

Why Native?

Benefits of planting native species in a changing climate

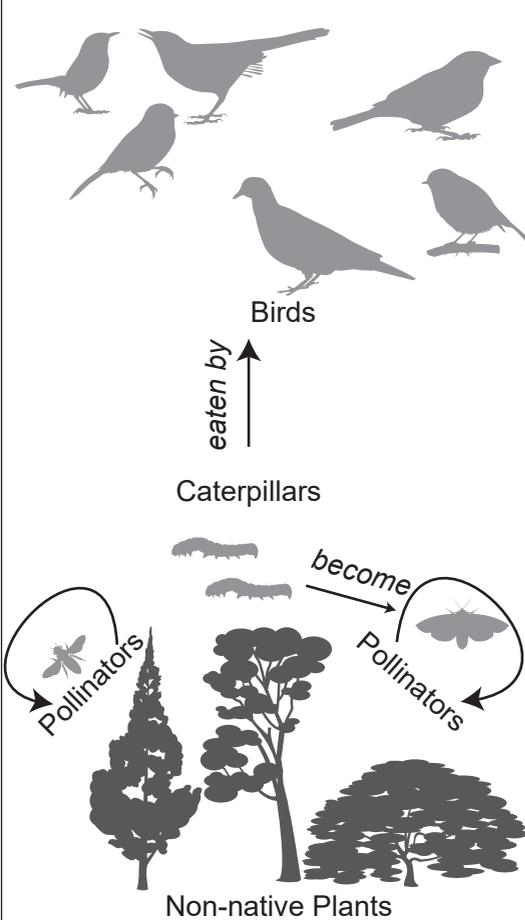
Summary

Yards host a variety of native and non-native plants. It is easy to assume all plants play a similar role in supporting wildlife, but native plants dramatically increase the diversity of bees, butterflies, birds and other native animals. Additionally, non-native plants can become invasive or support invasive pests. Native plants increase biodiversity and reduce risks associated with invasive species, which supports resilient ecosystems in the face of climate change.

Native plants support native wildlife

Landscaping with native plants offers a unique opportunity to promote healthy, resilient ecosystems. Native plants support a diverse food web due to a long history of interacting and evolving with other native wildlife. Most native insects evolved to be specialists on native plants. An example specialist is the monarch butterfly caterpillar, which only eats milkweed. Native plants support a more complex food web of both specialist and generalist insects, resulting in a higher diversity and abundance of native birds, butterflies, and pollinators (Figure 1).

Landscaping with **non-native** plants



Landscaping with **native** plants

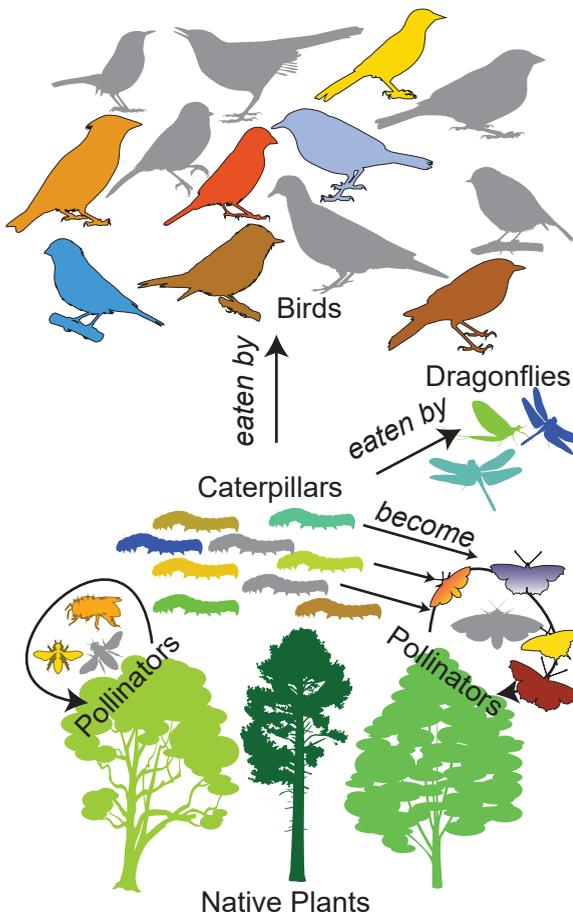


Figure 1. Native plants support insects, which in turn support birds and other animals. More caterpillars in your yard might sound alarming, but most of those caterpillars are eaten by nesting birds, and many become pollinators.

Compared to 'traditional' landscaping, native landscaping supports:

50% higher abundance of **native birds**

9x higher abundance of **rare birds**

3x more **butterfly species**

2x higher abundance of **native bees**

Definitions

Non-native: A species unlikely to have arrived without human assistance

Invasive: An established non-native species that is spreading with negative impacts

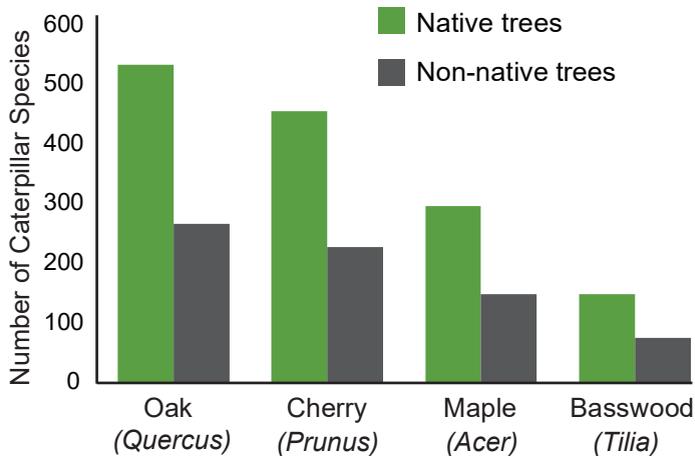
Traditional landscaping: Predominantly non-native, ornamental plants

Native landscaping: Predominantly plants indigenous to the region

Generalist: Uses a variety of food and habitat resources

Specialist: Uses only specific food and habitat resources

Benefits of Natives



- Native trees support **twice** the caterpillar diversity as related non-native trees
- Common non-native trees ginkgo, golden raintree & amur maackia support **only 5** caterpillar species combined



Aim for **less than 30%** non-native plants in your garden to support nesting success

Costs of Non-natives

Non-native ornamental plants are **40x more likely to become invasive** than native ornamental plants.

Invasive plants **cost the U.S. an estimated \$20 billion per year** to manage and control.

Sites invaded by Japanese barberry (an invasive plant still available as an ornamental) contain **3x more deer ticks** infected with Lyme disease.

An estimated **70% of non-native forest pests**, including hemlock woolly adelgid in the U.S. arrived as contaminants on nursery plant imports.

Even seemingly benign non-native species could be **'sleeper species'** that will become invasive with climate change.



L.J. Mehrhoff, UConn, Bugwood.org



S. Bauer, USDA, wikimedia



N.A. Tonelli, wikimedia

Management recommendations

- ★ Replace non-native species with natives to prevent future invasion and support biodiversity
- ★ Share the benefits of native plants with your friends and neighbors

Where to find native alternatives

- ★ Find links to local resources on the [USDA Forest Service's Native Gardening website](#)
- ★ For the Northeast, [New England Wild Flower](#) has a list of native alternatives to invasive plants

References: Burghardt et al. 2010 Ecosphere; Culina 2002 Houghton Mifflin; Garden et al. 2015 Parasites & Vectors; Liebhold et al. 2012 Front Ecol Environ; Morandin & Kremen 2013 Eco App; Narango et al. 2018 PNAS; Pimentel et al. 2005 Ecol Econ; Poelen et al. 2014 Ecol Info; Simberloff et al. 2012 Ecology; Tallamy & Shropshire 2009 Conserv Biol; Williams et al. 2017 Environ Entomol.

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