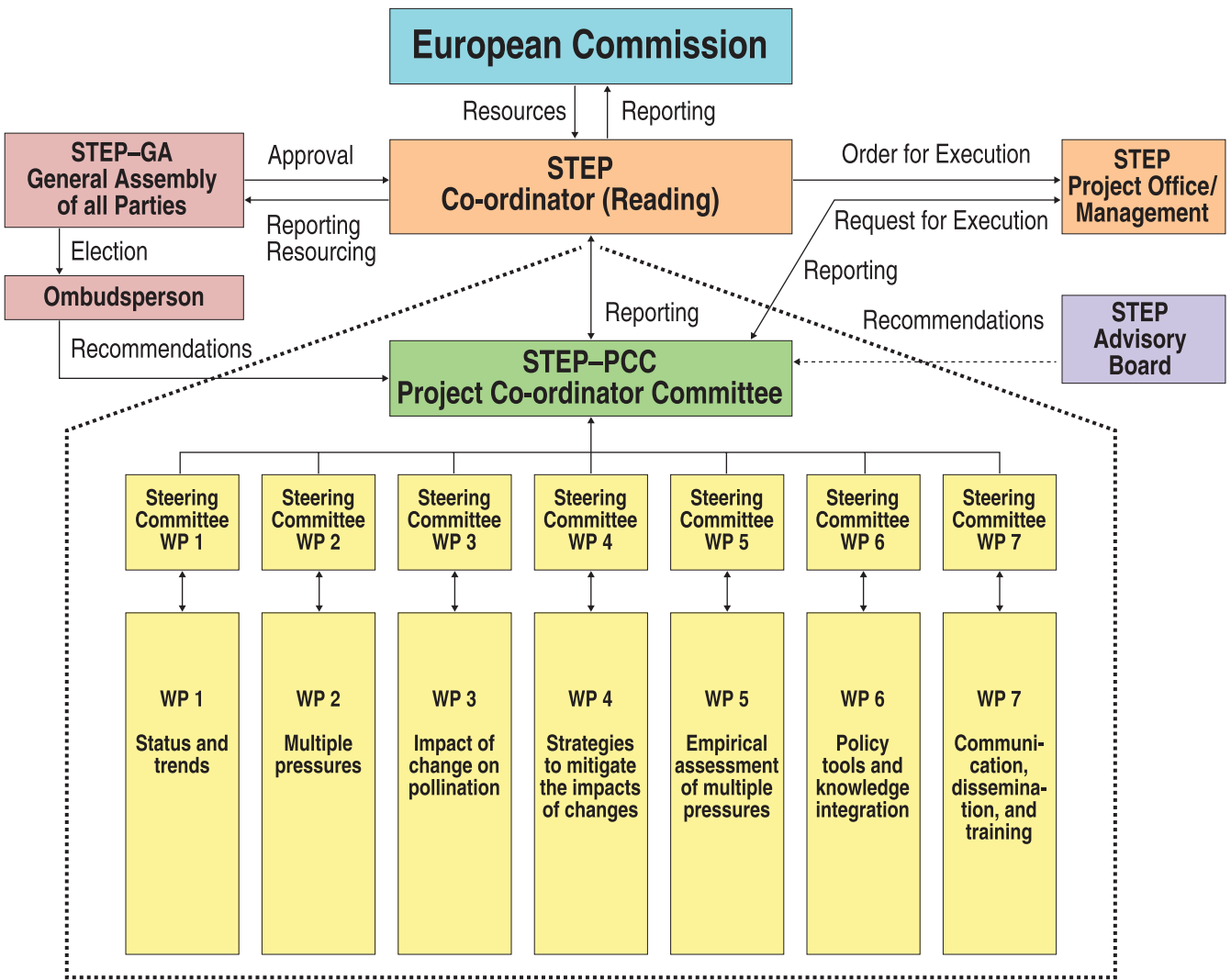
Approach:

The project *Status and Trends of European Pollinators* (STEP) will document the nature and extent of these declines, examine functional traits associated with particular risk, develop a Red List of important European pollinator groups, in particular bees and lay the groundwork for future pollinator monitoring programmes. STEP will also assess the relative importance of potential drivers of such change, including climate change, habitat loss and fragmentation, agrichemicals, pathogens, alien species, light pollution, and their interactions. STEP will measure the ecological and economic impacts on declining pollinator services and floral resources including effects on wild plant populations, crop production and human nutrition. It will review existing and potential mitigation options, providing novel tests of their effectiveness across Europe. The work will build upon existing datasets and models, complemented by spatially-replicated campaigns of field research to fill gaps in current knowledge. STEP will integrate the findings into a policy-relevant framework, creating Evidence-based Decision Support tools. It will also establish communication links to a wide range of stakeholders across Europe and beyond, including policy makers, beekeepers, farmers, academics and the general public. Taken together, the research programme will improve our understanding of the nature, causes, consequences and potential mitigation of declines in pollinator services at local, continental and global scales.

The overall aim of STEP is to assess the current status and trends of pollinators in Europe, quantify the relative importance of various drivers and impacts of change, identify relevant mitigation strategies and policy instruments, and disseminate this to a wide range of stakeholders. This aim is underpinned by 7 specific objectives which reflect the overall work programme of STEP:

1. Document the status and trends of pollinator (managed honeybees, wild bees and hoverflies) and animal-pollinated plant populations;
2. Determine and analyse the multiple pressures that are driving changes in pollinators and animal-pollinated plants at scales ranging from single fields to landscapes to the whole of Europe;
3. Assess the impact of changes in pollinator populations and communities on wild plants and crops and changes in floral resources on pollinators;
4. Evaluate and synthesize strategies to mitigate the impacts of changes in pollinators and animal-pollinated plants;





Management structure of the STEP project.



Contact and further information:
www.step-project.net
coordination@step-project.net
s.g.potts@reading.ac.uk



5. Assess how multiple drivers affect pollinators and animal-pollinated plants at local and landscapes scales using focused empirical tests and observations;
6. Analyse and improve the interface between the scientific knowledge-base on pollinator change assessment and policy instruments to reduce pollinator/pollination loss and mitigate its effects;
7. Develop communication and educational links with a wide range of stakeholders and the general public on the importance of recent shifts in pollinators, the main drivers and impacts of pollinator shifts and mitigation strategies through dissemination and training.

Project partners

- | | |
|---|--|
|  University of Reading (UK) |  Lunds Universitet (Sweden) |
|  Helmholtz Centre for Environmental Research – UFZ (Germany) |  Spanish Council for Scientific Research (Spain) |
|  Swedish University of Agricultural Sciences (Sweden) |  University of Tartu (Estonia) |
|  Alterra BV (The Netherlands) |  Pensoft Publishers Ltd (Bulgaria) |
|  Aarhus University (Denmark) |  University of Bern (Switzerland) |
|  University of Leeds (UK) |  University of Novi Sad, Faculty of Sciences (Serbia) |
|  Universität Bayreuth (Germany) |  University of Mons-Hainaut (Belgium) |
|  National Institute of Agronomic Research (France) |  Uniwersytet Jagiellonski (Poland) |
|  Federal Department of Economic Affairs (Switzerland) |  University of Pisa (Italy) |
|  Finnish Environment Institute (Finland) |  University of the Aegean (Greece) |

2. Recent progress and results from STEP

Kick-off meeting

There was a meeting of all project partners in Seville, Spain 16-18 March 2010 to launch the project. Forty people from 20 institutions and 17 countries attended. The aims and objectives of the project were developed and the approaches to be used agreed upon for the next year.



Attendees at the STEP project kick-off meeting in Seville.



Intense discussions on how workpackage 1 will assess the status and trends of pollinators and insect-pollinated plants. Photo: Marino Quaranta.

3. Selected recent outputs from STEP

Global pollinator declines: trends, impacts and drivers

An initial output of STEP was to review the current status of knowledge for global pollinators and to bring together information on the trends, impacts of loss and drivers of change. This was published in *Trends in Ecology and Evolution* volume 25, pages 345-353.

Abstract: Pollinators are a key component of global biodiversity, providing vital ecosystem services to crops and wild plants. There is clear evidence of recent declines in both wild and domesticated pollinators, and parallel declines in the plants that rely upon them. Here we describe the nature and extent of reported declines, and review the potential drivers of pollinator loss, including habitat loss and fragmentation, agrochemicals, pathogens, alien species, climate change and the interactions between them. Pollinator declines can result in loss of pollination services which have important negative ecological and economic impacts that could significantly affect the maintenance of wildplant diversity, wider ecosystem stability, crop production, food security and human welfare.

Potts, S.G., Biesmeijer, J.C., Kremen, C., Neumann, P., Schweiger, O., Kunin, W.E. (2010): Trends in Ecology and Evolution 25: 345-353

<http://www.ufz.de/data/Potts%20et%20al%20201012437.pdf>

Trends in
Ecology &
Evolution



Contact and further information:

www.step-project.net

coordination@step-project.net

s.g.potts@reading.ac.uk



Atlas of Biodiversity Risk

Contents

Foreword

Atlas of Biodiversity Risk: Editorial

Chapter 1. Biodiversity Baseline Information

Chapter 2. Research Approaches into the Interactions between Impact Factors and Biodiversity

Chapter 3. Climate Change Impacts on Biodiversity

Chapter 4. Land Use Changes and Their Impacts

Chapter 5. Environmental Chemicals and Biodiversity

Chapter 6. Biological Invasions

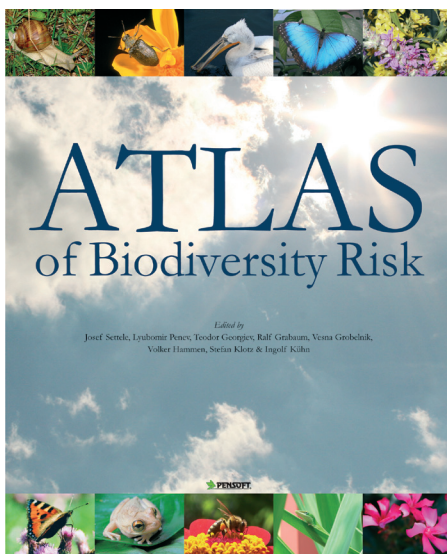
Chapter 7. Decline of Pollinators and Its Impact

- Pollination – a Key Service Regulating Ecosystems
- Methods for Quantifying Pollinator Loss
- Cavity-Nesting Hymenoptera across Europe: a Study in ALARM Project Field Site Network Sites Using Small Trap-Nests on Trees and Buildings
- Assessing the Impact of Pollinator Shifts on Wild Plants
- Drivers of Pollinator Loss – a Case Study from Germany
- Domesticated Bumblebees
- A Geometric Morphometric Tool for the Conservation of the Black Honeybee in Europe
- A New Enemy of Honeybees in Europe: the Asian Hornet, *Vespa velutina*
- Beekeeping and the Conservation of Native Honeybees in Europe
- Severe Declines of Managed Honeybees in Central Europe
- The Future of Pollinators?

Chapter 8. Socio-Economics and Its Role in Biodiversity Loss

Chapter 9. The Combined Effects of Major Drivers and Pressures on Biodiversity

Chapter 10. The Future of Biodiversity and Biodiversity Research



The Atlas of Biodiversity Risk, a major multidisciplinary and multinational project, was published on 22nd of May 2010. The book is first of its kind and summarizes in a comprehensive, easy-to-read and richly illustrated form the major threats to biodiversity at a global scale. The global climate and land use changes, environmental pollution, loss of pollinators and biological invasions are among the major risks for biodiversity identified by this comprehensive study. The impacts and consequences of biodiversity loss are analyzed with an emphasis on the socio-economic drivers and their effect on society. Three scenarios of potential future are the baseline for predicting impacts and explore options for mitigating adverse effects at several spatio-temporal scales. The Atlas is divided into chapters which mostly deal with particular pressures. It furthermore is based on case studies from different countries which are completed by introductory and concluding texts for each chapter.

The Atlas targets a wide audience. Scientists will find summaries of useful contemporary methods, approaches and case studies, lecturers and teachers will discover examples to illustrate the main challenges of our century in terms of global environmental changes. Conservationists and policy-makers could make use in their work of the comprehensive conclusions and recommendations resulting from the academic research. Finally, all people concerned about saving the life on our planet will find it a powerful tool in their efforts for protection of nature! This Atlas is indispensable for any library or institution in the sphere of environmental sciences.

Josef Settele, Lyubomir Penev, Teodor Georgiev, Ralf Grabaum, Vesna Grobelnik, Volker Hammen, Stefan Klotz, Mladen Kotarac & Ingolf Kuehn (Eds) (2010) Atlas of Biodiversity Risk. ISBN 978-954-642-446-4. Hardback, gross-format (290x350 mm), richly illustrated with maps, photos and figures, 280 pp. Further information:
<http://www.ufz.de/index.php?en=19708> <http://www.idw-online.de/pages/de/news372587>

4. Conferences

**Biodiversity – our lifeline Green Week Conference, Brussels,
 1–4 July 2010-06-06**
<http://ec.europa.eu/greenweek>

The 2010 edition of the Green Week, organised by the DG Environment of the European Commission, focused for first time on biodiversity and ecosystems. The conference was attended by some 4000 invited participants, among them high-level speakers including EU Commissioners, MEP's and national ministers as well as scientific experts, NGOs and the commercial sectors from Europe and beyond.



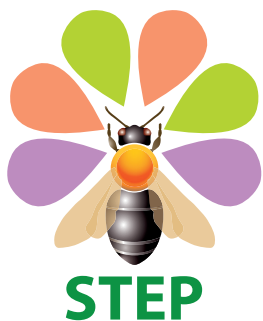
EC Commissioner Janez Potocnik in conversations with Lyubomir Penev short before a copy of the Atlas of Biodiversity Risk was handed over by the editors to Commissioner Potocnik on the 1st of June 2010 during the Green Week in Brussels.

The conference stressed upon several important challenges of our time such as importance of the link between biodiversity and economy, halting the biodiversity loss, the environmental impact of production and consumption, changing consumers' behaviour to protect biodiversity, ecosystem services as essential capital for the poorest and many others. Loss of pollinators was one of the most discussed topics, which was also reflected by nice sketch performed by a sad „Missis Bee“ during the closing session „Towards a global vision for conserving biodiversity“



Contact and further information:

www.step-project.net
coordination@step-project.net
s.g.potts@reading.ac.uk



Two of the STEP partners, UFZ and Pensoft, participated with a joint stand. The interest to the STEP leaflets and posters was tremendous and clearly reflected the growing concern on pollinators' loss among people of various educational levels or specialities.

The launch of the Atlas of Biodiversity Risk (<http://pensoft.net/newreleases/14595.htm>) at the UFZ/Pensoft stand, a major outcome of the FP6 ALARM, where several STEP partners participated by writing a separate chapter on pollinators' loss, was certainly one of the most discussed topics during the conference. The Atlas was handed over to the EE Commissioner for the Environment Janez Potočnik, the Director- General for Environment Karl Falkenberg and the Dr Ladislav Miko, Director for Nature in DG Environment. Press-releases with more information on the Atlas are available at:

<http://www.ufz.de/index.php?en=19708> (English)

<http://www.ufz.de/index.php?de=19708> (German)

Biodiversity post-2010 – biodiversity in a changing world

8–9 September 2010, Gent, Belgium

Biodiversity post-2010 - biodiversity in a changing world - Conference under the Belgian EU presidency organized by Flemish Region in collaboration with Brussels Capital Region, Walloon Region, Federal government and the European Commission with support of IUCN. 2010 is declared as the UN International Year on Biodiversity. This year is also a crucial moment for evaluating and renewing European and global targets for biodiversity to be adopted at the 10th Conference of the Parties (COP) of the Convention on Biological Diversity (CBD) in October 2010, in Nagoya (Japan). The Belgian EU Presidency will organize a conference at EU-level to inform about the current state in biodiversity and ecosystem services, to exchange ideas on the challenges of biodiversity conservation in an urbanizing and changing world, to reflect on the proposed post-2010 vision and targets and to highlight options for implementation, and to bring a policy message to COP10. This high-level stakeholder conference will be a milestone in the development of an EU biodiversity policy strategy for the post-2010 period and strengthen its position in international negotiations on a global biodiversity framework. The conference will focus on three thematic areas: (1) Biodiversity in an urbanizing Europe, (2) Ecosystem services - valuation of natural goods and services, (3) Vision and targets for biodiversity post-2010: implementation. Expected participants: policy makers, government representatives, scientists, NGO representatives, representatives from the private sector, other relevant stakeholders.

For more information please contact: pieter.decorte@lne.vlaanderen.be or andras.krolopp@iucn.org



Contact and further information:

www.step-project.net

coordination@step-project.net

s.g.potts@reading.ac.uk

4th European Conference on Apidology: EurBee

7–9 September 2010, Ankara, Turkey

www.eurbee2010.org

Aims of the congress are:

- To bring together scientists working on basic and applied research on diverse aspects of the biology of bees, honey bee management and honey bee products from Europe as well as from the rest of the World.
- To form a common platform where bee researchers can exchange ideas on their research and establish contacts for collaboration.
- To enable the use of knowledge in this field for the benefit of the society at large.