LIFE
Oak Processionary

Five years of research into the ecological management of oak processionary

Laypersons report

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1. Introduction

The oak processionary has been a recurring nuisance in Western Europe for several decades. The moth and its irritating hairs primarily cause human health problems, such as persistent itching, rashes, and eye infections. Peaks of high infestation pressure occur intermittently and can last several years – and sometimes the nuisance can become so severe that cycling and walking paths must be closed and outdoor events cancelled.

However, the traditional methods for controlling the caterpillar, using biocides and nematodes, are extremely harmful to the environment and biodiversity. This endangers not only the oak processionary, but the entire oak ecosystem—one of the most diverse ecosystems in Western Europe.

Alternative methods for managing the caterpillar, which involve the use of its natural enemies, have not yet been sufficiently researched. This led to the idea of setting up a LIFE project to find methods that are effective, ecologically responsible, and affordable, but without the negative consequences of conventional methods.

What is the LIFE Programme?

The LIFE Programme is a European subsidy program established in 1992, aimed at supporting EU objectives related to climate, the environment, and biodiversity. The programme co-finances projects that contribute to the European Green Deal, such as protecting nature, promoting a circular economy, and combating climate change. It supports companies, public organizations, and NGO with demonstration and pilot projects.

Research into alternative management methods for the oak processionary moth was conducted using the sub-program LIFE Environment, which focuses on, among other things, the prevention and reduction of harmful biocides.

The oak processionary

The oak processionary is a species of moth known for its habit of moving in processions and gathering in nests. The caterpillars feed exclusively on young oak leaves, particularly on sunlit oaks in avenues, lanes, and forest edges.

The species has been present in Western Europe for centuries but is advancing to the north in recent decades. As with other pest species, oak processionary density fluctuates in peaks and troughs—the last peaks were in 2007, 2018-2019, and 2021-2022. Since then, the species has been in a trough, but new peaks are expected soon.

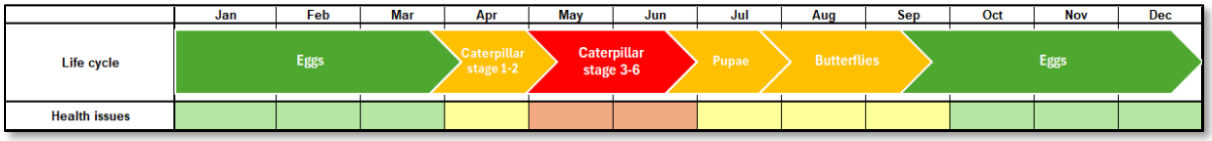

Figure 1: Oak processionary life cycle and related health issues.

Figure 2: Oak processionary caterpillars.

The caterpillars hatch around early April and shed their skin a total of five times by the end of June. Only after a few moults —around the end of April or beginning of May—do they develop the dreaded stinging hairs, up to 700,000 per caterpillar. They also then build their characteristic nests of webbing and old larval skins on the trunk or in the lower branches of the tree. Every evening, they leave the nest to feed on leaves, returning in the morning. Sometimes, they form processions throughout the tree.

End of June they pupate, to reappear in August as inconspicuous moths, which are only concerned with mating and laying eggs. They are good flyers, but most eggs are laid in their own or nearby trees. The eggs overwinter until the cycle begins again in April.

Figure 3: Oak processionary butterfly.

Figure 4: Symptoms of contact with oak processionary.

For humans, the oak processionary's venom lies in the caterpillar's microscopic stinging hairs. These are not the long white hairs, which are completely harmless. The stinging hairs are much smaller hairs that are shed when the caterpillar feels threatened. They have tiny barbs that they use to hook into our skin, eyes, and mucous membranes. They secrete a protein that triggers allergic reactions in our bodies, including itching, redness, and bumps. More serious symptoms rarely occur. Pets and livestock can also be affected by the stinging hairs. The hairs remain in the nest when the caterpillar pupates and can cause problems for years to come.

Because of this defence mechanism, the oak processionary has few natural enemies. However, there are some species that eat or parasitize the caterpillars:

- Insectivorous birds, such as great tits and blue tits, feed their young on the smaller caterpillars;
- Parasitic flies and wasps lay their eggs in or near the caterpillars; the larvae of these wasps and flies then eat the caterpillars from the inside out;
- Of some large predatory beetles, such as the spectacular forest caterpillar hunter, both the larvae and the adults feed on oak processionary caterpillars.

The oak processionary caterpillar's preferred habitat, the pedunculate oak, is one of the most iconic trees in the Low Countries. Older oaks are particularly important for biodiversity: you can sometimes find more than 400 insect species on them, more than on any other tree in Western Europe. Therefore, when controlling the oak processionary, it is important that we only use methods that have the least possible impact on this enormous biodiversity.

Controlling the Oak Processionary Caterpillar

Various measures are used to control the oak processionary caterpillar. We distinguish between direct methods, which directly affect the caterpillar:

- Preventive methods, used before the caterpillars develop urticating hairs and form nests, such as biocides and nematodes;
- Curative methods, used as soon as the nests appear, such as vacuuming and manual removal;

In addition, there are several indirect or alternative measures aimed at attracting the caterpillar's natural enemies, several of which were tested in this project.

However, the preventive methods have numerous side effects that affect not only the oak processionary caterpillar, but the entire biodiversity of the oak tree. The biocides used are not species-specific and kill all caterpillars in the tree – including those of the very rare brown hairstreak, a butterfly species found only in oaks and highly endangered in parts of Europe. Nematode-based solutions also kill other insect species in the oak.

Curative methods such as vacuuming and manual removal can be used much more accurately and with less impact, but they do require more manual labour.

The LIFE Oak Processionary project

The main objective of this LIFE project was to drastically reduce the use of these harmful biocides in oak processionary management. We wanted to make ecological management methods the norm and incorporate these ecological methods into regional and national legislation.

To achieve this goal, the effectiveness of three ecological management techniques was tested, evaluated, and demonstrated on a large scale, both in Flanders and the Netherlands. We organized demonstrations and workshops in the field, as well as training and information sessions in each of the provinces involved for all stakeholders. To ensure the scientific basis, an international expert group on processionary caterpillars was established.

Three ecological techniques for controlling the oak processionary were tested:

- Tits as natural predators;
- Attracting parasitic wasps and flies through adapted roadside management;
- Breeding and releasing the forest caterpillar hunter.

During our research, we also found that trees with common ivy on their trunks had significantly fewer oak processionary nests, so we included this as an additional track in the research.

In the monitoring component of the project, we looked more closely at:

- The evolution of caterpillar populations at the test- and control sites for every experiment;
- The use of biocides for controlling oak processionary in the project area;
- The course of the health complaints related to the irritating hairs.

In the additional socio-economic study, we mapped the economic and ecological impact of oak processionary management and compared the costs and benefits of alternative methods with the traditional approach.

To convince policymakers and local governments to switch to ecological management methods, we developed a "Guideline for Controlling Oak Processionary". This guideline includes a decision matrix with the most appropriate methods for every situation, and a proposal for a local management plan. We also address the public with a documentary movie about oak trees and the oak processionary, "A Community of Life – the story of a caterpillar".

The cross-border LIFE project was led by the province of Antwerp (BE), and is a collaboration with the Institute for Nature and Forest Research INBO (BE), the provinces of Limburg (BE), Gelderland (NL) and Noord-Brabant (NL), and the municipality of Sittard-Geleen (NL)

2. Main project actions

Attracting tits as natural predators

Fruit growers long ago realized how insectivorous birds can protect their crops—they use nest boxes to attract tits and limit damage from caterpillars. Could this strategy also be applied to the control of oak processionary?

Figure 5: Great tit. Source: Vilda. Photo: Rollin Verlinde

Small-scale studies have already shown that attracting insectivorous birds with nest boxes contributes to reducing the oak processionary caterpillar population. During the breeding season, the birds feed their young caterpillars en masse, including oak processionary caterpillars. The hairy caterpillars are first stripped of their hair by the adult birds. In two weeks, a young great tit can consume around 800 caterpillars.

However, no study has yet demonstrated how significant this reduction in the caterpillar population could be. In this LIFE project, we attempted to measure the impact of predation by tits on oak processionary populations—the number and size of nests—on a large scale by installing nest boxes. By comparing oak processionary populations in trees with and without nest boxes, we were able to assess the effect of these measures.

Figure 6: Nest boxes in one of the project areas.

At 24 experimental sites in Belgium and the Netherlands, nest boxes were installed in rows of large oak trees colonized by oak processionary. 24 Comparable sites served as control sites. For five years, the number of occupied nest boxes and the number of young tits were counted each spring. In the summer, the number of caterpillar nests was counted and their size estimated.

What did we learn from the bird research?

What was the effect of providing nest boxes on the birds?

- As expected, we saw more birds at sites with nest boxes than at the control sites – about twice as many.

- Five bird species visited our nest boxes, the majority great tits and blue tits.
- On average, 50% of the nest boxes were used – less than expected, although occupancy reached 80% at some sites. Probably the nest boxes were placed too close together for the liking of these territorial birds.
- Eggs were found in about half of the nest boxes, and young birds in about a third.

Has the increase in bird numbers influenced the oak processionary population?

- Over the course of the study, the number of caterpillar nests and the average size of the nests gradually decreased, both at sites with and without nest boxes. Natural population cycles and changing weather conditions play a significant role in this.
- Regarding the number of caterpillar nests, we see no clear difference between the test and control sites.
- However, there is **a clear impact on nest size**: caterpillar nests decreased in size year after year everywhere, **but nest became smaller more quickly at the sites with nest boxes – approximately 30% faster per year**. Large nests contain exponentially more caterpillars than smaller ones, so we can conclude that **additional predation by tits due to the installation of nest boxes indeed reduced the processionary moth pest pressure by approximately 70% over four years.**

Attracting parasitic wasps and flies

Caterpillars like the oak processionary are constantly attacked by natural enemies such as parasitic wasps and flies. These parasitize the caterpillars by laying their eggs in them. Literature shows that the more natural the environment, the more effective these parasites are.

Adult parasitic wasps and flies do not feed on caterpillars, but on nectar and/or pollen from flowers. We therefore expect that ecologically better roadsides — rich in flowers and herbs—will attract more parasitic wasps and flies, which will infect more caterpillars, thus reducing local pest pressure.

Figure 7: Parasitic wasp at a nest.

Figure 8: Flowery road verge.

For this experiment, vegetation surveys were conducted on 48 roadsides – varying from grassy to very rich in flowers - over a four-year period, and we counted the number and estimated size of caterpillar nests at each location. Each year we brought several nests to the lab to identify and count the emerging butterflies, parasitic wasps, and flies, allowing us to determine the number of caterpillars per nest and the percentage that was parasitized.

A commonly used technique for measuring the quality of roadside vegetation is the Nectar Index, developed by FLORON (Floristic Research Netherlands). With this method you can easily determine how suitable a roadside verge is for insects, especially for butterflies and bees.

What did we learn from the roadside survey?

Do parasites really play a role in controlling caterpillar populations?

- Besides the caterpillars, two species of parasitic flies and two species of parasitic wasps were found in the caterpillar nests. Parasitic flies are much more numerous – an average of 60 flies compared to two wasps per nest.
- The average parasitisation rate across all roadsides is around 70%. Therefore, without these parasites, **three times as many oak processionary moths would be flying around and laying new eggs for the following season.**

What is the parasitisation rate on the different types of roadside verges?

- We see a high level of parasitisation, particularly in flower-rich, diverse roadsides with lots of composites such as tansy and yarrow, and with a high Nectar Index. In the most natural roadsides and under high pest pressure, this level even rises to 90%. **This leads to significantly less oak processionary nuisance in and around natural roadsides.**
- This effect is strongest in verges in open landscapes with abundant grasslands and diminishes with increasing forest density in the surroundings.
- Regular mowing management, including clearing of the grass clippings, contributes to gr parasitisation.

Breading and releasing the forest caterpillar hunter.

The forest caterpillar hunter is a large, very striking ground beetle, mainly found in Southern Europe. Its diet consists primarily of hairy caterpillars, which are avoided by most other animals. An adult beetle eats some 200 to 300 caterpillars per year, and the larvae eat both the caterpillars and the pupae of the oak processionary. Therefore, the forest caterpillar hunter is a welcome visitor in areas with caterpillar infestations.

In Western Europe, it is a very rare species, considered critically endangered in Belgium, and even extinct in the Netherlands.

Figure 9: Adult forest caterpillar hunter.

Figure 10: Forest caterpillar hunter feeding on oak processionary.

But in Türkiye the beetle is bred on a large scale and released into pine forests to control the pine processionary caterpillar.

The idea was to test this approach on a smaller scale in Belgium and, if successful, expand it to the Netherlands. The goal was very ambitious: to breed at least 10,000 beetles. We planned small-scale reintroductions monitored using lightweight transmitters.

Experimental set-up - breeding the forest caterpillar hunter in Europe.

Turkish institutions have developed expertise in breeding the forest caterpillar hunter. They use the species as a natural enemy against the pine processionary, a species closely related to our oak processionary. In 2022, we visited a breeding station in Türkiye to learn more about breeding the species, and shortly thereafter, we were able to establish our own breeding centre with around 100 beetles.

With these beetles we started aninitial breeding trial. However, we soon discovered that the beetles feeding on pine processionary have a life cycle completely adapted to their prey: their peak is in March/April, rather than May/June, when the oak processionary is common. This timing was not easily changed. However, our Turkish partners were willing to help us again.

In 2023, we received a new batch of beetles from a population that feeds on oak processionary, so that we could resume the breeding experiment with more suitable guinea pigs.

Figure 11 Collecting beetle eggs in the laboratory:

The forest caterpillar hunter habitat model

When reintroducing an animal or plant, it by preference happens at a location (habitat) suitable for that species. For this purpose, the Research Institute for Nature and Forest (INBO) designed a habitat model, a digital GIS (Geographic Information System) map that we can use to select the most promising locations for reintroduction, based on the specific habitat requirements of the forest caterpillar hunter.

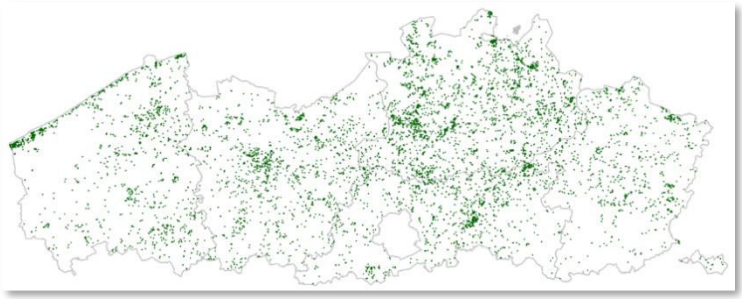

Figure 12: Forest caterpillar hunter habitat model for Flanders.

What did we learn from 3 years of breeding forest caterpillar hunters?

Due to a delay at the start of the experiment because of the Coronavirus-restrictions, and again because of the false start with the beetles feeding on pine processionary, we could not achieve all our objectives during the project lifetime. However, we did learn a lot about this beetle:

- After three years of intensive beetle breeding, we know that beetles can be induced to lay eggs after being fed oak processionary, and the larvae can be reared with more diverse food sources, after which they can successfully pupate into adult beetles.
- **With some practical improvements, we are convinced our approach can also be applied on a larger scale.**
- However, before we can consider commercialization, **there are still several significant hurdles to overcome:**
    - The beetles lay eggs only once a year, and must have been fed on oak processionary to produce fertile eggs;

- The newly hatched larvae are highly cannibalistic and must therefore be raised individually.

❖ A key point to consider is that local processionary pest pressure fluctuates from year to year, making local small-scale commercialization challenging. Breeding the forest caterpillar hunter is a long-term, continuous process, while local demand for oak processionary management will fluctuate.

Limiting oak processionary infestations with common ivy

During the 2021 field study for the experiment with parasitic wasps and flies, we already noticed that oak trees covered with common ivy had significantly fewer caterpillar nests than trees without ivy.

To study this further, a new experiment was set up in 2021 and 2022. At fifteen locations in the Netherlands and Flanders where oak processionary was present, we selected trees with and without ivy. As in the other experiments, we counted the number of caterpillar nests per tree at all locations and evaluated the nest size.

Figure 13: Common ivy in a pedunculate oak.

Does common ivy have this effect also on other butterfly species? To investigate this, we selected two oak trees with and two without ivy on the trunks at eight different locations where no oak processionary was present. Using cardboard boxes, we collected caterpillar droppings under each tree for 24 hours as an indicator of the number of caterpillars present and weighed them.

What did we learn from the ivy experiment?

What does ivy do to the oak processionary caterpillar?

❖ In trees with common ivy, we find on average 50% fewer nests of oak processionary caterpillars than in trees without. Moreover, the nests are much smaller and therefore contain significantly fewer caterpillars:

❖ So, we can conclude that **the presence of common ivy on the trunks of oak trees reduces the oak processionary population in the tree;**

❖ The reason is not clear. Perhaps the plant forms a physical barrier to the caterpillar's movements, or the microclimate beneath the ivy's canopy is less suitable for creating nests.

Does the presence of common ivy impact other butterfly species?

This doesn't seem to be the case—there was no significant difference in caterpillar droppings between trees with and without ivy. We can conclude that **ivy on oak trunks has no measurable impact on other butterfly species.**

Socio-economic impact of the oak processionary

The main objective of the LIFE Oak Processionary project was to reduce the use of harmful biocides in the oak processionary caterpillar control in the project area by 50%.

However, alternative methods are considered more expensive and less effective, which would make them less effective at reducing the nuisance. A reduction in biocide use is only acceptable if there are no negative consequences for public health. Therefore, we also aimed to see a 20% reduction in the number of reported complaints related to the oak processionary caterpillar by the end of the project.

Furthermore, alternative methods are only viable if they keep management costs stable and predictable.

To map all these aspects, we conducted a separate socio-economic study.

The biocides used to control oak processionary caterpillars generally kill all species of caterpillars in the tree – far more than just the oak processionary caterpillar. However, the commercial products in circulation contain different amounts of active ingredient, with varying biological potency. In addition to the amount of product, we must therefore also consider its potency. The first indicator gives us an idea of how many trees have been sprayed, while the second reflects the potential impact on biodiversity in the trees.

Figure 14: Spraying biocides in oak trees.

In addition to a 50% reduction in biocide use, we also expected a 20% reduction in the number of reported complaints related to oak processionary caterpillars by the end of the project.

Study set-up

We collected information on biocide use from the project partners, the Flemish Environment Agency (VMM), and through a survey of our ambassador community—more than twenty municipalities selected from the entire project region, at least four for each province involved.

In the same survey, we also asked which methods were used and what the costs were. This provided insight into the various strategies used in practice and the economic costs of oak processionary moth control. Using the available literature, we examined the effectiveness of each method versus its cost and evaluated its impact on biodiversity.

Information on health complaints related to oak processionary moths was requested from INTEGO (Belgium), a project of the Catholic University of Leuven (KUL), and NIVEL (Netherlands), organizations that collect data from approximately 300 general practitioners' group practices in both countries.

What did the socio-economic study teach us?

How did biocide use evolve during the project?

- To the frustration of the project partners, biocide use continued to rise in the first few years as the pest pressure increased. It took considerable persuasion from the project partners to convince municipalities to reduce biocide use.
- In 2023, biocide use fell below the 50% reduction target for 2025. After

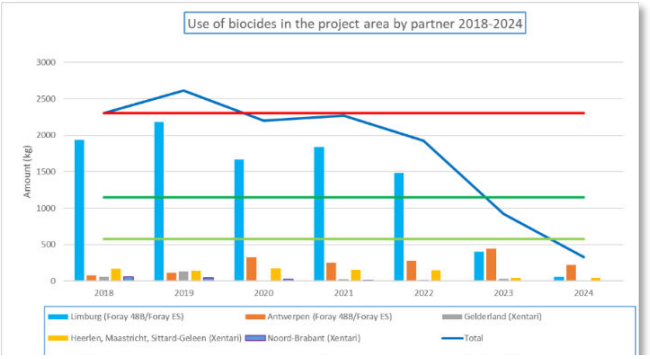

Figure 15: Biocide use in the project area over the project lifetime.

that, things moved quickly, and by 2024, we had already surpassed a 75% reduction compared to the start.

- The effect is even more outspoken when we consider the potency of the biocides used and thus the impact on biodiversity. When a commercial product in Flanders was replaced in 2020 by a comparable product with less active product for the same volume, the impact decreased by a whopping 70% in one year.

In addition to extensive awareness-raising, the decrease in pest pressure in 2023 also very likely contributed to the reduced use of biocides.

Did this drastic reduction of biocides cause additional health problems?

- The target for 2025 – a 20% reduction in complaints – could not be conclusively demonstrated; the Netherlands and Flanders show very different patterns of the progression of the complaints over the years.
- Nevertheless, the reduction in biocide use in the project area does not appear to influence potentially related health complaints.
- What we do see is that an abundance of oak processionary caterpillars in the summer period causes additional health complaints, but other causes likely play a much larger role. From contacts with the KUL, we learned that for example the mass COVID vaccinations in 2021 and 2022 also caused symptoms comparable to those of contact with the caterpillar.

An important caveat to the method used is that symptoms such as itching and redness are common allergic reactions after contact with a foreign substance, not typical of oak processionary. The available data doesn't tell us exactly what caused the symptoms. This makes it difficult to connect them to the presence of the oak processionary or the effectiveness of the pest control measures.

What are the economic and ecological costs of oak processionary management?

The extensive survey among the ambassador community provided us with insight into the costs of different management methods and strategies used by the municipalities and the evolution of the associated costs over the four-year period.

- Most ambassador municipalities combine preventive measures—primarily biocides—and curative techniques—such as vacuuming and manual removal—to control the pest, usually supplemented with one or more indirect (alternative) methods such as ecological mowing and hanging bird nest boxes.
- Measured by the number of trees treated, preventive measures are, as expected, much cheaper (approximately €4.30/tree) than the more labour-intensive curative methods (approximately €37/tree). The number of trees treated curatively was therefore only a small fraction of the number of trees treated preventively.
- A typical Ambassador municipality spent approximately €8,500 per year on preventive measures, €2,700 on curative measures, and €7,900 on alternative measures that could potentially impact the oak processionary.
- Over the course of the project, preventive management costs decreased significantly as fewer biocides were used. However, curative treatment costs remained relatively stable.

Regarding the various strategies used—combinations of preventive, curative, and/or alternative measures—one important finding is worth noting: the municipalities that use only curative

measures (such as vacuuming) spend only 45% of the budget of those who use both preventive and curative measures. This means that, regardless of the unit price and practical difficulties, it would be more efficient to invest in curative measures than in the more damaging preventive measures.

The analyses of cost vs. effectiveness and the impact on biodiversity show that:

- Preventive methods such as biocides may be considerably cheaper, but curative methods are much more accurate and effective.
- Preventive methods have a significantly greater negative impact on biodiversity than curative methods.
- And, as expected, alternative methods scored much more positively on this aspect.

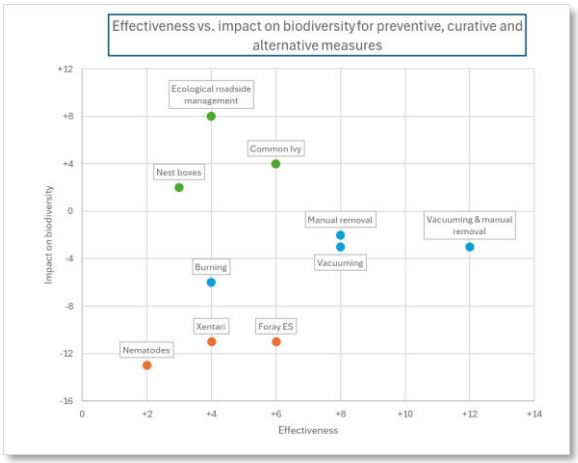

Figure 16: Oak processionary control methods - effectiveness vs. impact on biodiversity.

Dissemination activities

An overview of some of the different ways that were used to disseminate information about the project:

Demonstration and information sessions

Figure 17: Demo moment at one of the project locations.

Local and regional policymakers were regularly invited to demonstrations at our pilot sites. They also received newsletters that we distributed regularly. At the start, halfway through, and the end of the project, they were invited to conferences and symposia.

The LIFE Oak Processionary Ambassador Community

Our Ambassador Municipalities were a key tool for achieving the project objectives and communicating with our stakeholders. In the five provinces involved, more than 20 municipalities agreed to provide us with annual details on how they managed the oak processionary, including the methods they used, the costs, and the results. They also organized most of the demonstrations within their territory, and in some provinces, they also made mutual agreements on management practices. Thanks to the Ambassador Community, we had access to a wealth of information directly from people on the ground – information that was indispensable for our research.

Website, newsletters, traditional and social media

The project website https://oakprocessionary.life/ is the primary information channel for our project. In addition to a summary of the experiments and studies conducted, and an overview of all newsletters and articles, you can also find the publications listed below.

Figure 18; The LIFE Oak Processionary website.

The project also has its own Facebook page.

Important breakthroughs in the project, such as the first successful breeding of the forest caterpillar hunter, were announced in the print media and on local and national TV channels.

'A Community of Life - the story of a caterpillar'

Very soon after the project began, the idea arose to record some of our experiments. After all, we were exploring a fascinating world of hairy caterpillars, mysterious moths, creepy parasitic wasps, and rare iridescent beetles, a world that few get to see up close.

As time went by the idea evolved into a full-fledged film. No other tool seemed more suitable to us to achieve the desired shift in our mindset from combating to managing and coexisting with the caterpillar.

Dutch film director Rik van der Linden, an enthusiastic nature filmmaker, was enthusiastic about the idea. Rik had previously made documentaries that focused on the search for a place for humans in the living world. Together with eco-philosopher and biologist Matthijs Schouten, who has the rare ability

Figure 19: Intro of the movie 'A Community of Life'.

to view nature not only biologically but also economically and philosophically, in the film "A Community of Life – The Story of a Caterpillar", he offers us a truly expansive view of the oak and everything that lives in and around the tree — from the annoying oak processionary to the numerous other invertebrate and vertebrate species, and ultimately, humans themselves.

The film premiered in November 2025 at the Wildlife Film Festival Rotterdam (WFFR) and won the audience award there. It is available for screening in local cultural centers, cinemas, at nature events, and educational opportunities.

To use this movie in workshops and for discussions, a process package was developed to stimulate interaction with the audience after the screening.

Belgian Guideline for controlling Oak Processionary and Management Plan

In the Netherlands, a "Leidraad Beheersing Eikenprocessierups" exists already for several years, published by the Kennisplatform Eikenprocessierups. It is based on the Dutch operating model, legislation, and management methods. One of the most important achievements of the LIFE project Oak Processionary is a version of this guideline adapted for Flanders and, by extension, all of Belgium, and updated with the conclusions and recommendations from our research.

The primary objective of the guideline is to help local authorities manage the nuisance caused by oak processionary moths as effectively, efficiently, and environmentally friendly as possible. Target groups are therefore primarily provincial and local policymakers, governments, and services responsible for managing pest species.

The guideline includes the latest information on the oak processionary moth, its impact on public health, monitoring- and preferred management methods, relevant legislation, safety instructions for field crews, and the way management is organized in Belgium.

The guideline contains several important tools adapted for local authorities to use in managing the oak processionary, such as:

- A risk-based approach for determining priorities based on the local presence of people and animals, the presence of common oaks, and the expected pest pressure, visualizable in GIS;
- A decision matrix for which actions to plan in every circumstance;

	EXPECTED PRESSURE	COMMUNICATION	MONITORING	COMPLAINTS	NATURAL PEST SUPPRESSION	VACUUMING AND/ OR PLUCKING	BACTERIAL PREPARATION	WARNING / ROAD CLOSURE
HIGH IMPACT	High pressure	+++	+++	+++	+++	+++	+++	+
	Moderate pressure	+++	+++	+++	+++	++	++	o
	Low pressure	++	+++	+++	+++	++	o	o
MODERATE IMPACT	High pressure	++	+++	++	++	++	+	++
	Moderate pressure	+	+++	+	++	+	o	o/+
	Low pressure	o	++	+	+	+	o	o
LOW IMPACT	High pressure	+	++	+	+	o/+	o	+++
	Moderate pressure	+	+	o	+	o	o	++
	Low pressure	o	+	o	+	o	o	o/+

Figure 20: Decision matrix for planned actions.

- An action plan including recommended direct and indirect management methods and best practices on monitoring and communication;
- An annual action calendar;
- Templates for a customizable local management plan, monitoring and spraying reports and a complaints form;

With this guideline and the accompanying management plan, local authorities can immediately start developing and planning their own management of pest species like the oak processionary.

Communication guidelines for oak processionary policy

These guidelines are aimed at policymakers and communication advisors and should help them communicate with their target audience on the sensitive topic of pest species.

Besides a brief overview of what the communication should entail, the guideline addresses themes such as the use of engaging, solution-oriented, and accessible language, adapted to the specific target audience.

The communication guideline also refers to the potential use of the film in communicating with the broader public.

3. Key results and moments

- Thanks to the project team's continued efforts, we were able **to reduce biocide use by 85% in municipalities within the project area;**
- We demonstrated that providing **nest boxes can reduce oak processionary populations by 70% within four years;** that **parasites such as parasitic wasps and flies reduce caterpillar nuisance by on average 70%, and up to 90% in naturally managed roadside verges**; and that **ivy on trees significantly reduces both the number and size of nests;**
- For the first time in Europe, we succeeded in **rearing and feeding the forest caterpillar hunter**, a beetle species that can be used to manage the oak processionary, in the laboratory for two years;
- The '**Guideline for Controlling Oak Processionary'** helps local authorities determine their own approach to managing this pest species;
- With the film **"A Community of Life – The Story of a Caterpillar,"** we aim to shift the mindset from combating to managing and coexisting with the caterpillar.
- In June 2025, we presented the results of five years of research **at two policy symposia** in Utrecht and Brussels.
- At the launch event of our **international expert group** on oak and pine processionary caterpillars, in June 2025, 21 scientists from five countries met for a full day of presentations and discussions.
- Over the past five years, we **published 16 newsletters to more than 550 subscribers**, had **more than 12.000 unique visits to our website and Facebook sites**, and received **more than 1000 visitors at our events and demo moments;**
- The project received significant news coverage, including **more than 25 articles in local and national press, 7 radio interviews, and 4 mentions on national television channels**.

4. And what about the future?

The LIFE Oak Processionary project may be finished, but that doesn't mean the partners' work ends there. We know from the past that a new peak in nuisance is coming – and now, we are better prepared.

The project partners – the provinces of North Brabant and Gelderland and the municipality of Sittard-Geleen in the Netherlands, and the provinces of Antwerp and Limburg in Belgium – remain committed to the project's objectives in their daily operations: making ecological management methods the standard for managing pest species like the oak processionary.

Our website – www.oakprocessionary.life - will remain active and up to date for at least another five years. The 'Guidelines for Controlling Oak Processionary' and all related documents will be maintained and yearly newsletters will be published.

Besides the oak processionary, its cousin, the pine processionary, is also advancing northward. It appears that this caterpillar could cause problems in our pine forests within a few years. The caterpillars of these species exhibit similar behaviour and can also cause similar health problems. We expect that, with some adjustments, our tested ecological control methods will also be useful against this new threat.