LIFE 4 POLLINATORS

INVOLVING PEOPLE TO PROTECT WILD BEES
AND OTHER POLLINATORS IN THE MEDITERRANEAN

LAYMAN'S REPORT

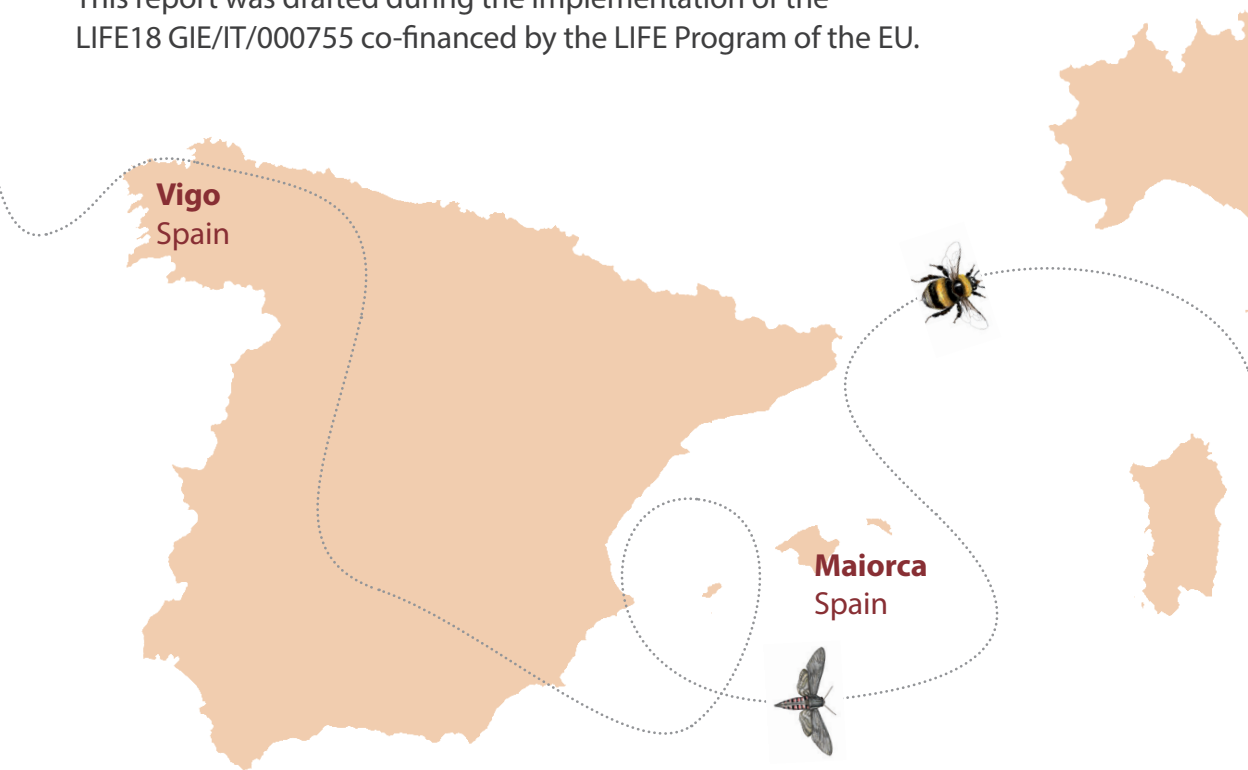
LIFE18 GIE/IT/000755

Project's Web Site: www.life4pollinators.eu

Starting 1/10/2019
Ending 30/9/2024
total budget €2,485,965
EU contribution €1,365,747

www.life4pollinators.eu

This report was drafted during the implementation of the LIFE18 GIE/IT/000755 co-financed by the LIFE Program of the EU.



INDEX

1. The environmental problem
2. The Project
3. General Public Involvement
4. Students 4 Pollinators
5. Urban green areas
6. Agroecosystems
7. Natural areas
8. Pilot Project
9. Policy and Governance
10. Project replication
11. Events

Authors: This document is the result of the collaborative work of the entire project team.

1. THE ENVIRONMENTAL PROBLEM

WHO ARE THE INSECT POLLINATORS?

NOT JUST HONEYBEES…

also WILD BEES,

HOVERFLIES,

WASPS,

BEETLES,

BUTTERFLIES AND MOTHS

What is pollination and why does it matter? Pollination is the transfer of pollen between conspecific flowers that leads to fertilization, seed development and fruit production. Many plants are pollinated by animals, mostly insects, that visit flowers attracted by specific traits such as colour, perfume and tasty nectar. All these adaptations are the result of the long coevolutionary history of plants and animal pollinators. Plants and insects gain mutual benefits from this relationship: as they move from flower to flower, insects are generally rewarded with food (nectar and pollen) and inadvertently spread pollen to other flowers, becoming true "pollinators".

Wild pollinators form the core of our ecosystems. Their populations have declined sharply in recent decades: major causes include land-use changes, destruction of habitat, intensive agriculture, pesticides, environmental pollution, invasive alien species, pathogens, climate change (IPBES, 2016) and unsustainable beekeeping. Their decline is a major component of modern biodiversity loss, and threatens the health of the environment and agriculture.

It is estimated that 84% of EU crop species and 78% of wild flowering species rely on insect pollination. The ecosystem services provided to the EU by pollinators are valued at €15 billion/year.

2. THE PROJECT

LIFE 4 POLLINATORS aims to improve the conservation status of pollinators by addressing a main driver of all causes of their decline: the level of awareness of key stakeholders and the general public. The activities are designed to change the behaviour of farmers, town planners and managers, conservation practitioners and local authorities. To achieve this ambitious goal, the project developed trainings, talks, workshops, communication and educational activities using a citizen-science approach.

LIFE 4 Pollinators Objectives

- to promote adoption of best practices for the conservation of wild pollinators
- to stimulate a change of behaviour in key stakeholders
- to improve wild pollinator populations.

THE PROJECT SUPPORTS:

- the Habitat Directive 92/43/CE
- EU biodiversity strategy for 2030
- the Nature Restoration Law 24/6/24
- the revised EU Pollinators' Initiative COM/2023/35 final
- Directive 2009/128/EC for Sustainable Use of Pesticides
- the Invasive Alien Species Regulation UE 1143/2014
- the Farm to Fork Strategy

3. GENERAL PUBLIC INVOLVEMENT

Field guides

The first step in learning about pollinators is to be able to recognize them: six beautifully illustrated FIELD GUIDES about bees, wasps, flies, butterflies, beetles and plants have been produced in English, Italian, Greek, Spanish, Catalan and Slovenian.

Mobile Exhibition

LIFE 4 Pollinators has created a mobile exhibition to foster awareness and educate the public, especially young visitors, about the crucial role of pollinators and the importance of preserving healthy habitats, rich in nesting sites and food resources, for their protection. The Mobile Pollination Exhibition has been shown in Greece, Spain and Italy, reaching thousands of people. It will be permanently on show at the University of Bologna Botanic Garden. Contact SMAUnibo if interested in showing it: sma.segreteria@unibo.it

Project Videos

Three animations have been created to engage the public with the project. They explain the importance of the project and pollinators and the measures needed to protect them. The first video presents the project; the second showcases pollinator diversity, illustrating their essential role in ecosystems and agriculture. The third focuses on threats to pollinators, such as habitat loss, pesticide use, climate change and alien species. The videos aim to educate viewers about the importance of pollinators and inspire actions to ensure their conservation.

Pollinator Gardens

Pollinator gardens are specially designed green areas hosting plants that attract and support pollinators throughout the year. They provide nesting sites and essential nectar and pollen sources. A new section dedicated to pollinators has been created in the Botanic Garden of Bologna (IT) and four others in urban contexts in the Balearic Islands (ES).

We developed specific ONLINE TRAINING in the form of an online tool available in English on the project website. The tool is designed to enhance understanding of pollinators through videos and interactive quizzes. There is a version for farmers and one for managers of protected areas.

4. GENERAL PUBLIC INVOLVEMENT

Platform

A web platform where anyone can upload photos of insects visiting flowers has been launched to broaden the possibility of public engagement.

Pictures double-checked by expert taxonomists then appear on the map with correct plant and pollinator names.

What is Citizen Science?

It is the involvement of citizens in scientific monitoring. Through active collection, analysis or interpretation of data and with the support or under the supervision of researchers, citizens help scientists and gain awareness of important conservation issues.

Bioblitz

Bioblitzes are collective expert-assisted surveys. Poli-Blitzes concern pollinators and entomophilous plants and last one day. Such events have been organised in Nature 2000 sites in Italy, Spain, Greece and Slovenia. Participants were invited to take pictures of insects visiting flowers and upload them to the web platform. With the help of project staff and volunteer taxonomists, they also recorded plant-pollinator interactions using standardized protocols.

BIOBLITZ OUTCOMES

27 events in IT, ES, GR, SL

770 participants

65% improved awareness

41% changes in behaviour

+ 2000 pictures uploaded

Project social network

The social networking has been highly successful, reaching a wide audience and producing 3-4 items of content per week, including stories and educational material. It effectively promoted events, shared partner activities over the years, and engaged users with the project.

Followers = 1625 Coverage = 52100	Followers = 1249 Coverage = 9982	Followers = 406 (update: July 2024)

4. STUDENTS 4 POLLINATORS

A specific educational project was implemented throughout the project. It foresees a preliminary education session at school, followed by field activity to observe and record plant-pollinator interactions, and a final "restitution" session in which the results of field activity are presented and discussed. The educational program is detailed in the Citizen Science Handbook. Training of teachers and educators was conducted in Italy and Greece to increase the number of students involved and enable replication. Four different games were invented and are available on the project website.

A special activity was carried out in Bologna (Italy) with 3 classes of the artistic high school Liceo Arcangeli. Ceramic sculptures of 8 floral shapes were created for the Pollinator Garden. A competition to design bee hotels for the garden was organized: two projects were selected for the garden and built by the students.

SCHOOL OUTCOMES

1500 students in GR, IT, ES

27% improved awareness

313 teachers in GR, IT, ES

86% willingness to implement project

5. URBAN GREEN AREAS

Urban green areas are important ecological corridors and stepping stones for pollinators. The project held workshops and training sessions for managers of urban green areas, gardeners, town planners and environmental biologists. These events were held physically or online in Italy, Spain and Slovenia on the basis of the Handbook for Urban Areas developed by the project. The main topics were pollinators, their needs and best pollinator-friendly practices for urban green areas.

URBAN GREEN AREA OUTCOMES

7 trainings in IT, ES, SL

186 urban planners/managers/gardeners

84% improved awareness

63% increase in pollinator-friendly behaviour

Municipalities were invited to reduce use of pesticides, limit mowing to after the main blooms, alternate mowed areas, plant entomophilous species and educate citizens. These actions were listed in the pollinator-friendly declaration that we developed by a participative process between UNIBO and the municipalities of San Lazzaro di Savena and Casalecchio di Reno (Italy).

6. AGROECOSYSTEMS

FARMERS

Since intensive agriculture is the main threat for wild pollinators, farmer education and training were of the utmost importance for LIFE 4 Pollinators. Specific events were organized in Italy, Greece and Spain to improve farmer awareness of the basic role of wild pollinators and to explain and suggest management practices to reduce their decline.

The Handbook for farmers contains information on how to improve farm management in order to be more sustainable. Researchers from CREA and UNIBO-DISTAL developed a code of conduct for pollinator-friendly farms in collaboration with the farmers' confederation Confagricoltura Emilia Romagna. It consists of a set of rules for becoming more pollinator-friendly.

AGROECOSYSTEM OUTCOMES

25 training events in IT, GR, ES

700 farmers

54% improved awareness

51% increase in pollinator-friendly behaviour

Bee hotels, flower strips, uncultivated meadows, artificial habitats and maintenance of natural habitats, such as hedges, groves and ponds, are fundamental for maintaining environments suitable for nesting and foraging insects. Sustainable agricultural practices such as reduced mowing, limited use of pesticides, and selection of bee-friendly plant-protection products are crucial for protecting pollinators.

AGROINDUSTRY OUTCOMES

1 training at Barilla

13 technicians

70% improved awareness

YOUNG AGRONOMISTS

A specific workshop was held for agriculture students at Vigo and Bologna University. The importance and vulnerability of wild pollinators and the impact of pesticides on different taxa were described, and alternative strategies to defeat pathogens were illustrated.

YOUNG AGRONOMIST OUTCOMES

9 lessons in IT, ES

170 participants

52% improved awareness

7. NATURAL AREAS

Protected Areas offer refuge for wild pollinators, though incorrectly regulated human activities in those areas may threaten pollinator populations. Technicians, conservation practitioners and authorities of Protected Areas and Nature 2000 sites were involved in workshops, training sessions and meetings in Italy, Spain and Greece. The handbook for Protected Areas, which focuses on management to improve the diversity of insect pollinators and the conservation status of wild species, was the basis of these events.

The Code of Conduct for farmers and the Declaration of Intents for Municipalities were presented as starting actions to reduce the impact of farms and towns/cities within the perimeters of PAs.

NATURAL AREA OUTCOMES

15 workshops in IT, GR, ES

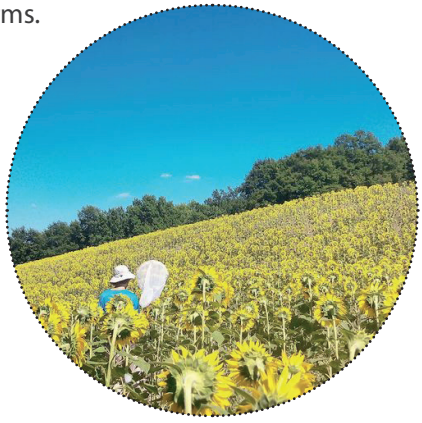
420 park managers/operators, conservationists

59% improved awareness

8. PILOT PROJECT

Sustainable farming always starts with consideration for bees, hoverflies and butterflies, which must be monitored and studied.

In the Pilot project in Emilia Romagna, CREA researchers monitored wild pollinators at five farms in the province of Bologna over three years. Each month, from March to October, wild bees, hoverflies and butterflies were sampled on conventional and organic farms.



Data collected in Emilia Romagna was supplemented with that from mini-pilots replicated in Veneto, Puglia, Slovenia and the Balearic Islands: simplified sampling focused on wild bees, repeated once a month from spring to summer. The results of the study highlight the importance of sustainable agricultural practices and of nearby natural areas.

The data collected gave researchers insights into wild bee fauna in agricultural contexts and enabled them to develop a bioindicator for sustainable agriculture (BEE Indicator). Based on local wild bees diversity, BEE indicates agroecosystem quality, considering the surrounding environment and the agricultural methods used. The Pilot project proposed indications to the regional government of Emilia-Romagna for implementing integrated-production regulations that enable farmers to select the active substances least toxic for bees for specific crops and pests.

9. POLICY AND GOVERNANCE

ITALY

- A workshop in Rome, with the competent authorities of the National and Regional Protected
- Areas and Ministries of the Environment and Agriculture (in collaboration with LIFE Bee-Adapt and LIFE PollinAction)
- Public meetings to promote the Declaration of Intents for pollinator-friendly municipalities
- Substantial contribution to drafting the MASAF Guidelines for CAP-EcoScheme 5

GREECE

- Several workshops with the local and regional authorities for Protected Areas; a Final Conference with representatives of the Ministry of the Environment in Athens
- Meetings with municipal authorities to promote the Declaration of Intents for pollinator-friendly municipalities
- UAegean welcomed the invitation by the Ministry of the Environment to draft the Pollinator Action Plan for Greece. Assignment to be shortly undertaken by UAegean.

SPAIN

- A workshop in Madrid (in Dehesa de la Villa) for training and exchange of knowledge with environmental managers from local, regional and national governments, protected areas and environmental organizations.

POLLINATOR-FRIENDLY OUTCOMES

6 municipalities

29 farms

32 schools

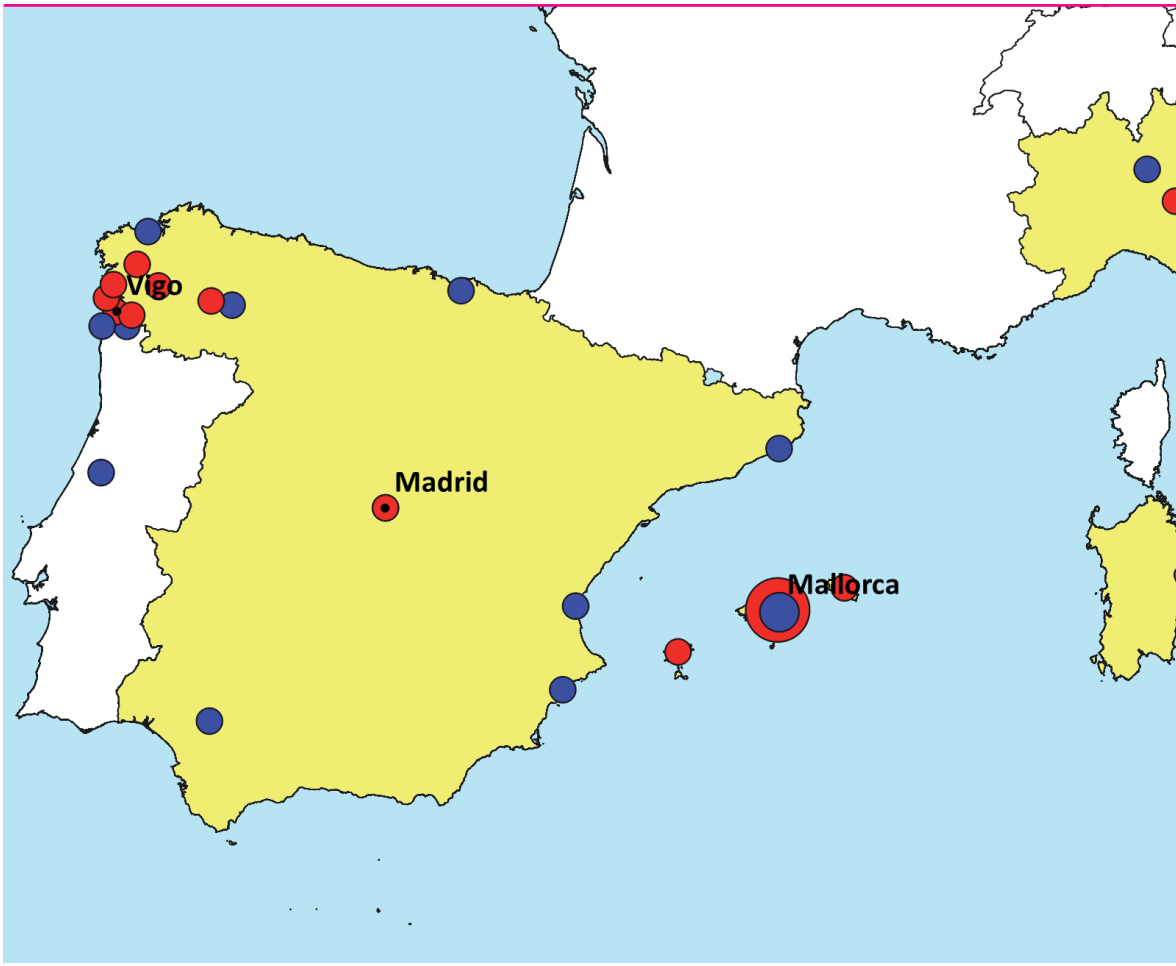
3 associations

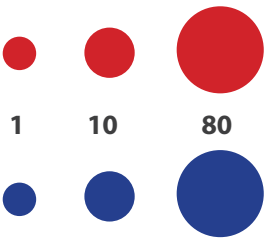
1 protected area

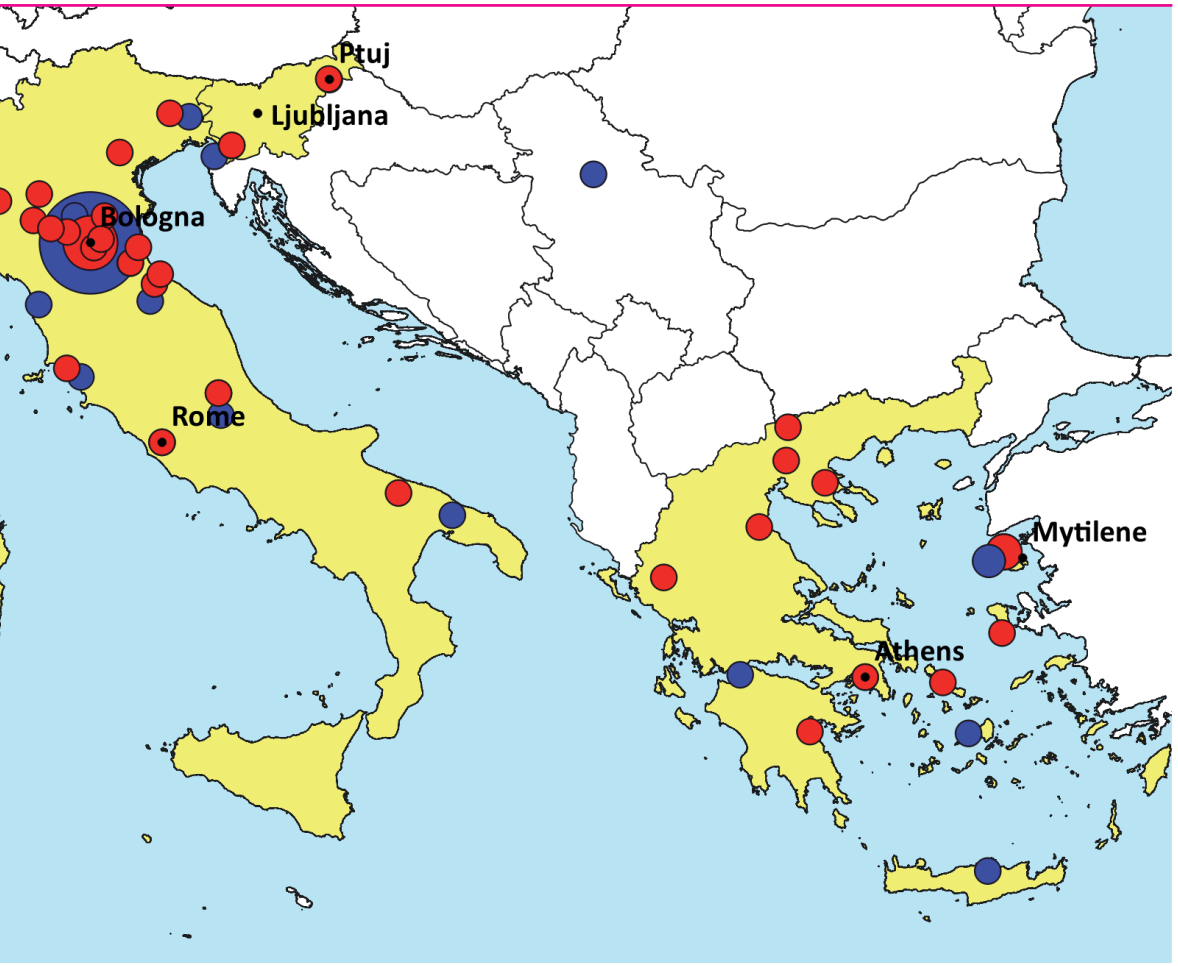
10. PROJECT REPLICATION

Six workshops for researchers and policymakers were organized at local and national level to export and promote the experience of the Pilot project to other Italian regions and other countries. These events were held in the Veneto, Lombardy and Friuli-Venezia Giulia regions of Italy, Madrid (Spain), Rome (Italy) and Athens (Greece) .

11. EVENT


Vigo
Madrid
Mallorca


Core events
1
10
80
Dissemination events



@life4pollinators

@life4pollinators

https://twitter.com/4pollinators

LIFE 4 POLLINATORS

LIFE18GIE/IT/000755