



Bee Landscape Road Map

Social network

Developing a Bee Landscape together

What can farmers and farmer organisations do?

Inspiration & Learning

This brochure offers farmers and their sector organisations more information on how they can support the habitat and populations of pollinating insects and why it is crucial to collaborate with other parties.

The brochure is an integral part of the Bee Landscape Road Map and describes success factors for realising a bee landscape.

The task

Our wild pollinating insect populations (wild bees, hoverflies, and butterflies) are in distress. There are around 20,000 different species of wild bees worldwide, of which around 2000 species live in Europe! A global study by IPBES from 2016 showed that wild pollinators have declined in occurrence and diversity at local and regional scales in North West Europe and North America. In Europe for example, 9 per cent of the bee and butterfly species are endangered and 37 per cent of the bee populations and 31 per cent of the butterfly populations are declining.

Many people take initiatives to help these insects but local measures are not enough. Improving the conditions for pollinators requires comprehensive and cohesive measures over a larger area to ultimately create a landscape where they can thrive: a 'Bee Landscape'.

Farmers can contribute massively by creating flowery farmlands and borders, maintaining hedgerows and coppices, and reducing the use of chemicals.

Benefits for farmers

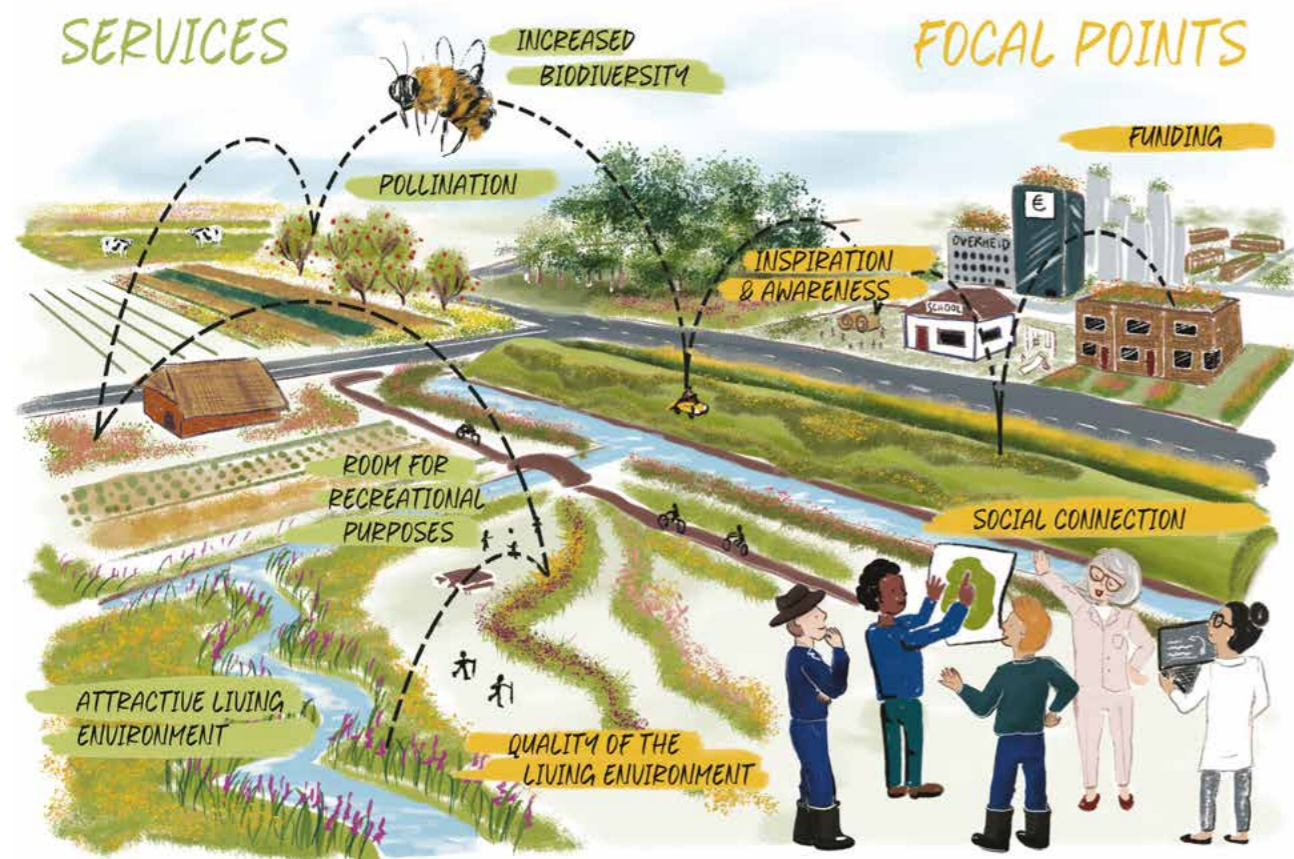
- More beautiful farmland, greater appreciation and experiences for residents and recreational visitors;
- Aspects like nature inclusivity and socially responsible entrepreneurship;
- More natural pest insect control: e.g., hoverflies suppress aphid infestations;
- Improved ecosystem and vitality of the soil;
- Higher-quality fruits thanks to better pollination;
- Healthier cows, indications show that bee landscape measures give higher-quality milk.

Collaboration increases effectiveness

Nobody can change the nature of a bee landscape single-handedly. It demands collaboration between multiple parties: public authorities, farmers, social organisations, and citizens. The process generally comes with its ups and downs. By collaborating closely together, participants can learn from each other and measures will be better aligned. d'erreurs. En travaillant ensemble, nous pouvons apprendre les uns des autres et nous assurer que les mesures prises sont cohérentes entre elles.

Ecological network

Costs & Added value



What can farmers and farmer organisations do?

- **Participating in a local bee initiative or regional network for bees/pollinators**
A large part of the Northwest European landscape consists of farmland and, thus, farmers have a huge impact on the conditions for wild pollinators and are indispensable for these initiatives.
- **Sharing knowledge, aiding the execution of measures**
Many farmers have the knowledge and equipment to create beautiful flowery borders around their fields, which helps others within the landscape network. Meanwhile, other partners can focus on other aspects.

Measures that farmers can take

- Leave borders and unused parts of plots uncut and sow flower and herb seeds to grow there abundantly.
- Choose a blend of indigenous species that our pollinators are accustomed to. Preferably choose organically cultivated seeds.
- Choose perennial blends of herbs as these develop better than annual blends. It also means less maintenance and (additional) seeding.
- Choose indigenous trees, shrubs, and flowers to grow around the farmhouse/outbuildings.
- Choose plants that bloom in different months of the year.
- Choose shrubs with hollow stems in which bees can nest.
- Make sure that flowers can bloom; don't cut or trim all the flowers at the same time.
- Don't cut down ditch walls and ditches entirely – leave around 30% of the vegetation uncut over the winter, if possible. Wild pollinators use these habitats to lay their eggs and winter.

FOCAL POINTS

- When cleaning out ditches, don't leave the sludge on the banks as this causes overgrowth of the bank vegetation and reduces the growth of flowers.
- Avoid having beehives in the same area. Understand that honey bees can compete with wild pollinators and deplete the already scarce food sources the landscape offers.



Perennial flower border along farmland in Huijbergen (photo: Wim Dimmers)

Additional measures cattle farmers can take

- Seed grassland with a grass blend that is rich in herbs so pollinators can forage. Besides that, herbal grassland provides healthier grazing for cows.
- Use manure instead of fertilizers. Manure makes ordinary grassland richer in herbs and reduces soil density. This helps bees that nest in the soil.



Flower border in a pear orchard (photo: Wim Dimmers)

Additional measures arable farmers can take

- Avoid using chemical crop protection products whenever possible. These products impair the orientation of pollinators and, thus, reduce their chance of survival.
- Be reticent in using insecticides. These agents not only kill pest insects but also their natural enemies such as hoverflies (effective aphid killers). Using insecticides also makes you increasingly dependent on them.
- Leave a flowery border or part of the crop uncut as this will be a habitat for a source population of pest-killing insects.

Additional measures fruit and tree growers can take

- Avoid using harmful crop protection products or only use those that don't harm pollinators. These products also impair the orientation of pollinators and, thus, reduce their chances of survival.
- Try to avoid using insecticides whenever possible. These agents not only kill pest insects but also their natural enemies such as hoverflies (effective aphid killers). Using insecticides also makes you increasingly dependent on them.
- Plant wind-protecting tree lines with multiple trees and shrubs. These areas offer pollinators both food and nesting places. Leave some dead wood as an attractive nesting option.



Flower border in an apple orchard (photo: Wim Dimmers)

Concrete activities

The Bee Landscape Road Map describes success factors for the development of a bee landscape in various aspects. Another success factor is that the bee landscape develops harmoniously in these different aspects.

Farmers and umbrella/sector organisations may consider the activities listed below. Activities that particularly apply to umbrella/sector organisations are indicated with an ☆.

Social network

- Join a local or regional bee initiative;
- Try to boost the bee initiative by getting other farmers or farmer organisations involved;
- Find or advocate for a key actor who organises the network and can be a linking pin;
- ☆ - Try to secure funding from the provincial authorities, municipalities, and the Water Board to enable and stimulate collaborations;
- ☆ - Make and maintain contact with like-minded people at other businesses and organisations.

Inspiration & Learning

- Start small – every flower border you create may inspire others to do the same;
- Experiment with different measures;
- Make the measures you have taken visible to the public; Explain to other interested parties why you take these measures;
- ☆ - Promote (farmers') activities in the bee landscape via websites, newsletters, and social media;
- ☆ - Stimulate the exchange and sharing of knowledge and experiences between farmers.

Ecological network

- Add herbal plants to grassland and arable plots whenever possible to create food for pollinators. Adjusting land management is often already sufficient to achieve that. Use a blend of grasses that is rich in herbs when reseeding grasslands;
- Choose perennial and indigenous blends of flower seeds when sowing flower borders;
- Create nesting places for pollinators:
 - above ground: plants and shrubs with hollow stems, e.g., blackberry bushes.
 - below ground: sandy open spots in and around plots where solitary bee species can make their nests. A nest can only provide young bees when the soil is not ploughed every year or gets too disturbed;
- Make sure that pollinators can travel the distances between the flower-rich places at your site/company. Bear in mind that many wild bee species already struggle to bridge a distance of just 100 metres;
- ☆ - Find out which landscape elements in your area are important for pollinators, or need pollinators, and which opportunities you can identify on a landscape scale. An expert on bees can offer advice;
- ☆ - Ensure that the bee landscape includes a monitoring plan for the development and maintenance of the measures and their effect on pollinators.

Costs & Added value

- Residents and recreational visitors appreciate flower-rich farmlands. This also offers opportunities to broaden your farming business;
- Successful collaborations within the bee landscape network are inspiring, a driving force, and strengthen relationships;
- ☆ - Make a key actor from your organisation available for the bee landscape-related activities;
- ☆ - Reserve/find funding for the landscape network and/or motivate others to do so;
- ☆ - Evaluate the effectiveness of the executed measures, the cost efficiency, the support for the measures, and the added value that is created.

How to start?

A Bee Landscape Road Map and an accompanying manual have been developed for farmers and sector organisations wishing to get started on developing a bee landscape.

Visit BeeLandscapeRoadMap.org

Other information sources

<https://ipbes.net/assessment-reports/pollinators>

The assessment report of the intergovernmental science-policy platform on biodiversity and ecosystem services on pollinators, pollination and food production. S.G. Potts, V. L. Imperatriz-Fonseca, and Ngo H. T. (eds.).

<https://www.fao.org/pollination/en>

FAO's Global Action on Pollination Services for Sustainable Agriculture

<https://wikis.ec.europa.eu/display/EUPKH/EU+Pollinator+Information+Hive>
EU pollinator Information hive

Interesting subpages:

<https://wikis.ec.europa.eu/display/EUPKH/Actions+in+my+country>

Member States' initiatives to support wild pollinator populations

<https://wikis.ec.europa.eu/display/EUPKH/Get+involved>

Get involved: a series of technical guidance with recommendations for action for citizens, invasive alien species managers, local authorities and cities, farmers, businesses and public authorities.

Flower border at a brown bean field in bloom for the first time (photo: Wim Dimmers)





Bee Landscape Road Map

Colophon

The Bee Landscape Road Map Manual is part of the 'Supporting Pollinators' toolbox, developed by www.kennisimpulsbestuivers.nl. This research programme is funded by the Dutch Ministry of Agriculture, Nature and Food Quality, and executed by Wageningen Environmental Research, in cooperation with Naturalis Biodiversity Center en EIS Kenniscentrum Insecten.

Authors

S.A.M. van Rooij, M. Pleijte, D. Sanders & G. A. de Groot
Wageningen Environmental Research, Wageningen

Visit BeeLandscape.org

Accompanying knowledge products

- Bee Landscape Road Map
- Bee Landscape Road Map Manual
- 4 Brochures Developing a bee landscape together, directed at:
 - Farmers
 - Businesses
 - Citizen/civic initiatives
 - Regional authorities

Illustration page 2

Natasha Sena - Clasp Visuals

Design

Taco Zwaanswijk - Stainless Media

2023, DOI nr 10.18174/585206

CC licentie CC-BY-NC-SA 4.0



Ministerie van Landbouw,
Natuur en Voedselkwaliteit

Partner
Nationale Bijenstrategie

