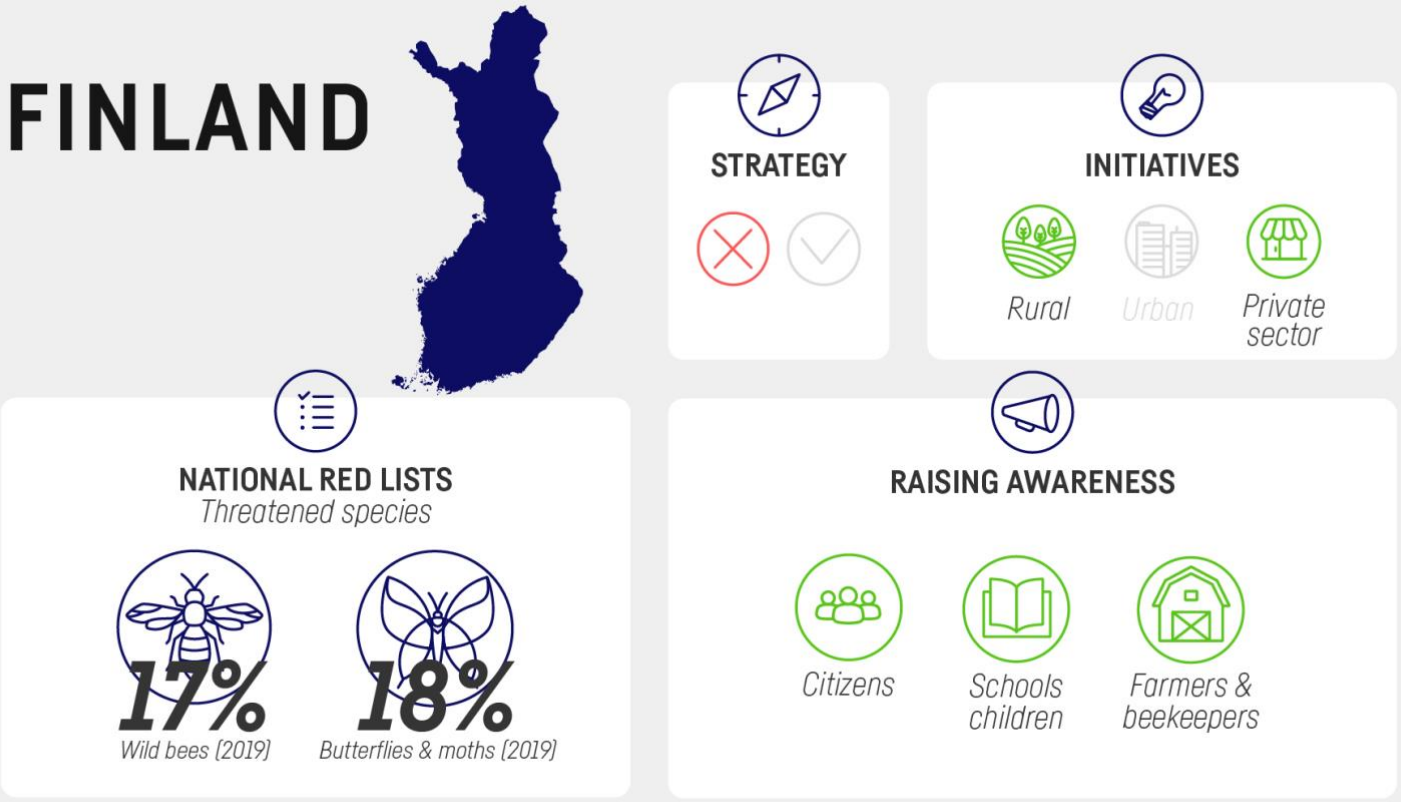
EU POLLINATORS INITIATIVE

A review of Member States actions to tackle the decline of wild pollinators



This document shall be cited as:

IEEP. 2019. Member States initiatives to support wild pollinators populations: Finland. Prepared by IEEP for the European Commission.

Date of completion: 01/12/2019

Acknowledgements: Kimmo Heikkinen, Marjaana Toivonen, Finnish Environment Institute, Eeva-Liisa Korpela, Research Coordinator at the Finnish Beekeepers´ Association, Esko Hyvärinen, Environment Counsellor at Ministry of Environment

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There are no national or regional strategies for wild pollinators in Finland. The decision to formulate a national pollinator strategy has been made, but no working or steering group has been set for the project yet. The aim is for a national strategy on pollinators to be ready in 2021.

Butterfly monitoring has been done in Finland since the 1990s. This is currently the only long-term monitoring of wild pollinators in Finland. The Pölyhyöty monitoring program initiated in 2019 is developing the field of wild pollinator monitoring, but still needs additional funds for long term monitoring. The existing monitoring schemes are heavily reliant on volunteer field work which is facilitated by active hobby organisations.

Several research initiatives that aim to improve knowledge about pollinator decline have started recently, focusing mainly on the interaction between food production and pollinators, and on how farming practices could be improved to support pollinators.

Metsähallitus, a state-owned enterprise responsible for the management of one third of Finland's surface area, has a programme for managing traditional rural biotopes on state owned land. They have recently started two wild pollinator related schemes (SaLaPöly and PÖLYHYÖTY). These include aspects of awareness raising and education. In addition, the Finnish Beekeepers' Association is working on raising awareness together with farmers unions.

STRATEGIES FOR WILD POLLINATORS OR ANY OTHER SIMILAR PLANS

Finland does not yet have any national or regional strategies for wild pollinators. A national pollinator strategy is being prepared by the Ministry of the environment. No working group has yet been appointed for the task. The ministry aims to formulate a national strategy by the end of 2020.

There has been strong interest among stakeholders to participate in the planning and preparation of the pollinator strategy (Korpela 2019). The ministry is actively considering which stakeholders to invite to be part of the planning process. In addition to the stakeholders involved in the strategy planning other means of stakeholder involvement will be developed along with the strategy.

The general aim of the strategy will be to ensure the sustainability of pollinator services. This will be achieved through securing pollinator diversity and population sizes.

No decision regarding financing, state or otherwise, has been made at the time of writing.

IMPROVING KNOWLEDGE OF POLLINATOR DECLINE, ITS CAUSES AND CONSEQUENCES

RED LISTS ON POLLINATORS AND DATA ON POLLINATOR POPULATIONS

An updated red list for Finland was published in 2019 (Hyvärinen et al. 2019). The updated red list includes the main pollinator groups Hymenoptera, Lepidoptera and Diptera – Syrphidae. The red list classifies 18% of butterflies and moths (Lepidoptera) and 17% of bees as threatened.

There is not enough data about pollinator populations to accurately evaluate the status of wild pollinators (Korpela 2019, Toivonen 2019, Kuussaari 2019). There are significant gaps in knowledge about wild pollinator distribution, diversity and population size and population fluctuations (Korpela 2019, Toivonen 2019, Kuussaari 2019).

Data about pollinators is collected in the "Hertta" database managed by the Finnish environmental institute. Most data are publicly available through the "Eliölajit-tietojärjestelmä TAXON" website. Data from the Nocturna monitoring scheme, including lepidoptera, is collected in its own "YÖPETI-database". A checklist of all Lepidoptera species for Finland was published in 2017 (Aarvik et al 2017).

POLLINATOR MONITORING SCHEMES

There has been significant development regarding wild pollinator monitoring during 2019, with the start of the "Pölyhyöty" wild pollinator monitoring scheme financed by the Ministry of Agriculture and Forestry. Planned duration 3/2019-12/2021, received 170 000€ funding.

The two-year scheme is divided into three phases:

1. Surveying the distribution of wild pollinators

2. Development of a national monitoring scheme

3. Evaluating the economic value of wild pollinators to agriculture.

The project aims to develop tools and data in preparation for the development of a longer running monitoring scheme, but no funding has yet been secured for continuing the monitoring scheme after the initial survey phase. The Pölyhyöty scheme will produce information about the distribution of wild pollinators, but no information about the population sizes of pollinators will be collected, although these data would be very important to assess the status of pollinators in Finland (Toivonen 2019). The scheme also includes plans to educate volunteers from stakeholder organisations (The Finnish Beekeepers' Association) and other interested parties to monitor bumblebee (*Bombus*) populations.

The butterfly and moth monitoring schemes also address wild pollinators. Both schemes cover all of Finland and have been running for the last two decades (Toivonen 2019):

- Butterfly (Papilionoidea) monitoring ("päiväperhosseuranta") has been done yearly, with volunteer-based transect counts, since 1999. Over the period of 1999-2017, a total of 21 species show a decreasing trend and 7 species an increasing trend, with 10 species regarded as stable. The scheme covers all of Finland.
- The Finnish moth monitoring scheme (Nocturna) has been running since 1993 with the field work by volunteers. It was started by the Finnish environmental institute and run by the Kainuu Centre for Economic Development, Transport and the Environment. The scheme covers all of Finland.

Some short-term pollinator monitoring has been done in conjunction with research projects (Toivonen 2019). No centralized collection of this data has been done, and thus no long-term monitoring is possible to do based on it. A pilot monitoring scheme of the diversity of pollinator communities was done in 1997-1998. The scheme was not continued after the pilot period. The scheme was coordinated by the Finnish environmental institute.

RESEARCH INITIATIVES

These research initiatives have been identified:

- The Wild pollinator monitoring scheme ("PÖLYHYÖTY") includes research in its first and second phases.
- Means of diversification that supports natural and biological pest control and pollination. Project timeframe 2018-2021. Managed by the Natural resources institute of Finland. The project studies the effects of including areas with diversified vegetation into agriculture on natural and biological pest control and pollination.
- EcoStack, stacking of ecosystem services: mechanisms and interactions for optimal crop protection, pollination enhancement, and productivity. Project timeframe 2018-2023. Managed by the Natural resources institute of Finland. EcoStack will provide farmers with knowledge and tools to maximise ecosystem services for the production of crops, while minimising environmental impacts of agriculture and ensuring the profitability of farming. The objective will be achieved by stacking ecosystem services to enhance synergistically the effective interplay of the service providers.
- The Finnish environment institute does research on how landscape type and farming methods affect the pollination of crops and crop pollinators.
- The effects of insecticide used on fields on pollinators in adjacent areas (PienPölyt). The project was executed during 2018 and was funded through the Ministry of Environment. The goals were to study how to minimize negative effects on pollinators from pesticide use in agriculture.
- The effects of Finnish oilseed rape related neonicotinoid insecticide usage on honeybees (NeoMehi). The programme ran from 2013-2015 and studied the effects of neonicotinoid insecticide usage in oilseed rape production on honeybees (Ketola et al 2016).

TAXONOMICAL EXPERTS ON POLLINATORS

Taxonomical expertise is available in the Finnish Museum of Natural History, University of Helsinki (Juho Paukkunen is the Hymenoptera collection manager and Lauri Kaila the Lepidoptera collection expert), and the following natural history organisations:

- Suomen pistiäistyöryhmä - Finnish Expert Group on Hymenoptera
- Suomen Perhostutkijain Seura ry – Finnish Lepidopterist Society

INITIATIVES TACKLING THE CAUSES OF POLLINATOR DECLINE

ACTION PLANS ON SPECIES AND HABITATS

Metsähallitus, a state-owned enterprise responsible for the management of one third of Finland's surface area, has a program for managing traditional rural biotopes on state owned land. The area under management is about 1600ha. Management of traditional rural biotopes facilitates suitable habitats for wild pollinators. Metsähallitus has published a management action plan for traditional rural biotopes to 2025.

FARMER AND LANDSCAPE INITIATIVES, AS WELL AS LOCAL LEVEL STRATEGIES

The Finnish Rural Development Programme promotes fallow strips and fallow areas are promoted through agri-climate-environment schemes, and they are also promoted through greening (EFA fallow). In total, 7% of Finnish farmland is maintained as fallow land (Herzon et al. 2019) through existing subsidy schemes. Researcher Marjaana Toivonen from SYKE noted that the maintenance of environmental fallow, environmental management of fallow land has significant positive effects on wild pollinators (Toivonen 2019). The vegetation on the fallow land benefits wild pollinators and could offset habitat loss from agriculture.

The following initiatives to tackle pollinator decline have been identified:

- Yield and quality with pollination service (SaLaPöly) strives to increase the provision of the pollination service by beekeepers by matching the supply and demand of pollination services and by improving the habitat for pollinators on farms. The project runs to 2020 and is a cooperation between the Natural Resources Institute of Finland and the Savonia University of Applied Sciences. Funding is provided through the Rural Development Programme.

MEASURES ON PESTICIDES

Finland's National Action Plan on the sustainable use of plant protection products is managed jointly by Natural resources institute Finland and the Ministry of Agriculture and Forestry. The plan includes a project to produce information on actions promoting the use of pollinators and natural enemies of pests (2018-2022).

RAISING AWARENESS, ENGAGING SOCIETY-AT-LARGE AND PROMOTING COLLABORATION

TRAINING AND AWARENESS RAISING CAMPAIGNS

- The Natural Resources Institute of Finland and the Savonia University of Applied Sciences are carrying out awareness raising among farmers, contractors and other pesticide users of how to avoid negative effects on pollinators and about the importance of pollinators in ecosystems and food production in the project SaLaPöly until 2020. However, it is primarily focused on honeybees.
- The Honeypilot-project ("Hunajaluotsi") run by a small consultancy (Hunajaluotsi Oy) educates farmers and the public about pollination and promotes the inclusion of domesticated bees and apiculture in agriculture. It also educates about the benefits of including vegetation with nectar rich flowers ("mesikasvi") in the agricultural landscape.

EDUCATIONAL CAMPAIGNS AND MATERIALS ON WILD POLLINATORS

The Finnish Beekeepers' Association is financing beekeepers to lecture about pollination and pollinators, both wild and domesticated, in schools. This work is not centrally led and relies on a few active individuals around the country (Korpela 2019).

CITIZEN ENGAGEMENT CAMPAIGNS

- The Pölyhyöty scheme is engaging citizens to participate in bumblebee monitoring.
- A government led campaign encourages citizens to build nesting sites for wild pollinators.

PRIVATE SECTOR INITIATIVES FOR WILD POLLINATORS

The Finnish industrial company Rudus has a program called LUMO in which they strive to provide habitats with high heat and sun exposure ("paahdeympäristö") which are important for Hymenoptera species, including many wild pollinators. There is a lack of habitats of this kind, because of changes in land use in modern agriculture and animal husbandry. Rudus can provide habitats of this type in conjunction with sand pits for example. Two of these areas are monitored and changes in vegetation,

Aculeata-species and butterflies have been noticed. Monitoring has been done for three years and is continuing.

The Central Union of Agricultural Producers and Forest Owners (MTK), the Central Union of Swedish-speaking Agricultural Producers in Finland (SLC) and the Finnish Beekeepers' Association (SML) organized a joint seminar on pollination in April 2019 with the objective of presenting the latest information to the relevant stakeholders. Private sector agriculture showed a clear interest in wild pollinators and developing agriculture to benefit wild pollinators (Korpela 2019, Toivonen 2019).

APICULTURE SECTOR INITIATIVES FOR WILD POLLINATORS

The Finnish Beekeepers' Association (SML) strategy states that they are working for wild pollinators (Korpela 2019). SML has included wild pollinators in all their work benefiting pollinators. SML makes a point of including wild pollinators in joint activities between beekeepers and farmers and strives towards supporting habitats that benefit both wild and domesticated pollinators.

REFERENCES

Aarvik, L., Bengtsson, B. Å., Elven, H., Ivinskis, P., Jürivete, U., Karsholt, O., Mutanen, M. & Savenkov, N. 2017: Nordic-Baltic Checklist of Lepidoptera. - *Norwegian Journal of Entomology*, Supplement 3: 1-236. http://www.entomologi.no/journals/nje/Suppl/Aarvik_et_al_2017_Nordic-Baltic_Checklist_of_Lepidiptera.pdf

HERZON, Irina & HELENIUS, Juha & KUUSSAARI, Mikko & MÄKINEN, T & TIAINEN, Juha. (2010). Agri-environmental programme in Finland serving biodiversity: working forward. *Aspects Appl. Biol*. 100. 261-269.

HYVÄRINEN, Esko, 2019. PowerPoint, Suomen pölyttäjästrategian valmistelu, MINISTRY OF ENVIRONMENT, ed. In: 4.4.2019 2019. https://slc.fi/uploads/bilder/Evenemang/Pollinerarseminarium_4.4.2019/Polyttajastrategia_EH.pdf

HYVÄRINEN, Esko, 2019. *E-mail conversation regarding the Finnish pollinator strategy. 12.4.2019*

HYVÄRINEN, Esko, JUSLÉN, A., KEMPPAINEN, E., UDDSTRÖM, A. and LIUKKO, U., 2019. *Suomen lajien uhanalaisuus – Punainen kirja 2019.* Helsinki: Ympäristöministeriö & Suomen ympäristökeskus.

Kaitila JP, Nupponen K, Kullberg J, Laasonen E (2010) Perhoset—butterflies and moths—Lepidoptera. In: Rassi P, Hyvärinen E, Juslén A, Mannerkoski I (eds) The 2010 Red List of Finnish species. Ympäristöministeriö & Suomen ympäristökeskus, Helsinki, pp 430–470

Ketola et al (2016) The Impact of the Use of Neonicotinoid Insecticides on Honeybees in the Cultivation of Spring Oilseed Crops in Finland in 2013–2015. Report number: Natural resources and bioeconomy studies 73/201Affiliation: http://urn.fi/URN:ISBN:978-952-326-142-6. Available at: http://jukuri.luke.fi/handle/10024/530967

KORPELA, Eeva-Liisa, 2019. *Interview with Eeva-Liisa Korpela, Research Coordinator, The Finnish Beekeepers´ Association.* 12.4.2019 Helsinki

KUUSSAARI Mikko (2019) PowerPoint, Pölyttäjätilanne Suomessaja pölyttäjien merkityssuomalaisessa ruoantuotannossa, 4.4.2019 2019, Suomen ympäristökeskus. https://slc.fi/uploads/bilder/Evenemang/Pollinerarseminarium_4.4.2019/Kuussaari_Kiasma_040419_final.pdf

Kuussaari M, Heikkinen RK, Heliölä J, Luoto M, Mayer M, Rytteri S, von Bagh P (2015) Successful translocation of the threatened clouded apollo butterfly (*Parnassius mnemosyne*) and metapopulation establishment in southern Finland. *Biol Conserv* 190:51–59. https://doi.org/10.1016/j.biocon.2015.05.011

TOIVONEN, Marjaana 2019. *Interview with Marjaana Toivonen, Researcher, Finnish Environment Institute.* 11.4.2019 Helsinki

Educational materials

Parkkinen, Seppo; Paukkunen, Juho; Teräs, Ilkka (2018) *Suomen kimalaiset* [Finnish Bumblebees]. Docendo, Helsinki. Available at: https://docendo.fi/sivu/tuote/suomen-kimalaiset/2161748

Presents all 37 bumblebees of Finland with high quality pictures, introductory texts about the biology of the species and distribution maps.