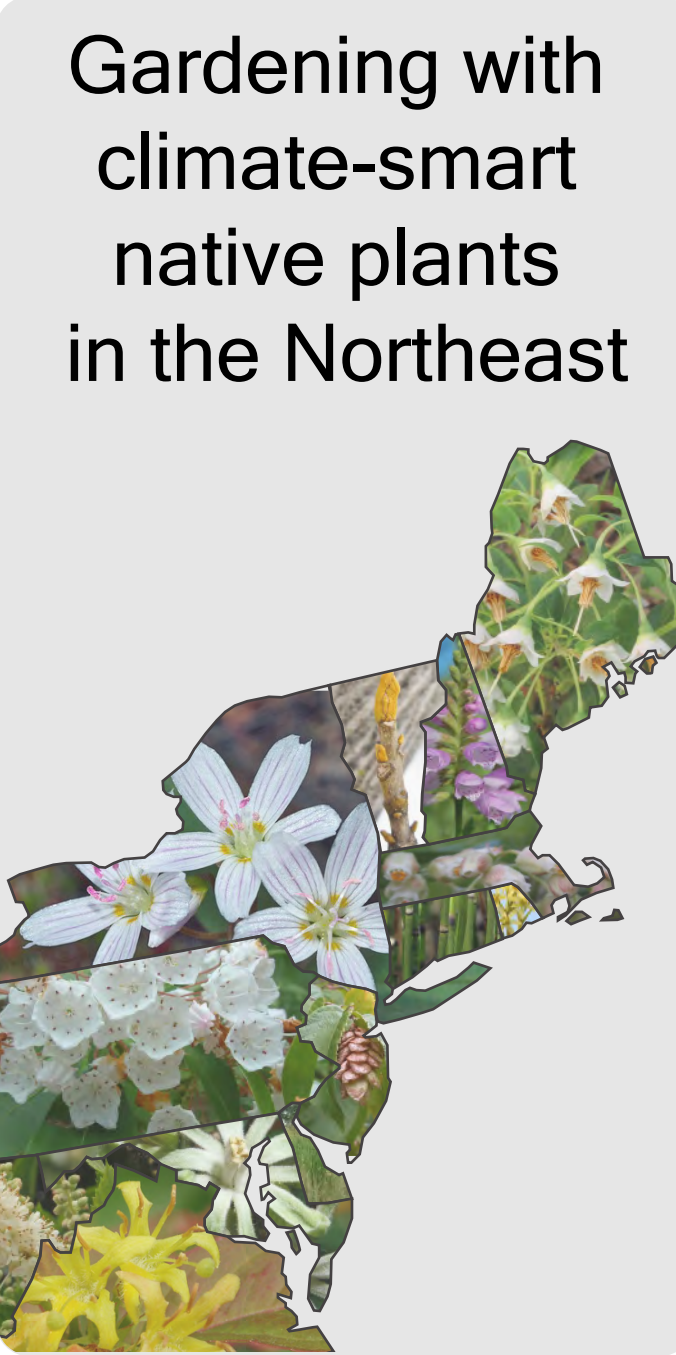
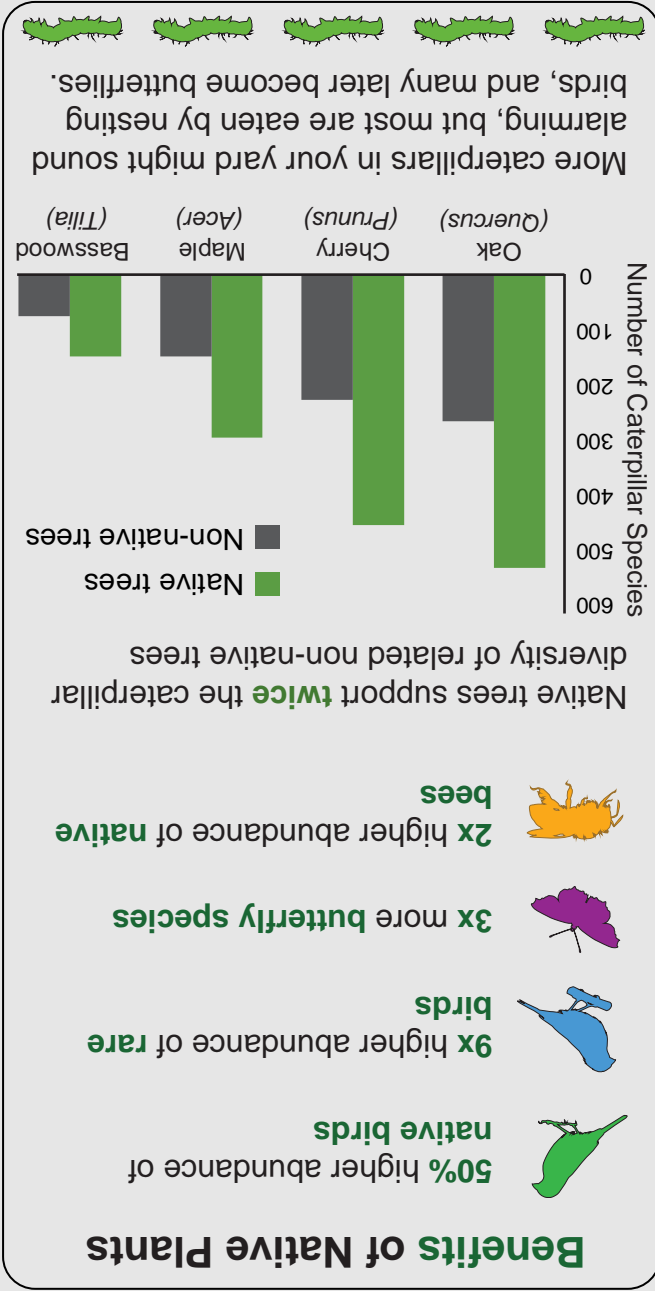


**Climate-Smart Gardening**

Rapidly warming temperatures mean that native species will have to move hundreds of miles in coming decades just to keep up. Our gardens can help native species shift their ranges and adapt to climate change. Native plantings today seed ecosystems of the future.



# Gardening with climate-smart native plants in the Northeast



**Benefits of Native Plants**

An estimated 80% of ornamental plants for sale are non-native. This means that the average yard does a poor job of supporting native flora and fauna. By shifting our plantings towards natives, we can dramatically increase the diversity of bees, butterflies, birds and other animals. In contrast, non-native plants do not support local food webs and can become invasive. Native plants increase biodiversity and reduce risks associated with invasive species, which supports resilient ecosystems in the face of climate change. **Look inside for some ideas!**



**Definitions**

**USDA Plant Hardiness Zone:** Zones based on minimum temperature that are used to determine where plants can grow.

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

**Invasive:** A species that is established and spreading with negative impacts to native species and ecosystems.

**Climate-smart gardening:** Planting for present and future conditions using native species adapted to both current and future hardiness zones.

**Sources**

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**Images:** Lady Bird Johnson Wildflower Center, Minnesota Wildflowers  
**Journal Articles:** Burghardt et al. 2010 Ecosphere; Garden et al. 2015 Parasites & Vectors; Morandin & Kremen 2013 Eco App; Pimentel et al. 2005 Ecol Econ; Poelen et al. 2014 Ecol Info; Simberloff et al. 2012 Ecology; Tallamy & Shropshire 2009 Conserv Biol

**Authors:**  
B. Bradley\*, A. Bayer, B. Griffin, S. Joubran, B. Laginhas, L. Munro, S. Talbot, J. Allen, A. Barker-Plotkin, E. Beaury, C. Brown-Lima, E. Fusco, H. Mount, B. Servais, and T. Morelli  
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**Costs of Non-native Plants**

Non-native plants are **40x more likely to become invasive** than native garden plants. Invasive plants **cost the U.S. an estimated \$20 billion per year** to manage and control.

Invasive Japanese barberry supports **3x more deer ticks**, which carry Lyme disease. **Common plantings that have become invasive and should be replaced:**

For a full list, contact your state's extension program

**Why Native?**

Native plants support **twice** the caterpillar diversity of related non-native trees

50% higher abundance of native birds

9x higher abundance of rare birds

3x more butterfly species

2x higher abundance of native bees



**Definitions**

**USDA Plant Hardiness Zone:** Zones based on minimum temperature that are used to determine where plants can grow.
















































































































































































































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**Learn more about invasive species & climate change at:**  
[people.umass.edu/riscc](http://people.umass.edu/riscc)  
<https://doi.org/10.7275/mvej-dr35>



<div><div></div><div>Climate-smart native plants</div><div></div></div>									
Species		Growth Form	Hardiness Zones	Planting Conditions		Benefits			
Native Grasses	Big blue stem ( <i>Andropogon gerardii</i> )	Grass	4-9						
	Canada wild rye ( <i>Elymus canadensis</i> )	Grass	3-8						
	Indian grass ( <i>Sorghastrum nutans</i> )	Grass	4-9						
	Little bluestem ( <i>Schizachyrium scoparium</i> )	Grass	3-9						
	Sideoats grama ( <i>Bouteloua curtipendula</i> )	Grass	4-9						
Native Flowering Herbs	Beardtongue ( <i>Penstemon digitalis</i> )	Herb	3-8						
	Blazing star ( <i>Liatris spicata</i> )	Herb	3-8						
	Blue false indigo ( <i>Baptisia australis</i> )	Herb	3-9						
	Blue flag iris ( <i>Iris versicolor</i> )	Herb	3-9						
	Blue lobelia ( <i>Lobelia siphilitica</i> )	Herb	4-9						
	Butterfly weed ( <i>Asclepias tuberosa</i> )	Herb	3-9						
	Cardinal flower ( <i>Lobelia cardinalis</i> )	Herb	3-9						
	Foam flower ( <i>Tiarella cordifolia</i> )	Herb	4-9						
	Ironweed ( <i>Vernonia noveboracensis</i> )	Herb	5-9						
	Joe pye weed ( <i>Eutrochium fistulosum</i> )	Herb	4-8						
	Lance leaf coreopsis ( <i>Coreopsis lanceolata</i> )	Herb	4-9						
	Monkey flower ( <i>Mimulus ringens</i> )	Herb	4-9						
	New England aster ( <i>Symphiotrichum novae-angliae</i> )	Herb	4-8						
	Obedient plant ( <i>Physostegia virginiana</i> )	Herb	3-9						
	White turtlehead ( <i>Chelone glabra</i> )	Herb	3-8						
Native Shrubs	American hazelnut ( <i>Corylus americana</i> )	Shrub	4-9						
	Buttonbush ( <i>Cephalanthus occidentalis</i> )	Shrub	5-9						
	Coastal sweet-pepperbush ( <i>Clethra alnifolia</i> )	Shrub	3-9						
	Deerberry ( <i>Vaccinium stamineum</i> )	Shrub	5-9						
	Eastern wahoo ( <i>Euonymus atropurpureus</i> )	Shrub	3-7						
	Highbush blueberry ( <i>Vaccinium corymbosum</i> )	Shrub	4-8						
	Mountain laurel ( <i>Kalmia latifolia</i> )	Shrub	4-9						
	Nannyberry viburnum ( <i>Viburnum lentago</i> )	Shrub	2-8						
	Ninebark ( <i>Physocarpus opulifolius</i> )	Shrub	2-8						
	Northern bush honeysuckle ( <i>Diervilla lonicera</i> )	Shrub	3-7						
	Northern spicebush ( <i>Lindera benzoin</i> )	Shrub	4-9						
Native Trees	American hornbeam ( <i>Carpinus caroliniana</i> )	Tree (small)	3-9						
	Bladdernut ( <i>Staphylea trifoliata</i> )	Tree (small)	4-8						
	Gray dogwood ( <i>Cornus racemosa</i> )	Tree (small)	4-8						
	Pussy willow ( <i>Salix discolor</i> )	Tree (small)	4-8						
	Serviceberry ( <i>Amelanchier canadensis</i> )	Tree (small)	4-8						
	Striped maple ( <i>Acer pennsylvanicum</i> )	Tree (small)	3-7						
	Witch-hazel ( <i>Hamamelis virginiana</i> )	Tree (small)	3-8						
	Hophornbeam ( <i>Ostrya virginiana</i> )	Tree	3-9						
	Kentucky coffeetree ( <i>Gymnocladus dioica</i> )	Tree	3-8						
	Persimmon ( <i>Diospyros virginiana</i> )	Tree	4-9						
KEY:		 Dry  Medium  Wet  Part shade  Full sun		 Supports pollinators  Supports birds		 Showy flowers  Showy/edible fruit		 Low maintenance  Deer resistant	