



ESTONIAN CASE STUDY- THE EVALUATION OF AGRI-ENVIRONMENT SCHEMES' BIODIVERSITY OBJECTIVES

FACTSHEET OF THE EUROPEAN EVALUATION HELPSDESK FOR RURAL DEVELOPMENT - December 2016



PROTECTING BIODIVERSITY THROUGH THE USE OF COMPLEMENTARY INDICATORS

The EU 2010 Biodiversity Baseline provides estimates of species threatened with extinction at a European level : 25% of marine mammals and 15% of terrestrial mammals, 22% of amphibians, 21% of reptiles, 16% of dragonflies, 12% of birds and 7% of butterflies. This has largely been due to increased agricultural specialisation, and increased intensity, large-scale marginalisation and land abandonment in geographically sensitive areas.

The EU's 2020 Strategy places an increased focus on ensuring sustainable growth, with the goal of meeting the needs of the present generation without endangering the ability of future generations to prosper. Biodiversity is a critical building block to achieve the goals of the Europe 2020 Strategy for a resource efficient, greener and more competitive economy through the enhancement of ecosystem productivity and sustainability in the long term.

The case of Estonia offers a unique example of innovative evaluation methods focusing on protecting and enhancing biodiversity through the use of a complementary indicator.



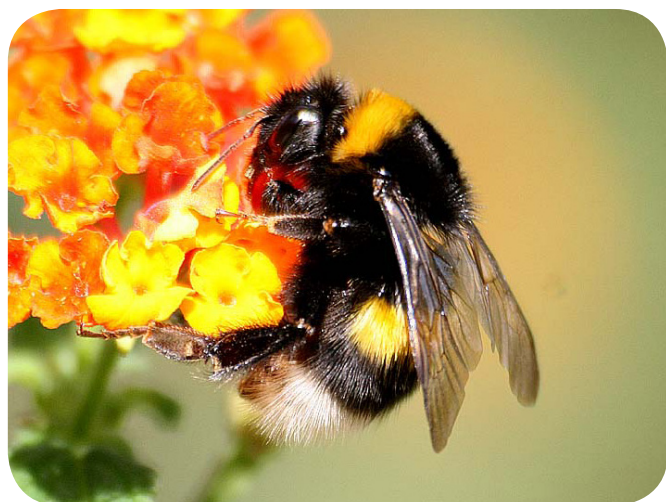
THE HONEY POT: BUMBLEBEES AS AN INDICATOR FOR ESTONIA'S BIODIVERSITY

Farmland bird indicators have traditionally been the principal component used to evaluate agri-environment schemes' (AES) biodiversity objectives. However, more robust measures or integrated strategies are required to meet contemporary requirements. In Estonia, the use of a complementary bumblebee indicator has been introduced as early as 2006 for the evaluation of the RDP 2004-2006 AES scheme and has been continued into the current programming period 2014-2020 as one means to make monitoring and evaluations more robust. The bumblebee indicator is used to analyse if there is a significant differentiation between Organic Farms (OFs), environmentally friendly managed farms (EFMs) and all other types of farms (single area payment scheme (SAPS) farms) monitoring areas. In addition, it facilitates the tracking



FURTHER INFORMATION

- Estonian RDP 2004-2006 agri-environment support scheme (AES)
- Estonian RDP 2007-2013 Axis 2 measures
- Estonian RDP 2014-2020 measures related to environment
- [Agricultural Research Centre \(ARC\)](#) was/is the ongoing evaluator



and evaluation of changes between years and support types. The phasing out of other biodiversity indicators (earthworms, soil microbes, vascular plants) due to financial constraints has placed additional emphasis on the bumblebee indicator to supplement the farmland bird indicator in Estonia.

- 66 monitoring areas/farms (arable fields not permanent grasslands)
- 2 different regions (33 farms in both)
- Farms with 3 different support schemes:
 - 22 organic farms (OF)
 - 22 environmentally friendly management farms (EFM)
 - 22 single area payment scheme (SAPS) farms

BUMBLEBEES AND FARMLAND BIRD MONITORING AREAS 2009/2010-2014/2015

Bumblebees monitoring:

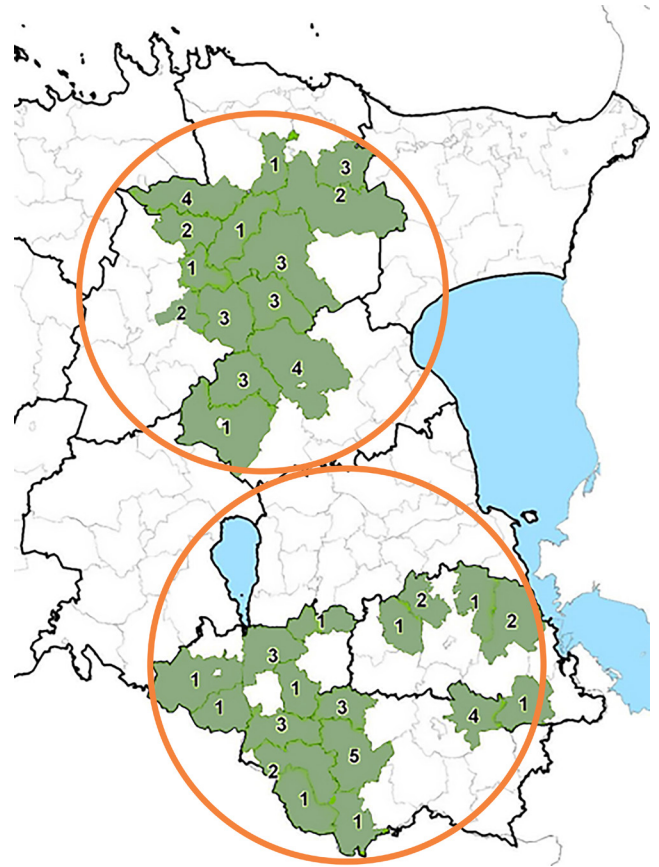
- Started in 2006 but introduced monitoring samples since 2009
- 66 monitoring farms each year
- Transect method (3 x June-August), transect width 2 m and length 500 m
- Bumblebee abundance, species and flower density are noted down
- Field work: Estonian University of Life Sciences

Farmland birds monitoring:

- Started in 2006 but introduced monitoring samples since 2010
- 66 monitoring farms each year
- Transect method (3 x April-June)
- Breeding bird species and their abundance are noted down
- Field work: Estonian Ornithological Society

Through the use of this long-term monitoring data (6 years), the most recent study comparing trends between bird and bumblebee findings indicates that the bird indicator is significantly higher in OFs then in EFM farms or non-participant farms, alternatively the bumblebee indicator was higher in EFM farms.

Diverging evidence provided from the interpretation of the bumblebee and bird indicators, suggests a need for further appraisal of biodiversity indicators. In each case, as observed from the results of the Estonian case, one taxonomy group of organisms (farmlands birds) may not give an evaluator the complete picture, therefore an additional taxonomy group (bumblebees) with different habitat niches and behaviours should be studied in conjunction, in order to provide a more adequate evaluation of the activities used (e.g EFM farms were beneficial for bumblebees, but not for farmland birds). Based on the above stated diverging evidence it is further important to take into consideration, which are the requirements and which are the objectives of the measures under examination – contingent on this, the indicator and methodology may need to be reviewed.

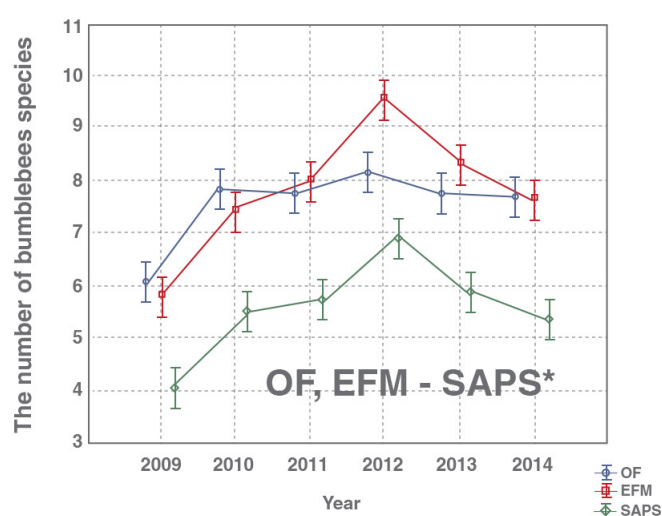
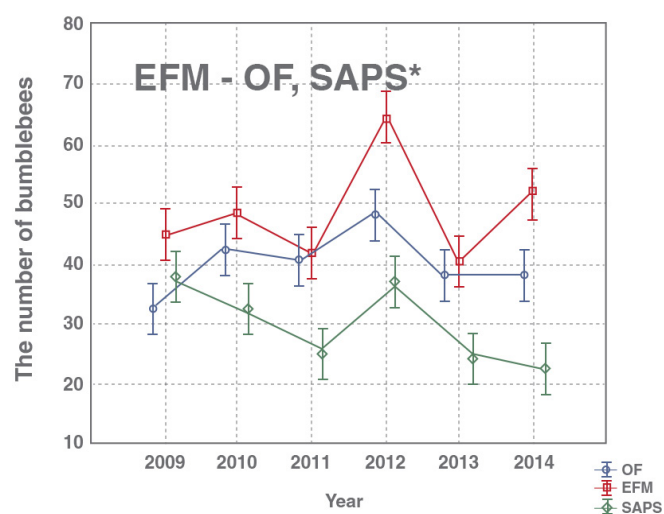


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RESULTS OF BUMBLEBEE MONITORING AREAS 2009/2010-2014/2015



*The indicator was significantly higher in farms with support type on the left side of the hyphen



KEY RECOMMENDATIONS FOR STAKEHOLDERS

MANAGING AUTHORITIES (MAs):

- The **evaluation of environmental impacts should be considered during the whole programming period**, including in the programme preparation phase
- **Clear communication and data sharing** between the MA and evaluator needs to be established and developed throughout the process.
- The **MA should guarantee data availability** from the paying agency and different databases for evaluation activities. In the case of Estonia this was guaranteed through a regulation of the Minister of Agriculture.

EVALUATORS:

- Different taxonomic groups may react differently to changes in farming activities and the environment. **The use of more than one indicator may provide significant added value** as demonstrated in the Estonian case.
- Data collection **needs to be planned from the beginning** of programming.
- **Defined principles** for selecting the monitoring of farms is needed.
- **Use of simple and understandable language** will facilitate better communication and dissemination between different stakeholders.

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The Evaluation Helpdesk works under the supervision of Unit E.4 (Evaluation and studies) of the European Commission's Directorate-General for Agriculture and Rural Development.

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