



Protecting Pollinators: How to Save the Creatures That Feed Our World

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Book Review

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Protecting Pollinators: How to Save the Creatures That Feed Our World

Jodi Helmer

Island Press

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Jodi Helmer has written an up-to-date consideration of a topic important to all of us: *Protecting Pollinators: How to Save the Creatures That Feed Our World*. This book is written for a popular audience, it is easy to read, and written in a compelling way. The author uses familiar images to help readers envision the biological details of insect/plant interactions and human influences on how those things work.

A multitude of perils jeopardize the survival of important pollinators, and the author introduces many kinds of pollinators and their roles before discussing those perils. Honeybees, other bees, hawkmoths, bats, and birds are highlighted. The major threats are introduced, and then covered in greater depth: habitat loss, pesticide use, disease, and parasites. Helmer considers the impracticality of hand-pollinating flowers of all the crops that depend on pollinators for fruit set, and the idea of mini-drones to replace them. Personally, I think it is far better to concern ourselves with conserving the pollinators themselves!

Habitat loss could be addressed by habitat set-asides, and in this section Helmer also considers the recent proposition of the US president to build a border wall between the US and Mexico, and how it might affect pollinators of all shapes and sizes. Not only will the wall keep many from crossing, but lights illuminating the border wall will certainly disorient those that migrate and cause some to be killed by the lights. On the positive side, she talks about creating and restoring developed areas to make pollinator-friendly habitats; she discusses many cities in the US that have received the designation Bee Cities USA, and places that have created seed libraries at urban branches of public libraries to promote gardening with native plants.

Chemical warfare on plant pests has been wreaked by humans for the last century or more, with pesticides having not only lethal effects on their target organisms but others as well. Sublethal effects are also insidious, causing disorientation and starvation in nontarget insects that ingest them, such as bumblebees that prefer drinking nectar laced with neonicotinoids vs. natural nectar, even though the manmade chemical harms them. These pesticides are systemic insecticides—plants incorporate them in their tissues from seeds being coated prior to planting or applied to plants that are growing. The residue persists in the soil from the fallen plant parts with protracted opportunities for ingestion by beneficial insects. Many people reading this book may not have realized that the chemicals they use to protect desirable plants in their gardens have long-lasting negative effects on pollinators! Jodi sets them straight on this and many other ways pollinators are harmed by people's actions.

The author ends this book on a very positive note, highlighting the important contributions that Citizen Science is

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making to help protect pollinators. And she ends with a final box, “Twenty-Nine Ways You Can Help Protect Pollinators.” This is a great touch, since one can end up with a feeling of helplessness in the face of the enormity of the problems facing these beneficial insects. What can we do? She lists many ways every person can have some positive effects.

For the most part the boxes within the text are very helpful and interesting. However, I was nearly put off the book entirely by the many errors in the very first box entitled “Plant Sex.” I am a botanist and teach about these things, so sorry if I am being too picky here, but I can't tolerate bad information. Though partly correct, there is a big difference in automatic and

pollinator-mediated self-pollination, and among the groups she lists, most orchids are not even self-compatible. She lists them with many crop/garden plants, some varieties of which can set fruit without insect visitors. I am glad I read on, as the rest of the work was very good.

This book will certainly make the plight of pollinators easier to understand for most people, and I hope that it will be read and enjoyed by all of us who love and treasure natural areas. Many of us also live in cities, and it is great to spread the word that actions we take in all places can help plants, pollinators, other beneficial insects, and wildlife that live all over the world.