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# *A Cape Cod Native Garden*

## Discovering the Nature Connection





**Since 1970, we have lost 3 billion birds.**

**In the last 50 years, 29% of the breeding birds in North America vanished.**

*(Science, Sept. 2019)*

**432 species of North American birds are threatened with extinction.**

**70 species are at the tipping point.**

*(State of the Birds 2016; Rosenberg, et. al. 2019, State of the Birds 2022)*

*Photo credit: Fred Atwood*





**Worldwide, more than 40% of insect species are declining.**

**One third are at risk of extinction.**

*(Biological Conservation, 2019)*

**25% of native wild bee species in the U.S. are at risk of extinction.**

*(Pollinators in Peril 2017 report, Center for Biological Diversity)*





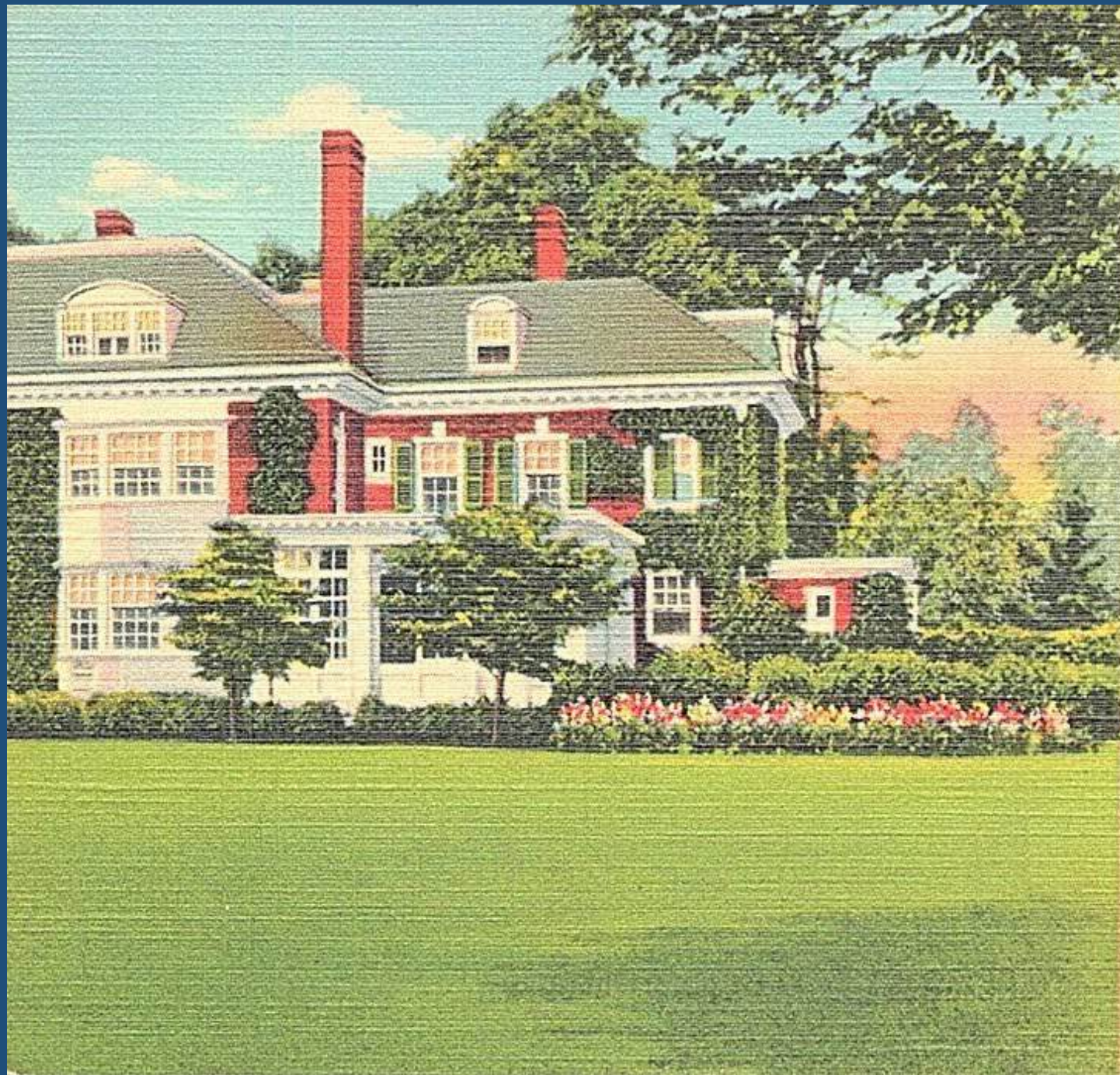
**In 20 years, we have lost  
22 % of our butterflies.**

**For every five butterflies  
seen 20 years ago, there  
are now only four that we  
see.**

Primary causes are habitat  
destruction, pesticide use,  
development, invasive species, and  
a changing climate.

*Photo by Gerald Beetham*





# Consider Your L A W N . . .

• It is like a frame around your house and garden... marring them, or making them more beautiful... Sow "Henderson" Lawn Grass Seed.

Write for  
"How to Make a Lawn"  
free

**Peter Henderson & Co.**  
Everything for the Garden  
35 Cortlandt St. -- Dept. A  
NEW YORK, N. Y.





Nature is all around us.

*Photo by Robert Gessing*





“Everybody says they love Mother Nature, but if you look at people’s yards, very few actually invite her over.”

— Neil Diboll, Native Plant Ecologist





# **Your landscape plays a role.**

*Choosing nature-friendly  
landscape designs and  
land care practices can help  
support our local ecology and  
protect our water.*



A close-up photograph of a catbird perched on a pokeweed plant. The bird is grey with a white forehead and is holding a dark, round berry in its beak. The background is filled with green leaves and clusters of pinkish-purple pokeweed flowers.

## **The cornerstone of a Cape-friendly garden ~ native plants**

Plants are the basis for life. They capture the sun's energy and make it available for other living things.

Catbird eating pokeweed.



# Cape Cod Native Plants – the True “Proven Winners”

Well-adapted to our eco-region

- Drought tolerant
- Do well in nutrient-poor soils
- Salt spray tolerant

**Beach Plum**







## **Native Plants - Ecological Value**

Insects and plants co-evolved and have specialized relationships.



(e.g.) Plants entice pollinators with food: nectar & pollen, resulting in pollination.











Common Milkweed  
*Asclepias syriaca*



Butterfly Milkweed  
*Asclepias tuberosa*



Whorled Milkweed  
*Asclepias verticillata*



Rose Milkweed  
*Asclepias incarnata*

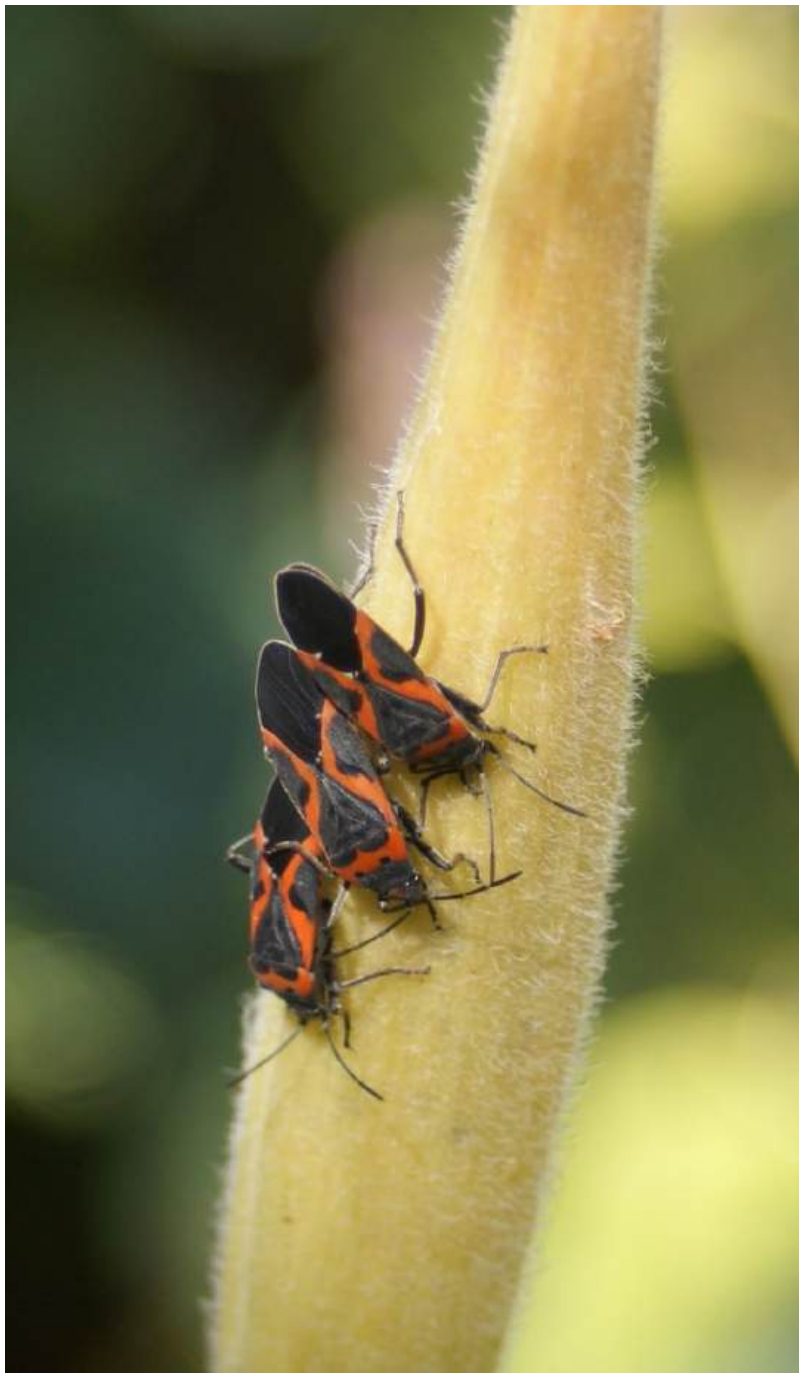




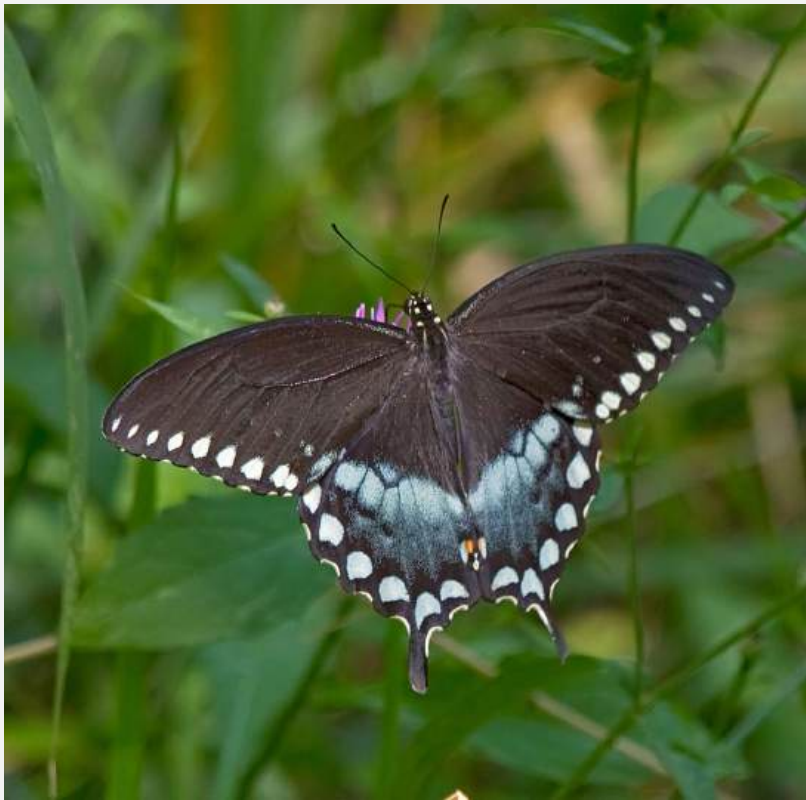












# HOST PLANTS

**Spicebush Swallowtail**

~

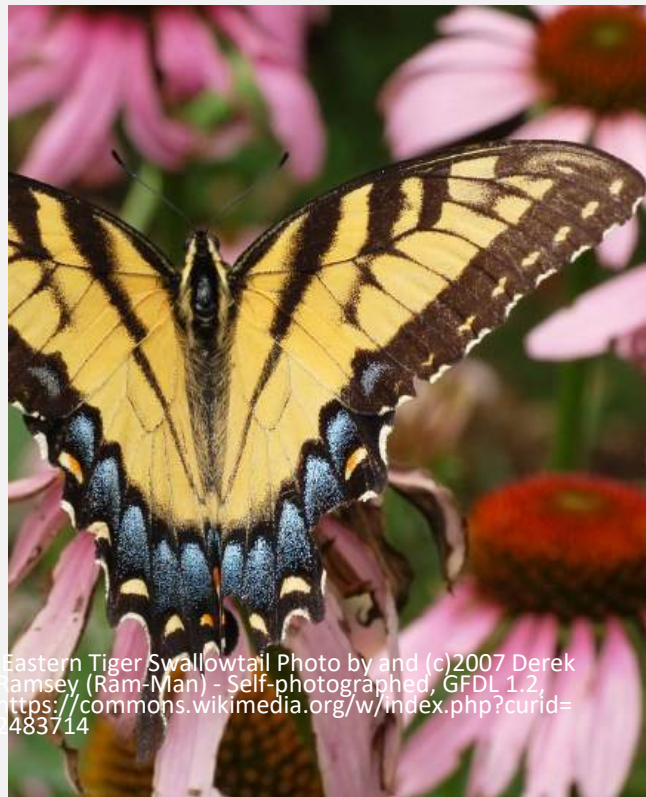
**spicebush and  
sassafras**

~~~~~

**Eastern Swallowtail**

~

**wild black cherry,  
birch, and tulip tree**



Eastern Tiger Swallowtail Photo by and (c)2007 Derek Ramsey (Ram-Man) - Self-photographed, GFDL 1.2, <https://commons.wikimedia.org/w/index.php?curid=2483714>





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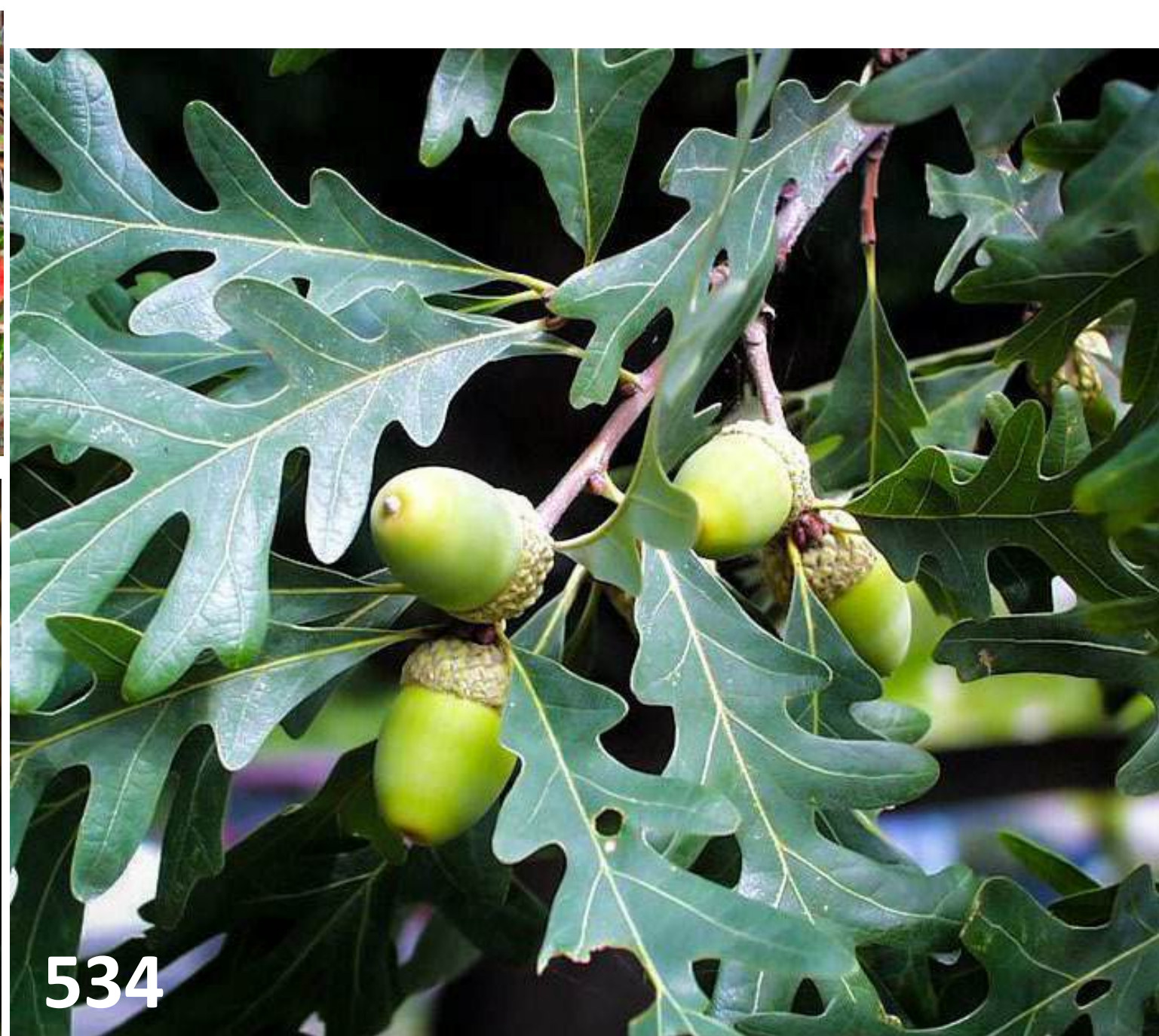


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Len Bomba



534





Doug Tallamy



Caterpillars are the sustenance of baby birds.

96% of terrestrial birds feed their young caterpillars.

**More than 90% of the larva of moths and butterflies require native plants.**

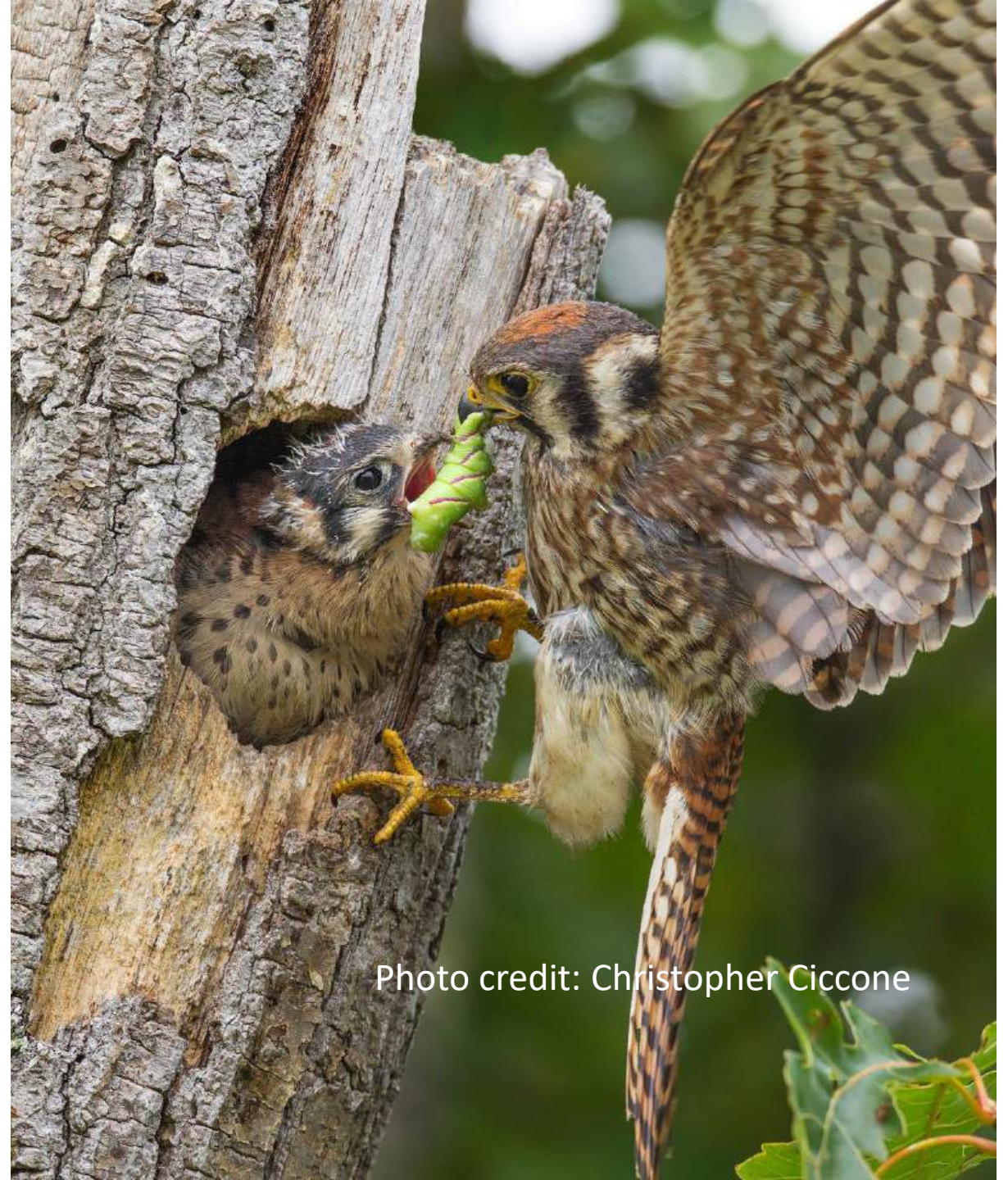
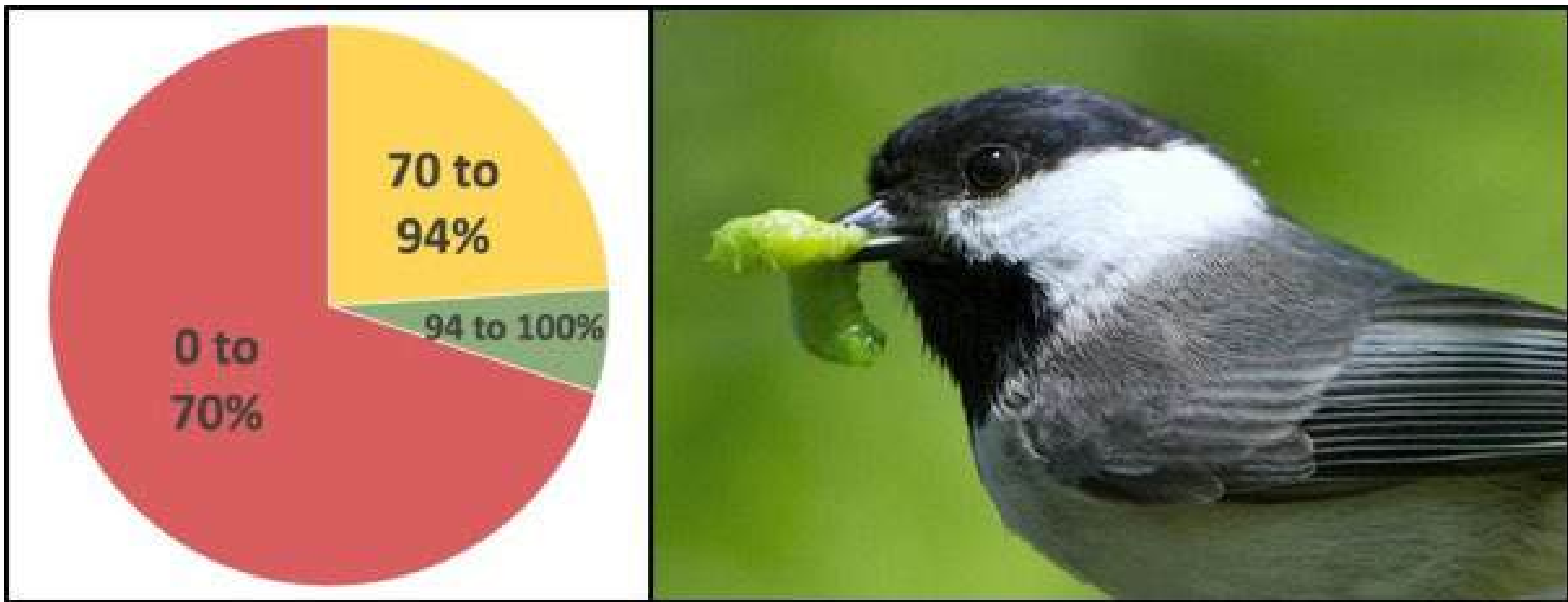


Photo credit: Christopher Ciccone



# What happens when you don't have host plants for caterpillars?

A study on chickadees in a suburban Maryland neighborhood found the survival rate of baby chickadees severely declined in landscapes with less than 70% Native Plants. (*Narango, et al. 2018*)







If something is  
not eating your  
Plants, then your  
Garden is not part  
of the ecosystem.



The image is a split-panel composition. The left panel shows a close-up of a pitch pine branch with long, thin green needles and several small, light-brown, cone-like structures. The right panel shows a forest floor covered in a thick layer of brown, fallen leaves and pine needles. Patches of bright green moss are visible on the ground. In the background, numerous thin, vertical tree trunks are visible, some with sparse, brown, autumn-colored leaves. The text "Pitch Pine – Oak Plant Community" is centered over the right panel in a white, sans-serif font.

# Pitch Pine – Oak Plant Community



# Pitch Pine

## *Pinus rigida*

Well-adapted to our nutrient-poor soils.

It's fire-adapted with thick bark.

Dormant buds are beneath the bark on the trunk, ready to sprout after a fire or damage to the crown.

Pine cones provide nutritious seeds.

Birds find insects in the bark crevices, and use pines as nesting sites.







## Oaks, a Keystone Genus

- Northern Red Oak
- Scarlet Oak
- Black Oak
- White Oak
- Bear Oak, aka Scrub Oak
- Dwarf Chestnut Oak
- Swamp White Oak
- Post Oak





**Huckleberry**  
**Low bush blueberry**  
**Wintergreen**



Spring azure, Pearsall, Peter/USFWS, Public Domain,  
<https://www.fws.gov/media/spring-azure-0>





# Meet the Pollinators!

**Bumble Bees** - Historically, we had 12 species in MA; two are now believed to be extirpated from the state. Three more species are declining and at significant risk.

**Mason Bees** - Use mud, dirt, and clay to fill in the walls of tiny gaps in wood or stone.

**Sweat Bees**

**Carpenter Bees**

**Cellophane Bees**

**Long-horned Bees** - There are up to 30 species.

**Digger Bees** - Ground nesters that use mud to construct their homes.

**Polyester Bees** - They apply a coating to the inside of their nests that dries into a plasticky, waterproof coating.

**Mining Bees**

**Masked Bees** - Often confused with wasps.





## **But wait, there are more!**

- Butterflies
- Moths
- Flies
- Beetles
- Wasps
- Hummingbirds

And yes...European honeybees









**We have about  
400 wild bee species  
in New England.**

Unlike the European  
honeybee, the vast  
majority of our wild  
bees are solitary  
nesters.





**Some wild bees  
live above ground.**

Carpenter Bee on  
Spotted Bee Balm, *Monarda punctata*





Some bees need  
the soft pith of a  
plant stem.







Some bees use materials to  
build their nests.

Leaf Cutter Bees  
(*Megachilidae*)







Leafcutter bee bringing in a piece of plant leaf to line her nest.





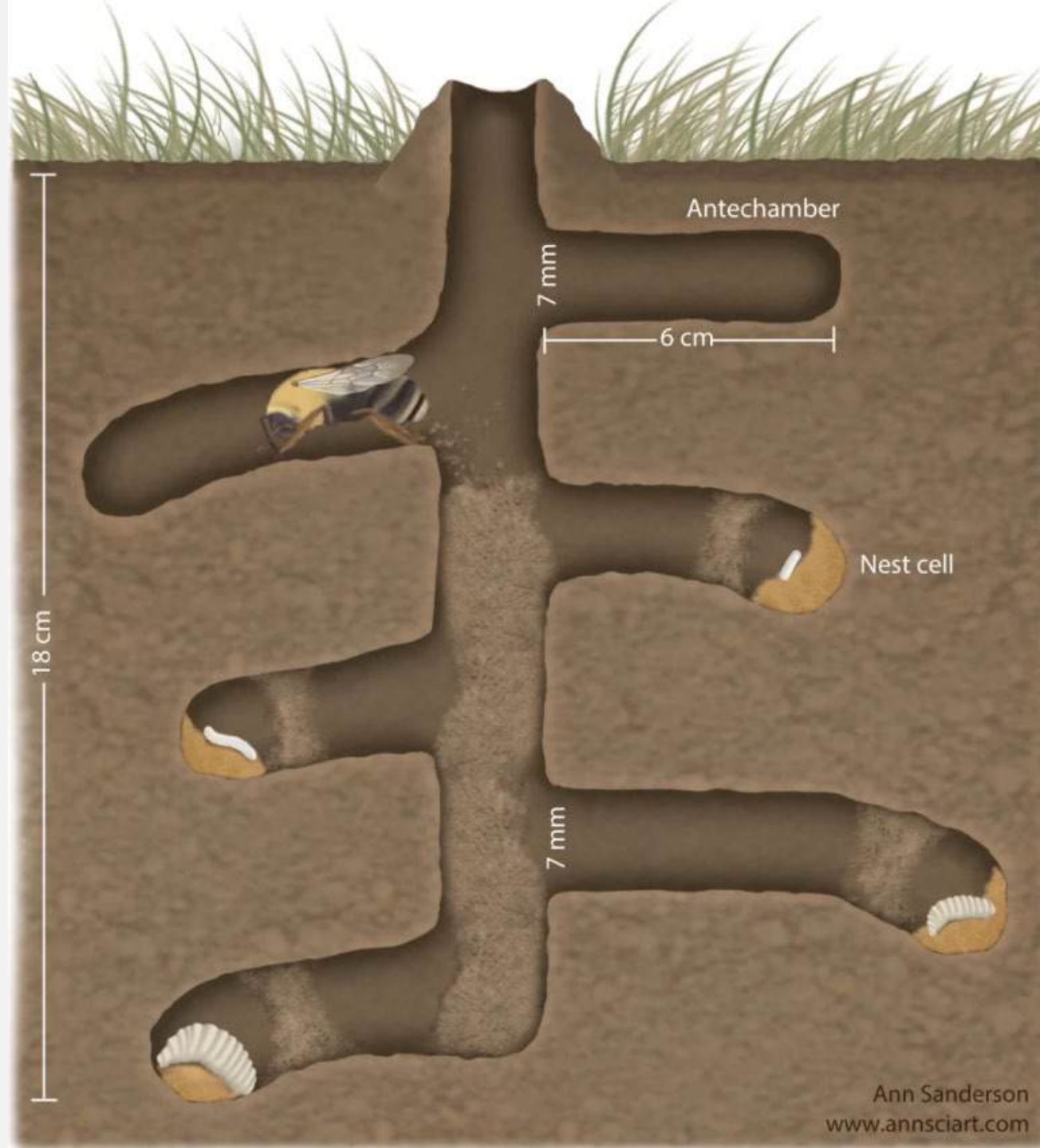
Others are ground nesting bees.





Some ground nesting bees are metallic green.





7 inches





**Did you know  
many bees are  
specialists?**

*Mary Anne*





**About 25% of wild bees in the eastern part of the U.S. are specialist bees.**

[https://issuu.com/cornellbotanicgardens/docs/creating\\_a\\_pollinator\\_garden\\_for\\_specialist\\_bees\\_f](https://issuu.com/cornellbotanicgardens/docs/creating_a_pollinator_garden_for_specialist_bees_f)

*Blueberry Bee, Adrena bradleyi*  
*Photo: Hannah Burrack*

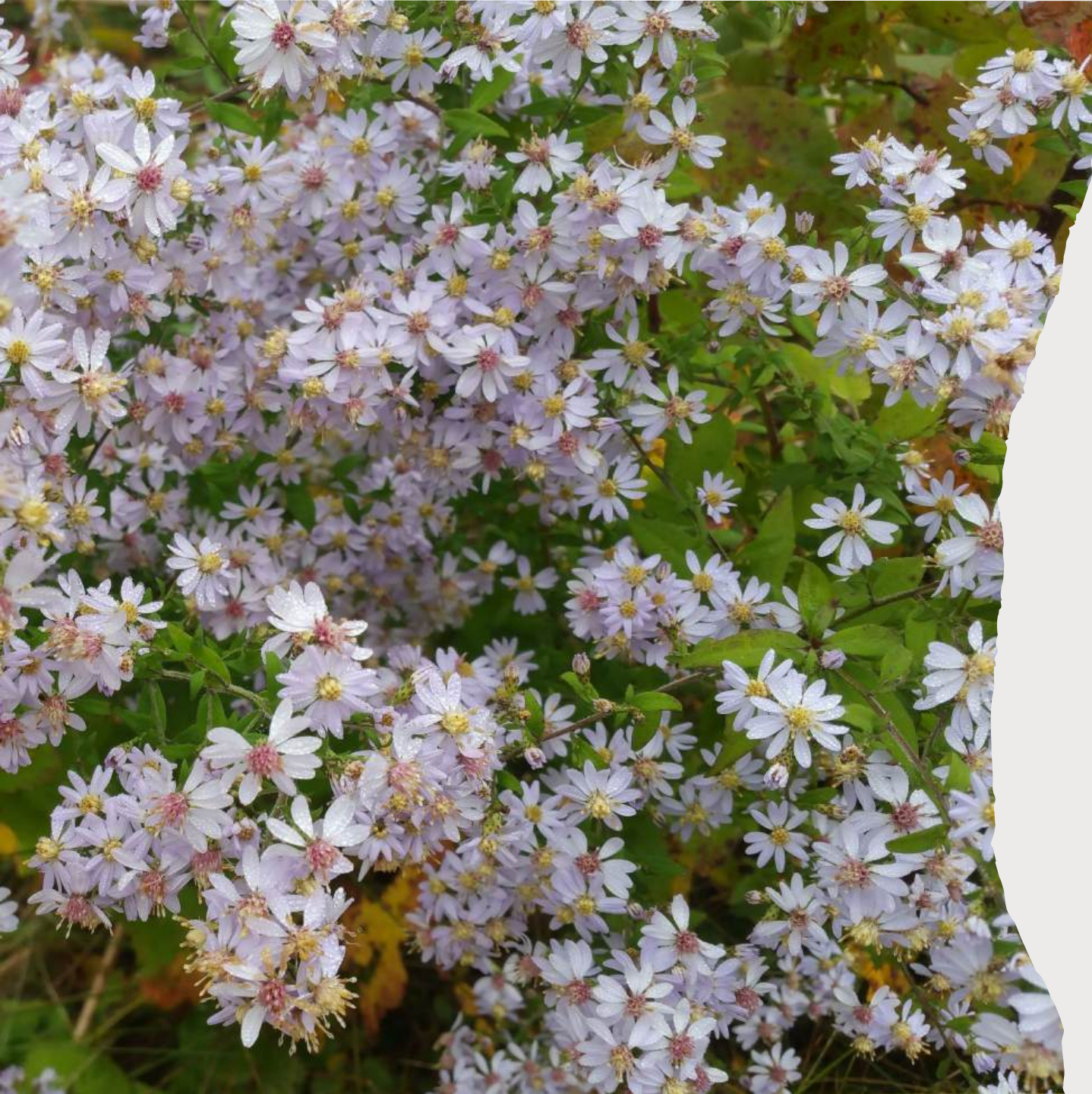


# Goldenrods

- Over 24 native species of goldenrod in New England
- Necessary for the life cycle of about a dozen wild bee species in the mid-Atlantic and Northeast
- Not the cause of hay fever
- Support 110 species of caterpillars
- Monarch butterflies depend on the nectar for their trip back to Mexico







# Asters

A diverse group!

- Calico aster
- Blue Wood aster
- Large-leaved aster
- New England aster
- White Wood aster
- Tall White aster
- Smooth Blue aster
- Flax-leaved Stiff aster
- And more!

**Goldenrods and Asters  
have the greatest value for  
the most species of insects.**



## Other Insect-Plant Interactions



## Seed Dispersal



Photo: Grow Native Massachusetts





















Avoid use of fertilizer  
and pesticides.

Pesticides include  
fungicides, herbicides,  
rodenticides, and  
insecticides.



Incorporate more  
native plant species.







Leave the leaves,  
leave the seeds,  
leave the stems.

















**Gardens are the windows on nature.  
Be an observer.  
Enjoy the discovery of life  
in your garden.**





Thank you.



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"Tallamy is one of the most original and persuasive present-day authors on conservation."

—EDWARD O. WILSON, University Research  
Professor Emeritus, Harvard University



# NATURE'S BEST HOPE

A New Approach  
to Conservation That  
Starts in Your Yard

DOUGLAS W. TALLAMY

bestselling author of *Bringing Nature Home*

"If you have a backyard, this book is for you."

—Richard Louv, author of *Last Child in the Woods*



# Bringing Nature Home

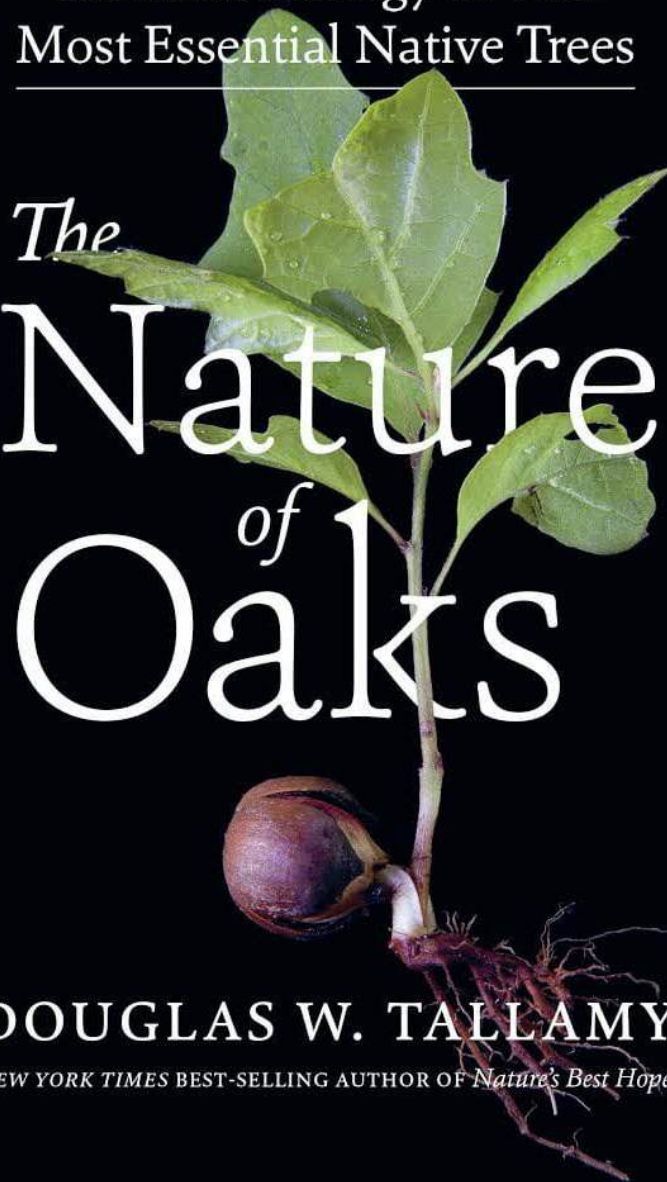
UPDATED AND EXPANDED

How You Can  
Sustain Wildlife  
with Native Plants

Douglas W. Tallamy

With a Foreword by Rick Darke

The Rich Ecology of Our  
Most Essential Native Trees



# *The* Nature *of* Oaks

DOUGLAS W. TALLAMY

NEW YORK TIMES BEST-SELLING AUTHOR OF *Nature's Best Hope*