



EU POLLINATORS INITIATIVE

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

NETHERLANDS



STRATEGY



Bee strategy [2018-2030]



INITIATIVES



Rural



Urban



Private sector



NATIONAL RED LISTS

Threatened species



55%

Wild bees [2018]



41%

Butterflies [2019]



RAISING AWARENESS



Citizens



Schools children



Farmers & beekeepers

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The Netherlands has a comprehensive national ‘bee strategy’ in place that targets all pollinating insects. The Strategy has buy-in from a wide range of stakeholders, each of which is committed to action to deliver it. Moreover, The Netherlands take an active role in strengthening international cooperation on pollinator conservation. First indications of the strategy’s success will be the mid-term review in 2023 and final review in 2030.

The country can rely on some of the most comprehensive species evidence in Europe both supported through government and volunteers. The Dutch Red List of wild bees was updated in 2018 and does not have any data-deficient species. 55% of species are threatened. The Red List update points to the large historic losses of wild pollinators in the country and an overall poor trend in turning them around since the previous assessment in 2003. Recent research also points to the important remaining challenges in understanding the impact and effectiveness of the large number of new conservation initiatives taken in recent years.

Under the 2018 National Bee Strategy, many initiatives were launched tackling the causes of pollinator decline, some of which have the potential to achieve landscape-scale impacts across the country. However, most are more localized. There does not appear to be a strategic approach in place to address the needs of the most threatened species identified in the Red List assessment and their habitats. The ‘Nederland Zoemt’ platform provides an important contribution in bringing together existing initiatives under a common umbrella.



STRATEGIES FOR WILD POLLINATORS OR ANY OTHER SIMILAR PLANS

The [Netherlands national bee strategy](#) was published in January 2018. The strategy focusses on all bee species and other pollinators, developed by the Ministry of Agriculture, Nature & Food Quality (LNV) with a large number of implementing signatories, such as farming unions, different types of businesses, landscape managing organisations, NGOs, beekeepers, regional and local governments and Water Boards. Signatories to the strategy, 74 organisations by May 2019, develop their own initiatives delivering on the strategy's main goal to sustainably stimulate and conserve pollination and pollinators. The strategy has three sub-targets to:

- Stimulate biodiversity through actively improving bee habitat by citizens, businesses, and government bodies
- Create a bee-friendly environment on farmland by encouraging more nature-inclusive and bee-friendly agricultural practice
- Improve honeybee management practices to increase honeybee resilience

To achieve demonstrable results, measurable objectives have been included in the strategy with 2023 and 2030 as reference years. In February 2019, a baseline measurement was formally adopted (Reemer & de Groot 2019). Every year all parties will discuss the progress of their initiatives with each other, so that goals are achieved, and in May 2019 the first progress report on the strategy was published (Rijksoverheid 2019). More than 70 initiatives that signatories undertake have been [registered so far](#). The Dutch government (LNV) in the strategy has committed itself to the development and application of bee-friendly greening measures and agricultural nature management in the CAP after 2020.

The Dutch action plan on bee health ([Actieprogramma Bijengezondheid](#)) published in November 2013 aims to reduce honeybee mortality and sets targets to 1) reduce impacts of plant protection products; 2) reduce bee diseases and pests; 3) address (insufficient) food supply and biodiversity; 4) improve bee keeping practice. Stakeholder contributions informed the plan in a public debate in April 2013 on bee decline organised by the Dutch Ministry of Economic Affairs. The programme primarily targets honeybees, but recognizes that reducing pesticide impacts and increasing food supply will have co-benefits for wild pollinators.

The Dutch Nature Conservation Act 2017 ([Wet Natuurbescherming](#)) governs species protection, and the updated [list of nationally protected species](#) includes a number of butterflies and dragonflies, but no bees or hoverflies. The Act also delegated government responsibility for nature conservation to the twelve Provinces, several of which have taken targeted action for pollinators (e.g. Provinces of Zuid-Holland, Brabant and Limburg).

The Netherlands has taken the initiative to build the [Coalition of the Willing on Pollinators](#), the objective of which is to develop pollinator strategies, to make international research capable of practical application, and to learn from and inspire each other. Currently the coalition consists of 26 partners, including 15 EU Member States and the European Commission.



IMPROVING KNOWLEDGE OF POLLINATOR DECLINE, ITS CAUSES AND CONSEQUENCES

RED LISTS ON POLLINATORS AND DATA ON POLLINATOR POPULATIONS

The Dutch Red List for wild bees adopted in 2003 identified 187 of the approximately 360 wild bee species occurring in the Netherlands as threatened (LNV 2004). An [updated Red List for wild bees](#) was published in the Government Gazette in April 2018, listing 181 or 55% of considered species as threatened (LNV 2018). Table 1 provides the key figures from the 2018 and 2013 assessments. The total number of Red-listed species in 2018 increased by 23. Moreover, 37 species were listed for the first time in 2018 and 26 species were up-listed to a higher threat category. On the positive side, two nationally extinct species returned, 14 species were delisted and 21 species were down-listed to a lower threat category (Reemer 2018). Species distribution data from the Red List process are available on the open access internet platform [Het Natuurloket](#) to inform planning and permitting.

Table 1: Red List of wild bees in The Netherlands (2018) (based on Reemer 2018)

Note: The lower number of species on the revised 2003 list is because of the application of stricter IUCN criteria, for which the 2003 list for comparison was corrected.

Year	Total	Extinct (in NL)	Critically Endangered	Endangered	Vulnerable	Near Threatened	Least concern	Data deficient
2018	331	46 (14%)	30 (9%)	42 (13%)	38 (11%)	25 (8%)	150 (45%)	0 (0%)
2003	323	48 (15%)	21 (7%)	37 (11%)	31 (10%)	21 (7%)	163 (50%)	2 (<1%)

The Red List of butterflies assessed 37% of species as threatened and 7% near threatened, whilst 24% are extinct in the Netherlands (42 species assessed using national criteria with no data deficient species) (Bos et al. 2006, WUR 2018). Recently, the assessment was updated showing that 41% of butterflies are threatened according to IUCN criteria (Van Swaay C.A.M, 2019)

POLLINATOR MONITORING SCHEMES

The Netherlands have a relatively dense availability of species occurrence data both from professional as well as citizen observations (IPBES 2017). The National Monitoring Network Butterflies ([Landelijk Meetnet Vlinders](#)) has monitored population trends of butterflies since 1990 and night active moths since 2012, coordinated by the NGO Dutch Butterfly Conservation together with the Central Bureau of Statistics. There is no monitoring network for wild bees and hoverflies but detailed data on both species groups has been collected for over 10 years.

RESEARCH INITIATIVES

To inform the National Pollinator Strategy, the Ministry of Economic Affairs contracted Wageningen University & Research (WUR) to support knowledge development, knowledge exchange and increasing awareness on pollination. Wageningen is setting up networks of practice to exchange knowledge, implementation experiences and joint learning using a webportal ([Kennissimpuls Bestuivers](#)). Research is focusing on 1) opportunities and barriers to initiatives in support of pollinators; 2) formulating concrete tools and conditions for efficient design and management of new pollinator habitat, and 3) habitat use by rare pollinator species.

In February 2019, WUR published an evaluation on the success factors, bottlenecks and focus areas for pollinator conservation in The Netherlands (Nieuwenhuizen and Boer 2019) and came to eight overarching conclusions:

- **Spatial scope:** Many initiatives are local, where landscape-based approaches would be more effective
- **Seeding choices:** Many initiatives depend on (re-)planting annual, often partly non-native seed, mixes while most pollinator species would be better helped with only native and more perennial species
- **Public land management:** Government authorities in most places are not yet setting the right examples on land under their ownership or –management
- **Role(s) of government:** Government authorities take many different roles in supporting initiatives, but there is a large potential for mainstreaming and a discussion between authorities on what are the most effective ways to do so
- **Management effectiveness:** There is a strong need for a better knowledge exchange on the effectiveness of measures taken under many initiatives taken
- **Farmland uptake:** High land prices and business models in agriculture prevent the uptake of bee-friendly measures at scale
- **Monitoring and (perceived) costs:** Most initiatives lack even the most basic monitoring as considered too complex and therefore costly.

- **Risk of narrow scope:** Most initiatives focus exclusively on pollinators, which makes them vulnerable on the long term. Authors therefore recommend to focus more on mainstreaming for example as part of CAP implementation (eg bee-criteria in arable field strips under AECM).

[Naturalis Biodiversity Center](#) hosts the independent [Dutch Knowledge Centre EIS](#) brings together and coordinates research on insects and other invertebrates and is leading most of the Dutch research on wild pollinators (other than butterflies) including the new Dutch Red List on Bees and other targeted studies. Naturalis chairs the EU-wide SuperB COST project (2014-2018) and led the pollinator decline package of the EU-funded [STEP FP7 project](#) in 2010-2014.

TAXONOMICAL EXPERTS ON POLLINATORS

The Netherlands have a relatively strong taxonomic and biodiversity data community made up of both professional and citizen experts (IPBES 2017). Leading groups with expertise on pollinators are:

[Wageningen University](#): Prof. David Kleijn research group

[Naturalis Biodiversity Center](#): Prof. Dr. Koos Biesmeijer and team



INITIATIVES TACKLING THE CAUSES OF POLLINATOR DECLINE

ACTION PLANS ON SPECIES AND HABITATS

The new Nature Conservation Act entering into force in 2017 includes provisions for habitats and species protection, mostly targeted to EU-protected species. In 2008, the approach of developing individual species action plans was replaced by the so-called habitat-approach (NL: leefgebiedenbenadering). In this new system a national list of species is maintained for which Provinces may be required to take active species protection measures depending on their status. The list currently holds 438 species for which 360 active measures are required. Provinces under the new Nature Conservation Act are responsible for species protection and translate their requirements under the habitat approach into their Provincial nature visions and -policies. Some provinces have taken a pro-active approach and for example by choosing flagship species whose presence represent the habitat quality for all species of concern under the habitat approach. A recent NGO assessment indicate a policy vacuum as the provinces have thus far not adopted regional action plans for species

with an unfavourable conservation status (Birdlife International et al 2018). The new Nature Conservation Act also includes an update of the strictly protected species lists that now include seven butterfly species protected under the EU Habitats Directive and 20 additional butterfly species protected under national legislation. No other pollinating species are included.

FARMER AND LANDSCAPE INITIATIVES, AS WELL AS LOCAL LEVEL STRATEGIES

Common Agricultural Policy Rural Development Programme

A preliminary assessment of the bee-friendliness of current CAP implementation in The Netherlands found that both greening and AECM options offer potential positive contributions, however AECM only covers a limited area and relevant greening implementation effective measures are neither not taken up (eg standing woody vegetation under EFA) or not implemented adequately to ensure pollinator conservation (eg field strips) (Scheper et al 2017).

One of the national bee strategy's three key objectives is to create a 'bee-friendly environment on farmland by encouraging more nature-inclusive and bee-friendly agricultural practice' and the government is committed to better gear CAP implementation to this purpose in the next programming period.

Other farmer initiatives

The national bee strategy lists thirty initiatives in relation to the farmland objective. These include an initiative by the Dutch farming union (Land- en Tuinbouw Organisatie LTO) to improve wild pollinator habitat on at least 500 farm yards and an initiative by the Southern farming union (ZLTO) titled 'Bees, protein crops and the CAP' to encourage farmers to implement a more ambitious CAP greening by increasing the uptake of pollinator-friendly protein crops under EFA in the Province of Brabant.

Public sector landscape or local level initiatives

Several Provinces have developed their own programmes delivering on the national strategy's main goal to sustainably stimulate and conserve pollination and pollinators.

Some good practice examples are:

Zuid-Holland: a public-private partnership between beer brewer Heineken, Wageningen Environmental Research (formerly Alterra) and the Province of Zuid-Holland started the project Bee Landscape in March 2016 ([Bijenlandschap](#)). The project aims to reduce the decline of bumblebees and wild bees, as well as honeybees, by building a self-steering network of practice which is exchanging knowledge on bee-friendly landscape management, integrating evidence in practical management, and building citizen buy-in and communication. It has also set up monitoring. The project received strong support from municipalities, private landscape managers, farmers, a business area, schools, a drinking water company, and the national implementing authority for infrastructure works.

Noord-Brabant: The Province of Noord-Brabant set up a 4 year programme 'Bee impulse for Brabant 2015 – 2018' ([Vlinders en Bijen](#)) in cooperation between 10 organisations including

landowners, farmers, bee-keepers, environment and nature conservation NGOs, an institute for higher agronomic education and the water board (regional water manager). In 2016, the Province published an in-depth assessment of its bee fauna, with information on species status, priority species and practical management recommendations.

West-Brabant: Responding to a call by the Province of West-Brabant, 13 municipalities have committed themselves to switch to [ecological roadside management](#). The provincial government is assigning each municipality 25,000 Euros and aims to have 7 more municipalities join in.

[Green Deal InfraNature](#) aims to improve the biodiversity value of land along the dense Dutch infrastructure network.

The ‘Nederland Zoemt’ initiative is actively encouraging a significant number of municipalities to implement pollinator-specific measures (see below).

MEASURES ON PESTICIDES

A [national regulation bans professional pesticide use on non-agricultural areas](#), with exceptions for sports fields and recreational areas not managed by the government including group accommodations (e.g. collections of holiday houses), campsites, and marinas. The ban does not apply to amateur users (i.e. private citizens).

One of the five sub-targets under the national bee strategy’s farmland objective is to ‘Limit the environmental burden of plant protection products, in accordance with the GGDO policy document of the Ministry of Agriculture, Nature and Food Quality (LNV) (which is the Netherland’s transposition of EU legislation on PPPs) (LNV 2013).

Several initiatives (as listed in the national bee strategy) target pesticide use on agricultural land, though they do not specifically aim to protect pollinators:

- Chemical company Bayer creates a sustainability platform ‘Forward Farming’ to increase the uptake and quality of integrated pest management and responsible pesticide use.
- Chemical company Syngenta implements with the Dutch fruit sector a ‘Fruit Quality Concept’ to improve sustainability of fruit growing, among others by integrated pest management with less chemicals and improving biodiversity through flower strips.
- Syngenta, in partnership with six agricultural nature management collectives and fellow-multinational potato-processor McCain also runs ‘Operation pollinator’ aimed to stimulate pollinators and other functional insects in field strips. This initiative does not however include any measures to reduce pesticide use on the crops bordered by the strips.
- National farming union LTO has an initiative ‘Ambition Plant Health 2030’ aimed to make Dutch agriculture- and horticultural sector leading in sustainable plant protection.
- The Dutch association for flower bulb farmers (KAVB) implements two projects on nature-inclusive production (which dedicated special attention to pollinators) and on a certification scheme that recognizes efforts on functional agrobiodiversity and bee health.

- The Citaverde College will provide a course on 'Bees, pollinators and plant protection' for professional users of plant protection products in the primary sector.
- NGO Velt, with various other partners, a 5-year campaign run by NGO Velt in Netherlands and Belgium (Flanders) called '[2020 pesticide-free](#)' aims to drastically reduce pesticide use by private citizens.



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

Awareness-raising on wild bee conservation in the Netherlands is largely centralized under the '[Nederland Zoemt](#)' ('The Netherlands Buzz') initiative which was launched in summer 2017. It is a cooperation between national projects, both financially supported by the Dutch postal code lottery (together 3.2 million euro):

- The Wild Beeline initiative, coordinated by 'De Landschappen' (a nature managing NGO with branches in each of the 12 provinces) in partnership with 5 other NGO and scientific partners, aimed to connect new and existing bee habitat and increase awareness on the indispensable role of wild bees in the Dutch ecosystem. The project established 300 new wild bee spots with food and nesting opportunities that connect isolated bee populations. The partners increased bee-friendly management of linear infrastructures such as dikes and railways. In spring 2018, the project organised a Bee Happy Day on which people were encouraged to make their own spaces more bee-friendly.
- The 'Wild Bee in the Lead Role' project coordinated by NGO Natuur & Milieu in partnership with the Dutch independent Institute for Nature and Sustainability Education (IVN) and the Dutch branch organisation for park management is working with all Dutch municipalities to improve their green area management for wild bees. It is upscaling existing successful initiatives and improving procurement policy for long-term green space management contracts to ensure they deliver for wild pollinators.

Another important central platform for knowledge on pollinators in The Netherlands is the website www.bestuivers.nl maintained by the Dutch Insect Knowledge Centre (Stichting EIS) with financial support from a foundation. Bestuivers.nl is intended to centralise knowledge and information on wild pollinators in The Netherlands (with a focus on wild bees and hoverflies) and brings together ecological

information on pollinating species, their importance to society, threats, conservation solutions, projects, publications. EIS also provides news updates on key developments.

The NGO Dutch Butterfly Conservation (De Vlinderstichting) provide a hub for awareness raising on butterflies.

TRAINING AND AWARENESS RAISING CAMPAIGNS

The [Nederland Zoemt](#) website has a dedicated page for municipalities and provides a map of The Netherlands with dedicated ~5-page briefings with suggestions on how to improve wild bee habitat in the large majority of Dutch municipalities. IVN provides dedicated trainings to municipalities via the platform.

A preliminary assessment for Nederland Zoemt found hundreds of [local and regional pollinator initiatives](#) throughout the Netherlands, including municipalities such as Amsterdam and Rotterdam.

EDUCATIONAL CAMPAIGNS AND MATERIALS ON WILD POLLINATORS

The [Nederland Zoemt](#) website has a dedicated page on education, providing an overview of Dutch modules for primary schools, secondary schools, professional education in green space management and specific courses from various institutions. The courses are targeted at green space managers, policy officers in municipalities and volunteers ([Nederland Zoemt on education](#)). The website also includes a separate page for children, with various interactive tools to learn kids about wild bees ([Nederland Zoemt for children](#)).

The Citaverde College and Dutch Knowledge Centre for Nature and Environment (KCNL) offers six modules in evening professional education to improve knowledge on pollination ([Together for bees](#)).

The higher professional school for applied sciences Van Hall Larenstein leads an initiative on citizen science on bumblebees and their environment ([Silence of the Bees](#)). It has a double aim of obtaining information about- and increasing interest of schoolchildren in pollinators in their own living environment.

CITIZEN ENGAGEMENT CAMPAIGNS

[Nederland Zoemt](#) organises a multitude of engagement actions on wild bees including targeting citizens and municipalities, among other things:

- A yearly bee count in April
- Advice to citizens on how to stimulate their municipality to take action
- Advice to citizens and municipalities on how to improve bee habitat at home
- Actions to promote consumption of short-chain organic fruit and vegetables
- Organisation of a bee working day for people to jointly take practical action

- Bringing together information on local initiatives on interactive maps

The Bee Count (Nationale Bijentelling) is a citizen science project aimed at mapping wild bee behaviour, including use of an application to identify the most common bees in the Netherlands through photos. Citizens are invited to count bees and wasps in 17 easily identified taxa groups covering honeybees, some big solitary bees, the easily identified bumblebees, two hoverflies that are bumble mimics, and wasps as a group.

The Dutch Butterfly Conservation ([De Vlinderstichting](#)) organises a similar range of citizens' engagement actions for butterflies including a yearly butterfly count in July and practical advice on how to make a butterfly-friendly garden.

PRIVATE SECTOR INITIATIVES FOR WILD POLLINATORS

The Dutch pollinator strategy includes various private-sector initiatives, the majority of initiatives relate to the food- and agricultural sectors. For example' the Bee Landscape projects in the Province of Zuid-Holland was made possible because of funding by beer brewer Heineken to the [Green Circles programme](#) from which it originated.

- [Bee deals](#) aim to strike mutual agreements (deals) between chain and area parties about concrete bee-friendly measures: Providing food throughout the year, offering nesting opportunities and friendly handling of plant protection products
- Project to improve habitat for and knowledge of wild bees on business parks
- Two Dutch supermarket chains representing over half of the Dutch market signed [agreements with the NGOs Greenpeace and Natuur & Milieu](#) in summer 2016 to commit by 2020 to: 1) significantly reduce pesticides by increasing the share of products certified under the Dutch integrated environmental 'Milieukeur' label ; 2) pay farmers a better price for more sustainable production, 3) increase the share of organic products by 2-3 fold and 4) raise the share of sold plants and flowers grown under strict environmental standards up to 50%. As a significant share of fruits and vegetables are sourced domestically, this is expected to benefit pollinators and biodiversity more generally. However, the [Dutch Federation of Agriculture and Horticulture \(LTO\)](#) complained that they were not consulted on the agreements and expressed concerns about the economic impact of setting different standards for domestic and imported products.

APICULTURE SECTOR INITIATIVES FOR WILD POLLINATORS

- The [Dutch Beekeepers Association](#) is training ambassadors in biodiversity who can advise individuals, organisations and municipalities on how both small-scale and large-scale projects (from gardens to public green spaces and landscapes) can be designed and planted for pollinating insects, including agriculture, design of gardens at schools, landscape and nature conservation projects. The training includes knowledge of native floral species and the impact of invasive alien species on pollinators. The Association's training for beekeepers also covers the issues of possible food competition and disease transfer between honeybees and other pollinating insects, and the role of native flora versus alien plants.

- Wageningen University is working with land managers to re-introduce wild honeybee populations that had disappeared with the arrival of the Varroa mite, with the ultimate aim to encourage beekeepers to use (Varroa-)resistant wild bee populations for production.
- The [Dutch Centre for Bee Research \(NCB\)](#) researches causes of honeybee dieback in the Netherlands and coordinates an annual monitoring of honeybee mortality with beekeepers. It researches conservation of the Dutch populations of the European dark honeybee variety (*Apis mellifera mellifera*) on the island of Texel.

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Educational materials

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Webpage 'Nederland Zoemt' for children: <https://www.nederlandzoemt.nl/doe-mee/acties-bedrijven/leer-alles-over-wilde-bijen/>