



WILD BEES AND ROADSIDES

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It is an accepted fact: wild bee populations are in decline! This affects many cultivated plants, and therefore the diversity and quality of our food in the future. The impact on the wild flora and food chains in our ecosystems has cascading effects on many other species.

IFSTTAR is studying ways to help the settlement and redevelopment of these populations along our roads. The researchers are taking this opportunity to share their knowledge in a book made freely available to all.

What is the connection between roads and wild pollinating insects?

There are many causes for the decline in wild bee populations: general land denaturing, intensive farming, climate change, etc. The construction of transport infrastructure plays a role by destroying natural habitats and causing the fragmentation of ecosystems. Today France is criss-crossed by more than a million kilometres of roads. For the national highway network, it is estimated that the green spaces included within the road rights-of-way (called "road green verges") cover a total area of 5,000km².

These areas have the advantage of receiving few human visitors (just a few highway workers), and the use of pesticides (weed-killers and insecticides) was banned several years ago. Moreover, in some areas, the so-called "late mowing" has favoured the reappearance of a large number of flowers belonging to various local species, similar to what is found in traditional mowed meadows, which are also becoming increasingly rare in France. Yet, these provide particularly favourable environments for many pollinating insects, in particular bees and butterflies.

Roadsides can thus play a decisive role in the conservation of pollinating insects in zones that are affected by human activities.

What are wild bees?

You are familiar with some without realising it.

Mainland France hosts almost 1,000 species of wild bees. Most of them are solitary and inconspicuous, therefore much less known to the general public than the one honey bee species which is raised by beekeepers to provide us with hive products. These numerous wild species come in a wide range of colours, shapes and sizes (from a few millimetres to 3cm in length). They house, feed themselves and contribute to pollination without any need for humans, thanks to the resources in their environment. Bumblebees are without doubt the wild bees which are best known to the general public.

The diversity of wild bees, through their form and flower visiting behaviour, enhances the overall pollen flow between plants of the same species (cultivated or wild) which increases the efficiency of their reproduction. For cultivated species this improves production, both in terms of quality and quantity.

A scientific publication to bolster initiatives



In areas which are affected by human activities, road green verge provides easily exploitable potential for the conservation of wild bees, the restoration of ecological continuity (green networks) and insect pollination.

The scientific publication entitled "Abeilles sauvages et dépendances vertes routières" (Wild Bees and Road Green Verges) provides information, encouragement and assistance to road managers regarding their actions to safeguard and conserve wild bees in their area of operation.

Find out more

Short film (in French)

« Terre d'accueil pour les abeilles sauvages »

Listen to Denis François, the manager of the IFSTTAR project.



Henriksen C.I., Langer V., 2013. *Road verges and winter wheat fields as resources for wild bees in agricultural landscapes*. *Agriculture, Ecosystems and Environment* 173, 66–71.

Hopwood J.J., 2008. *The contribution of roadside grassland restorations to native bee conservation*, *Biological Conservation* 141, 2632-2640.

Kremen C., 2018. *The value of pollinator species diversity*, *Science* 359 (6377), 741-742. DOI: 10.1126/science.aar7614



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Design : STDI
Credit illustration : Sophie JEANNIN / IFSTTAR
Production : IFSTTAR / DS / PEPS - November 2018

