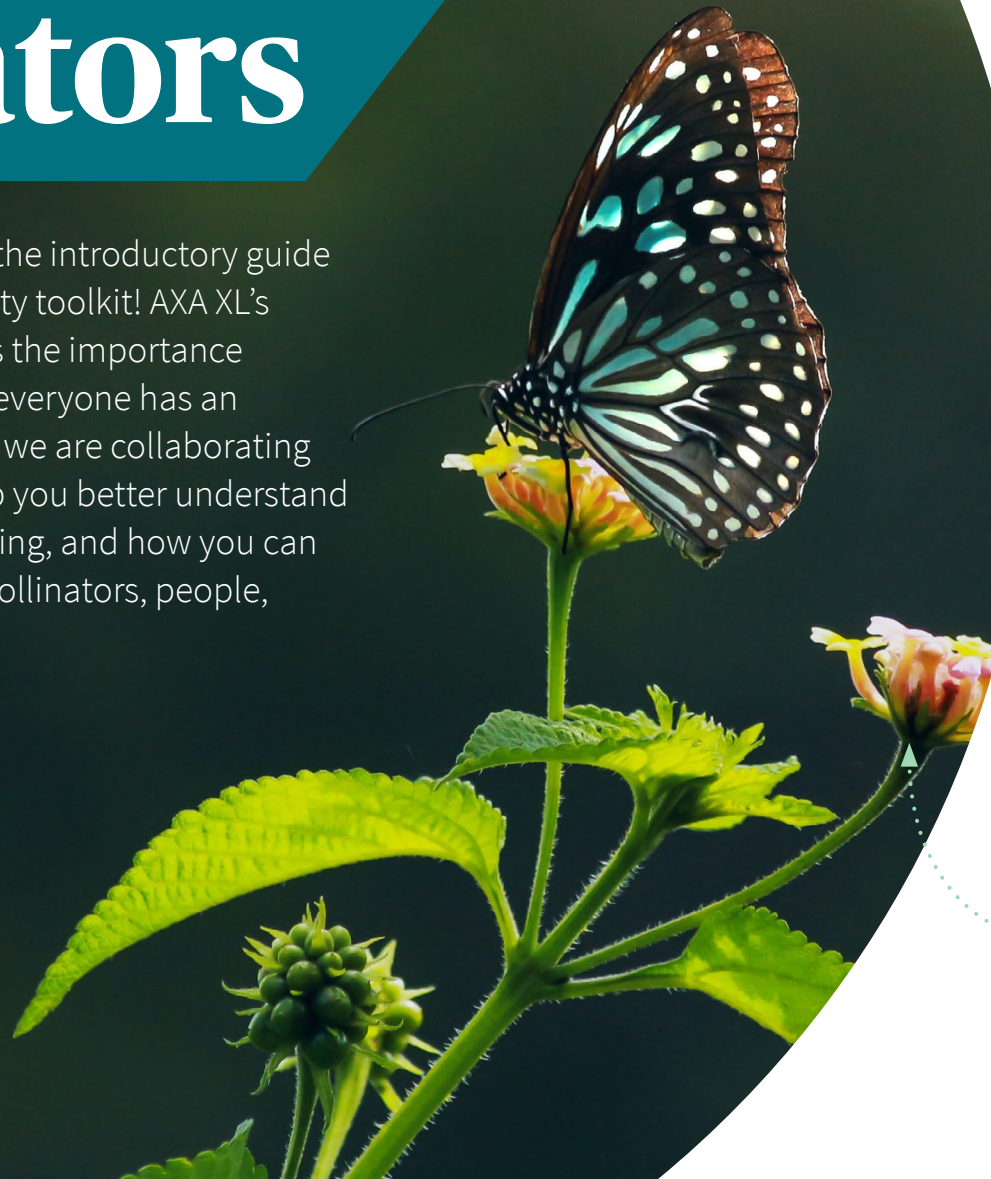


# Meet the pollinators

Welcome to Meet the pollinators, the introductory guide for the AXA XL Backyard Biodiversity toolkit! AXA XL's sustainability strategy emphasizes the importance of valuing nature, and we believe everyone has an important part to play. That's why we are collaborating with Pollinator Partnership to help you better understand pollinators, the issues they are facing, and how you can make a significant difference for pollinators, people, and the planet.



**POLLINATOR  
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Pollinators are essential to our world today. They're the often-unsung heroes that help keep our world in balance, and provide us with many of the foods, raw materials, and ecosystem services that we benefit from every day. In this guide we will provide an overview of why pollinators matter, what role they play in our ecosystems and our economies, why they need our help, and what you can do to protect them.

## What is pollination?

Pollination is the transfer of pollen from the anther, or male part, of a flower to the stigma, or female part, of a flower. This enables fertilization and plant reproduction, resulting in the seeds, fruits, and next generation of plants. It can happen through self-pollination when pollen from the same flower or same plant causes fertilization, or when wind or water carries pollen between plants. But about 90% of the time, flowering plants rely on, or benefit from, animals transferring their pollen.



**Many plants rely on animals like bees, butterflies and birds to transfer their pollen from flower to flower in order to reproduce.**

Because many plants need pollination to reproduce sexually, plants provide incentives to attract the animals that can carry out this service. Flowers are elaborate marketing campaigns to bring pollinators to the pollen and nectar rewards. Animals are drawn to the energy-rich carbohydrates found in a flower's nectar (think of a hummingbird sticking its beak into a flower) and the protein found in the pollen (picture a bee with small balls of pollen collected on their legs). Nectar is important for energy for adult bees and the nectar and pollen are important for growth and development of bee larvae. As the pollinators move from flower to flower, reaping the rewards, they incidentally move pollen among flowers, helping plants reproduce. This is one of the most amazing examples of mutualisms (where all species involved benefit) on earth.



# Who are the pollinators?

There are many types of animals that are pollinators. Among the most common and important pollinators are bees, with 20,000 different species found throughout the world. Bees spend much of their lives collecting pollen to feed to their offspring, making them particularly effective pollinators.

There are many other types of animal pollinators as well. Some plants attract birds that sip the flower's nectar. Many species of cacti depend on bats for pollination. Butterflies, moths, beetles, flies, wasps, lizards, and even some small mammals, like bats, carry grains of pollen between flowers as they feed.



**Bees are among the most common and important pollinators, with 20,000 different species found throughout the world.**



Birds



Butterflies



Moths



Beetles



Flies



Wasps



Lizards



Bats

# Economic and environmental importance

Given the role pollinators play in helping plants reproduce, they are hugely important in maintaining biodiversity and economic stability. They provide pollination services to roughly 1,200 crops worldwide, about 75% of the top global food crops<sup>1</sup>.

That means that about 1 out of every 3 bites of food you eat is there because of pollinators. The fruits, vegetables, nuts, oils, fibers, and other raw materials that rely on pollinators add 217 billion dollars to the global economy annually<sup>2</sup>. In addition to food and other products we use, pollinators are the cornerstone of healthy ecosystems that clean the air and sequester carbon, stabilize soils, protect us from severe weather, and support diverse wildlife.



**The fruits, vegetables, nuts, oils, fibers, and other raw materials that rely on pollinators add 217 billion dollars to the global economy annually.**

1. Klein, A. M., et al. (2007). Importance of pollinators in changing landscapes for world crops. Proceedings of the Royal Society B: Biological Sciences, 274(1608), 303-313. doi: 10.1098/rspb.2006.3721.

2. Khalifa, S. A. M., et al. (2021). Overview of Bee Pollination and Its Economic Value for Crop Production. Insects, 12(8), 688. doi: 10.3390/insects12080688.



## Threats to pollinators

Pollinator populations are under pressure. In recent years, there has been growing concern over declines and health problems of both managed and wild pollinator populations. There have been documented declines in wild pollinators throughout the world, with some species' populations declining more than 90%. The most significant cause of decline is thought to be land use change and loss of habitat. Many areas that used to be dominated by diverse flowering plants have been altered or degraded.

Invasive plants are increasingly displacing diverse native habitat. Diseases and parasites are causing health problems for pollinators. Furthermore, pesticides exposure is causing pollinator declines in some areas. Adding to all of this, climate change is exacerbating many of these threats and causing a host of problems for pollinators, including altering the time plants are in bloom, changing moisture and temperature levels that pollinators evolved with, and causing extreme weather events that wipe out populations.



## How you can make a difference

We can all make a difference and help pollinators! By providing good quality habitat, we can disrupt many of these negative factors and restore populations. Large or small – from a single potted plant or a backyard garden to a large meadow – creating habitat provides pollinator oases that will support pollinators, people and the planet.

**Get involved in the AXA XL Backyard Biodiversity program today to learn how you can support pollinators in your local area!**



## About Pollinator Partnership

Pollinator Partnership is the largest nonprofit in the world dedicated exclusively to the protection and promotion of pollinators and their ecosystems. Their mission is to promote the health of pollinators, critical to food and ecosystems, through conservation, education, and research. Please visit the [\*\*Pollinator Partnership website\*\*](#) to find out more and support their work. Thanks to Pollinator Partnership for their expertise in producing the AXA XL Backyard Biodiversity resources.

Here's what else you can discover in the AXA XL Backyard Biodiversity toolkit:



Find out how to support  
pollinators and other  
native wildlife in **Growing**  
**plants for pollinators.**



Discover how to create  
a buzz where you live  
by visiting the [Guide to  
bee hotels.](#)



Get to know the most common pollinators and native pollinator plants in your local area through the [Identifying pollinators guide](#).

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