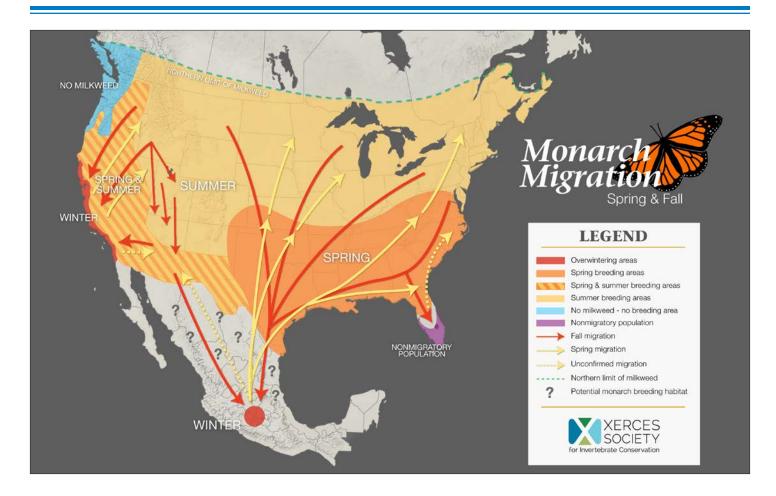
Monarch Butterfly Nectar Plant Lists for Conservation Plantings



Introduction

Monarch butterflies are an iconic part of our natural heritage, heralding the changing seasons as they journey north in spring and south in fall. Monarchs' reliance on milkweeds (*Asclepias* spp.) as host plants for their caterpillars is well known, but they need more than just milkweed. The adults depend on diverse flowers for nectar to fuel them during breeding and on their long migration. By planting milkweed and other nectar-rich wildflowers, and protecting habitat from disturbance, we can help restore monarch populations and ensure that their migration continues.

The Xerces Society works with the Natural Resources Conservation Service (NRCS), farmers, and communities to protect, restore, and plant monarch habitat throughout the United States.

Plant List Notes

Each nectar plant list includes the top species recommended for that region. Although other monarch and pollinator plant lists are available, here we include only plants for which we have documented observations of adult monarchs nectaring. Wherever possible, plants included were reported by multiple sources or noted to be exceptional monarch magnets. Biologists from the Xerces Society, NRCS, U.S. Fish and Wildlife Service, state resource management agencies, universities, and conservation organizations contributed their observations. The lists are constantly evolving as more monarch observations are gathered. You can contribute to this growing body of knowledge. Please add your observations of adult monarchs nectaring at www.monarchmilkweedmapper.org.



Plants included are commercially available and relatively easy to grow. Each list is tailored to only include species that bloom during the times of year that monarchs are expected to be in each region. In time, the data on monarch nectaring preferences could lead to new seed and plant propagation efforts, and to more effective conservation plantings.

When using these lists, also consider plants listed for adjacent regions if they are also native and have bloom times coinciding with monarch presence in your region. Visit http://plants.usda.gov for distributions. Though we are listing individual species (vs. genera), other species in those genera may be equally valuable. This is particularly the case for thistles, goldenrods, and other composites (e.g., asters and sunflowers).

Planting Guidelines

For plantings to support monarchs, the Xerces Society and NRCS recommend including at least 1.5% milkweed. Across the U.S., there are about 76 species of milkweed, but only a few are commercially available. Milkweeds also produce abundant nectar that is excellent for adult butterflies, bees and other pollinators, and diverse predators and parasitoids of crop pests.

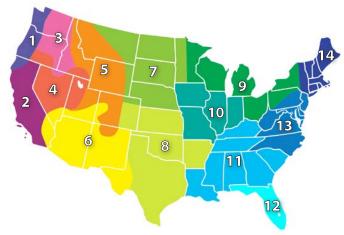
Choose milkweeds and other plants native to your region, that flower in months when monarchs are present (highlighted in orange on each regional plant list), that fill gaps in blooms available at the planting site, and that are suited to the growing conditions of your site. Use a Pollinator Habitat Assessment Guide or Monarch Wildlife Habitat Evaluation Guide (WHEG) to assess habitat needs in your landscapes (see *Additional Resources* on p. 18).

What is the best plant for monarchs in addition to milkweed? Plants with the most observations include blazing stars (*Liatris* spp.), beggarticks (*Bidens* spp.), thistles (*Cirsium* spp.), crownbeards or wingstems (*Verbesina* spp.), goldenrods (*Solidago* and *Oligoneuron* spp.), and asters (*Symphyotrichum* spp.). Note that native thistles have been decimated inadvertently by efforts to eradicate non-native Canada thistle (*Cirsium arvense*), and are often not commercially available. Our native thistles are not aggressive and are among the best overall pollinator plants in our native floras.

Alternate Host Plants

Though milkweeds are the most important larval host plants, monarchs also lay their eggs and successfully develop on some native honeyvines (e.g., *Cynanchum laeve*) and milkvines (*Matalea* spp.; aka moonvine). However, please avoid using nonnative species in these genera, because adult monarchs will lay eggs on them but the caterpillars will not feed. This is particularly the case with black swallow-wort (*C. louisea*) and pale swallow-wort (*C. rossicum*). For more on how you can help monarchs, see *Additional Resources* on p. 18.

Monarch Nectar Plant List Regions



1 Maritime Northwestp. 4	Southern Plainsp. 12
2 Californiap. 5	9 Great Lakesp. 13
3 Inland Northwestp. 7	10 Midwestp. 14
4 Great Basinp. 8	11 Southeastp. 15
5 Rocky Mountainsp. 9	12 Floridap. 16
6 Southwestp. 10	13 Mid-Atlanticp. 17
7 Northern Plainsp. 11	14 Northeast

Multiple Benefits

Plantings for monarchs support a huge diversity of wildlife, including bees, butterflies, and other agriculturally beneficial insects such as wasps, flies, beetles, and other natural enemies of crop pests that depend on the same floral resources that monarchs and other pollinators do.

In spring and early summer, most birds feed caterpillars to their young and those caterpillars need native plants to eat. Hummingbirds depend on many of the same flowers that provide nectar for spring and fall migrating monarchs. Fall flowering species like asters, goldenrods, and blazing stars are also vital for pre-hibernation bumble bee gueens.

Thank you for planting for pollinators!





Many monarch nectar plants, like common milkweed (*A. syriaca*), also attract bees^A and hummingbirds^B. (Photographs © Dennis Burnette, Carolina Butterfly Society^A and Debbie Koenigs/USFWS^C.)

MARITIME NORTHWEST

MONARCH BUTTERFLY NECTAR PLANTS





SCIENTIFIC NAME	COMMON NAME	JAN	FEB	MAR	APR	MAY	NOC	ゴ	AUG	SEP	L)O	NON	DEC	V	\mathbb{C}	@	ĒŤ	•	€		(i)
Abronia latifolia	Coastal sand verbena			₩	8 8€	8 8€	₩	8 8	88	8 8	8	}		Н	Р	Y	1'	L/M	Ø	1	А
Aesculus californica	California buckeye					₩	8	8 8						S	Р	W/PK	20'	М	7	2	В
Agastache urticifolia	Nettleleaf giant hyssop						₩	8 8€	88	3				S	Р	PR/R	2'	L	Ø	3	C, D
Asclepias cordifolia 📞	Heartleaf milkweed					₩	₩	}						Н	Р	PK/PR	3'	L	Ø	5	Е
Asclepias fascicularis	Narrow-leaved milkweed						₩	8 8€	88	3				Н	Р	Pĸ/W	3'	М	Ø	10	F
Asclepias speciosa ⊾ 🖸	Showy milkweed						8	8 8	88	3				Н	Р	PK/G/PR	3'	М	Ø	71	G
Baccharis pilularis	Coyotebrush								88	8 8	88	}		S	Р	W/Y	6'	L	7	4	Е
Ceanothus thyrsiflorus	Blueblossom				8 8€	₩	8	}						S	Р	BL	15'	L	Ø ¥	2	
Chamerion angustifolium	Fireweed							₩	88	3				Н	Р	Pк	6'	М	Ø	1	
Cirsium occidentale	Cobwebby thistle					₩	₩	8 €						Н	В	PK/W/PR	4'	L	Ø	2	
Clematis ligusticifolia	Western white clematis						₩	8 8€	88	3				٧	Р	W	20'	М	7	1	
Delphinium glaucum	Sierra larkspur							₩	88	8 8				Н	Р	BL/PR	6'	Н	Ø	1	
Dichelostemma capitatum	Bluedicks				₩	₩	₩	}						Н	Р	PR	3'	L	Ø	3	
Ericameria nauseosa	Rubber rabbitbrush								88	8 8	88	}		S	Р	Y	8'	L	Ø	80	Е
Eriogonum umbellatum	Sulphur-flower buckwheat						₩	8 8€	88	8 8				Н	Р	Y	3'	L	Ø	1	
Helianthus annuus	Common sunflower						8	8 8€	88	3				Н	Α	Y	5'	М	Ø	18	
Monardella odoratissima	Mountain monardella						₩	8 8€	88	3				Н	Р	W/PR	1'	L	7	2	Н
Penstemon procerus	Littleflower penstemon						8	8 8€	88	3				S	Р	BL/PR	1'	L	7	1	
Philadelphus lewisii	Lewis' mock orange					₩	₩	8 8€						S	Р	W	10'	L	7	1	
Rudbeckia occidentalis	Western coneflower						₩	8 8€	88	3				Н	Р	B _R /G	6'	L/M	Ø	2	
Solidago can. var. salebrosa	Rough Canada goldenrod							₩	88	%				Н	Р	Y	7'	М	Ø ¥	5	
Symphyotrichum chilense	Pacific aster								88	8 8				Н	Р	PR	5'	L	Ø ¥	5	
Symphyotrichum hendersonii	Lyall aster							₩	8 8	%	,			Н	Р	BL/PR	5'	L/M	Ø *	1	
Verbena lasiostachys	Western vervain				₩	₩	₩	₩	88	%				Н	Р	PR	3'	L	Ø *	3	
Wyethia angustifolia	California compassplant					₩	₩	₩						Н	Р	Y	2'	М	Ø	1	Е

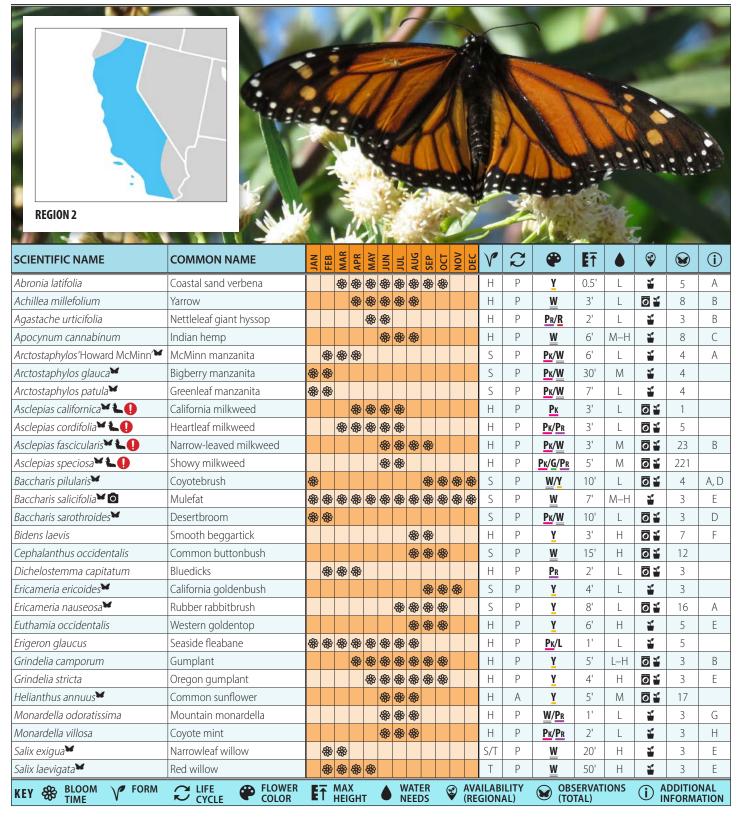
KEY

- **Bloom time: orange** months indicate monarchs are present.
- Milkweeds (Asclepias spp.) are monarch caterpillar host plants.
- **√ Form:** herb (H), shrub (S), vine (V), tree (T).
- C Lifecycle: annual (A), biennial (b), perennial (P).
- Flower color: red (R), pink (PK), orange (0), yellow (Y), green (G), blue (BL), lavender (L), violet (Y), purple (PR), brown (BR), white (W).
- **E**↑ Max height (in feet).
- **♦ Water needs:** low (L), medium (M) and high (H).
- **②** Availability: seeds available (**②**), plants available (**蚤**).
- **Observations:** the number of observations received of monarch adults nectaring across their entire range.
- **Photograph** © The Xerces Society/Mace Vaughan.

- A. Tolerates salt spray.
- B. Toxic to honey bees.
- C. Establishes better from container-grown plants than seed.
- D. Tolerates clay soil and wet conditions.
- E. Drought tolerant.
- F. Tolerates clay soil and wet or dry conditions.
- G. Can be used for streambank stabilization.
- H. Grows best at mid to high elevations in this region.

CALIFORNIA

MONARCH BUTTERFLY NECTAR PLANTS



See expanded Key & Additional Information on next page.

PLEASE NOTE: In general, milkweed should not be planted within 5 miles of the coast north of Santa Barbara, nor within 1 mile of the coast from Santa Barbara south. These areas are generally outside of milkweed's historical range and planting milkweed too close to overwintering sites may interfere with monarch migration and overwintering behavior. See map on next page for more details.

CALIFORNIA (CONTINUED)

MONARCH BUTTERFLY NECTAR PLANTS



KEY

- **Bloom time: orange** months indicate monarchs are present.
- Milkweeds (Asclepias spp.) are monarch caterpillar host plants 🕕.
- **Entire genus** is likely attractive to monarchs.
- **√ Form:** herb (H), shrub (S), vine (V), tree (T).
- C Lifecycle: annual (A), biennial (b), perennial (P).
- Flower color: red (R), pink (Pk), orange (0), yellow (Y), green (G), blue (BL), lavender (L), violet (Y), purple (PR), brown (BR), white (W).
- **E** Max height (in feet).
- **♦ Water needs:** low (L), medium (M) and high (H).
- **②** Availability: seeds available (**②**), plants available (**⑤**).
- Observations: the total number of observations received of monarch adults nectaring.
- Photographs © Jonathan Coffin/flickr.

i ADDITIONAL INFORMATION:

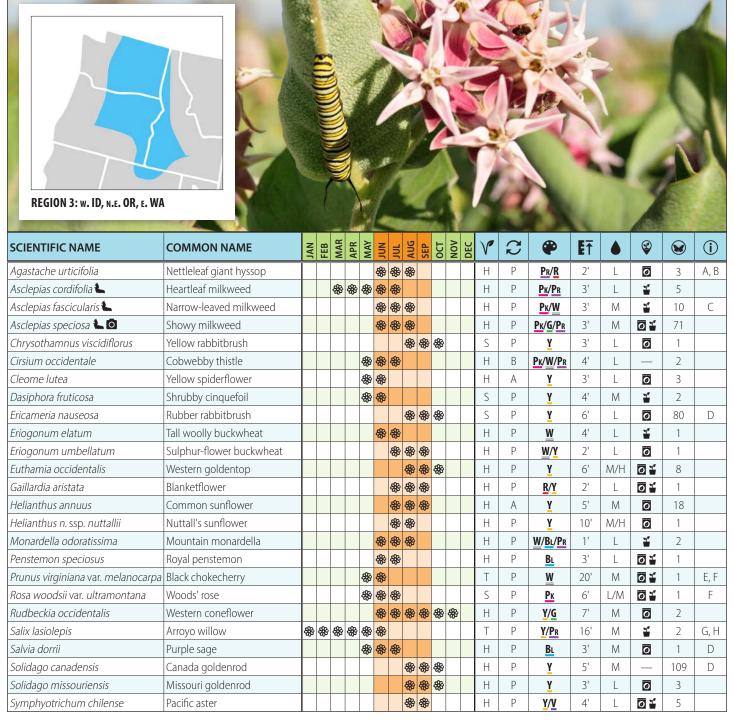
- A. Very drought tolerant.
- B. Tolerates clay soil and wet or dry conditions.
- C. Poisonous to humans, pets and livestock
- D. Can be used for streambank stabilization.
- E. Wetland / riparian.
- F. Tolerates clay soil and wet conditions.
- G. Grows best at mid to high elevations in this region.
- H. Requires good drainage.

PLEASE NOTE: In general, milkweed should not be planted within 5 miles of the coast north of Santa Barbara (►), nor within 1 mile of the coast from Santa Barbara south. These areas are generally outside of milkweed's historical range and planting milkweed too close to overwintering sites may interfere with monarch migration and overwintering behavior. Please check on any milkweed species historical range before including it in monarch habitat in the blue area below:



INLAND NORTHWEST

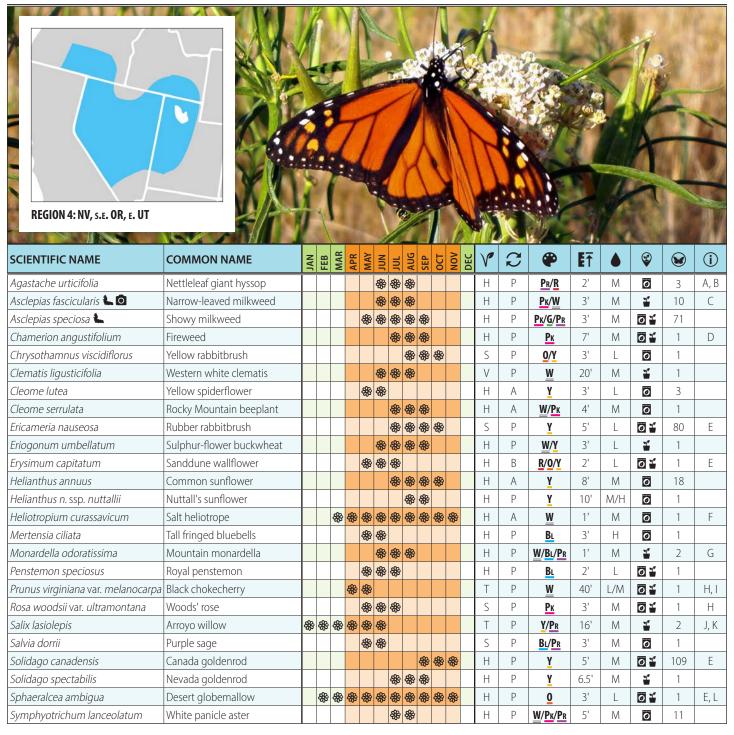
MONARCH BUTTERFLY NECTAR PLANTS



KEY

- **Bloom time: orange** months indicate monarchs are present.
- **Milkweeds** (Asclepias spp.) are monarch caterpillar host plants.
- Form: herb (H), shrub (S), vine (V), tree (T).
- C Lifecycle: annual (A), biennial (b), perennial (P).
- Flower color: red (R), pink (PK), orange (O), yellow (Y), green (G), blue (BL), lavender (L), violet (Y), purple (PR), brown (BR), white (W).
- **E**↑ Max height (in feet).
- **♦ Water needs:** low (L), medium (M) and high (H).
- **②** Availability: seeds available (**②**), plants available (**⑤**).
- **Observations:** the number of observations received of monarch adults nectaring across their entire range.
- **Photograph** © Tom Koerner, USFWS/flickr.

- A. Establishes better from container-grown plants than seed.
- B. Tolerates clay soil and wet conditions.
- C. Tolerates clay soil and wet or dry conditions.
- D. Drought tolerant.
- E. Seeds are toxic (contain cyanide).
- F. Birds eat fruit.
- G. Tolerates sand and seasonal flooding.
- H. Good for erosion control.

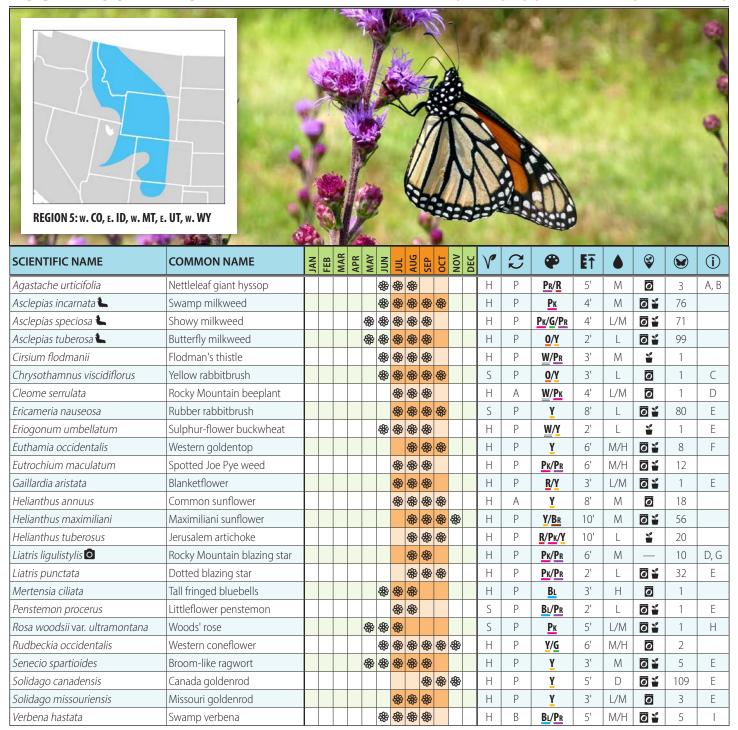


- **Bloom time: orange** months indicate monarchs are present.
- Milkweeds (Asclepias spp.) are monarch caterpillar host plants.
- Form: herb (H), shrub (S), vine (V), tree (T).
- C Lifecycle: annual (A), biennial (b), perennial (P).
- Flower color: red (R), pink (PK), orange (O), yellow (Y), green (G), blue (BL), lavender (L), violet (Y), purple (PR), brown (BR), white (W).
- **E**↑ Max height (in feet).
- ♦ Water needs: low (L), medium (M) and high (H).
- **②** Availability: seeds available (**②**), plants available (**⑤**).
- **Observations:** the number of observations received of monarch adults nectaring across their entire range.
- Photograph © Eric Eldredge, USDA-NRCS.

- A. Establishes better from container-grown plants than seed.
- B. Tolerates clay soil and wet conditions
- C. Tolerates clay soil and wet or dry conditions.
- D. Can be aggressive in moist gardens.
- E. Drought tolerant.
- F. Tolerates saline or alkaline soils.
- G. Needs regular water and full sun for best flowering.
- H. Birds eat fruit.
- I. Edible fruit used dried, for jelly, or pie.
- J. Tolerates sand and seasonal flooding.
- K. Good for erosion control.
- L. May be short-lived, but usually self-seeds.

ROCKY MOUNTAINS

MONARCH BUTTERFLY NECTAR PLANTS



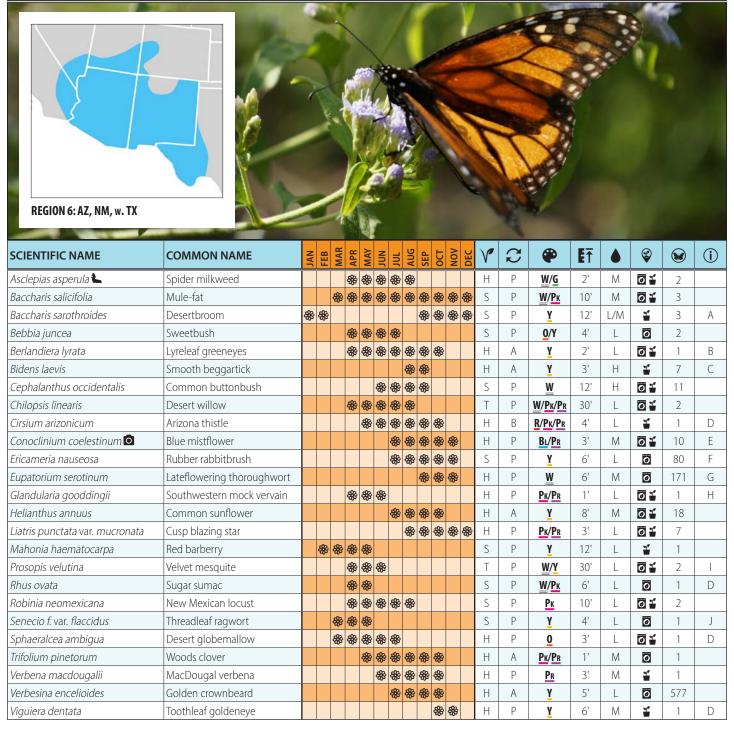
KEY

- **Bloom time: orange** months indicate monarchs are present.
- Milkweeds (Asclepias spp.) are monarch caterpillar host plants.
- **Form:** herb (H), shrub (S), vine (V), tree (T).
- C Lifecycle: annual (A), biennial (b), perennial (P).
- Flower color: red (R), pink (PK), orange (O), yellow (Y), green (G), blue (BL), lavender (L), violet (Y), purple (PR), brown (BR), white (W).
- **E**↑ Max height (in feet).
- **♦ Water needs:** low (L), medium (M) and high (H).
- **Variability:** seeds available (
 ②), plants available (
 ③).
- **Observations:** the number of observations received of monarch adults nectaring across their entire range.
- **Photograph** © The Xerces Society/Sarah Foltz Jordan.

- A. Establishes better from container-grown plants than seed.
- B. Tolerates clay soil and wet conditions.
- C. Host for northern checkerspot (Chlosyne palla) butterfly.
- D. Birds eat seeds.
- E. Drought tolerant.
- F. Wetland/riparian.
- G. Do not over water.
- H. Best with adequate moisture, but drought tolerant.
- I. Host for common buckeye (Junonia coenia) butterfly.

SOUTHWEST

MONARCH BUTTERFLY NECTAR PLANTS



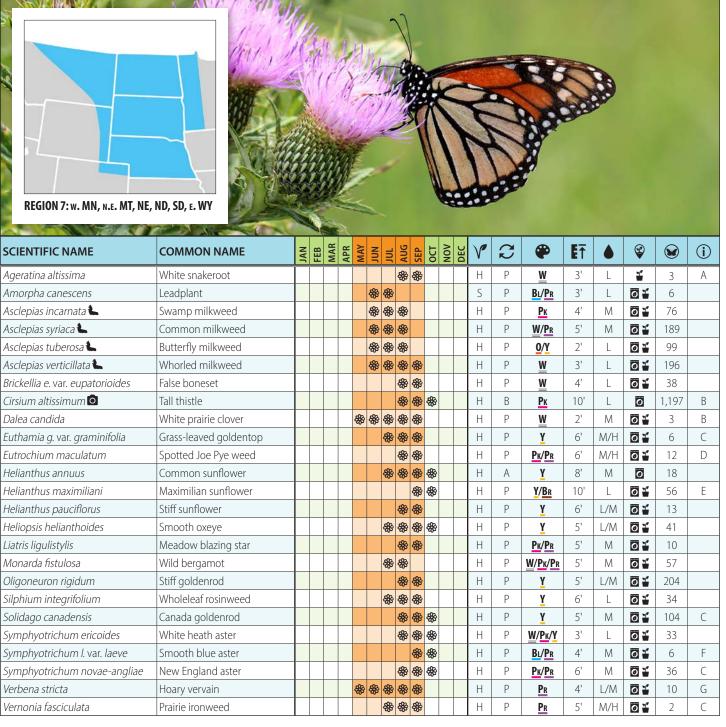
KEY

- **Bloom time: orange** months indicate monarchs are present.
- Milkweeds (Asclepias spp.) are monarch caterpillar host plants.
- **√ Form:** herb (H), shrub (S), vine (V), tree (T).
- C Lifecycle: annual (A), biennial (b), perennial (P).
- Flower color: red (R), pink (PK), orange (O), yellow (Y), green (G), blue (BL), lavender (L), violet (Y), purple (PR), brown (BR), white (W).
- **E**↑ Max height (in feet).
- **♦ Water needs:** low (L), medium (M) and high (H).
- **②** Availability: seeds available (**②**), plants available (**⑤**).
- **Observations:** the number of observations received of monarch adults nectaring across their entire range.
- **Photograph** © The Xerces Society/Anne Stine.

- A. Can be used for streambank stabilization.
- B. Blooms year-round in warm weather.
- C. Can be used in bioswales.
- D. Drought tolerant.
- E. Can spread quickly.
- F. Can be invasive in disturbed soils.
- G. Birds eat seeds.
- H. Not as drought tolerant as habitat suggests.
- I. Deep taproot reaches water table.
- J. Good for soil stabilization.

NORTHERN PLAINS

MONARCH BUTTERFLY NECTAR PLANTS



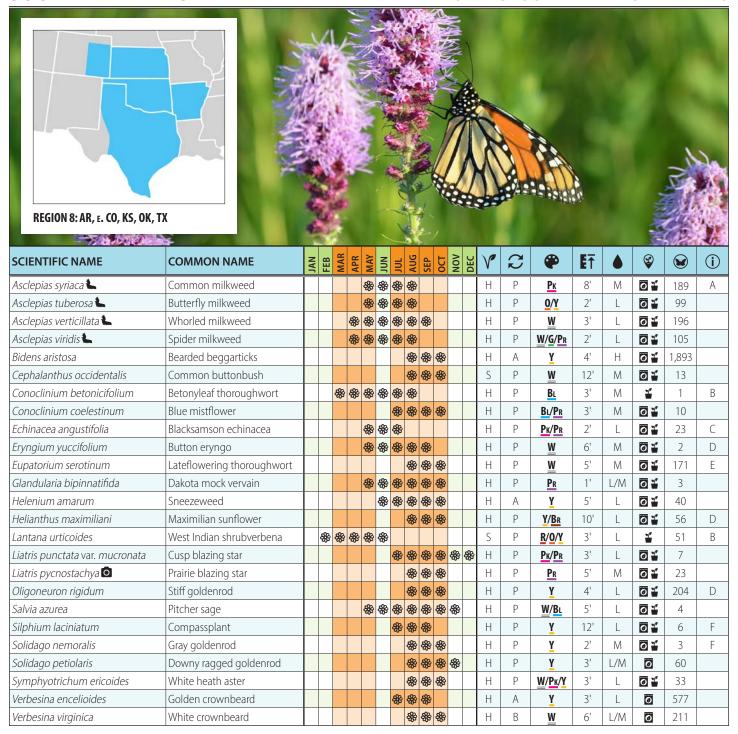
KEY

- **Bloom time: orange** months indicate monarchs are present.
- Milkweeds (Asclepias spp.) are monarch caterpillar host plants.
- Form: herb (H), shrub (S), vine (V), tree (T).
- C Lifecycle: annual (A), biennial (b), perennial (P).
- Flower color: red (R), pink (Px), orange (0), yellow (Y), green (G), blue (BL), lavender (L), violet (Y), purple (PR), brown (BR), white (W).
- **E**↑ Max height (in feet).
- **♦ Water needs:** low (L), medium (M) and high (H).
- Availability: seeds available (2), plants available (1).
- **Observations:** the number of observations received of monarch adults nectaring across their entire range.
- **Photograph** © The Xerces Society/Jennifer Hopwood.

- A. Shade tolerant.
- B. Drought tolerant.
- C. Can be aggressive.
- D. Attractive to rusty patched bumble bee (Bombus affinis).
- E. Host for silvery checkerspot (*Chlosyne nycteis*) and bordered patch (*Chlosyne lacinia*) butterflies.
- F. Host for pearl crescent (*Phyciodes tharos*) butterfly.
- G. Host for common buckeye butterfly (Junonia coenia) butterfly.

SOUTHERN PLAINS

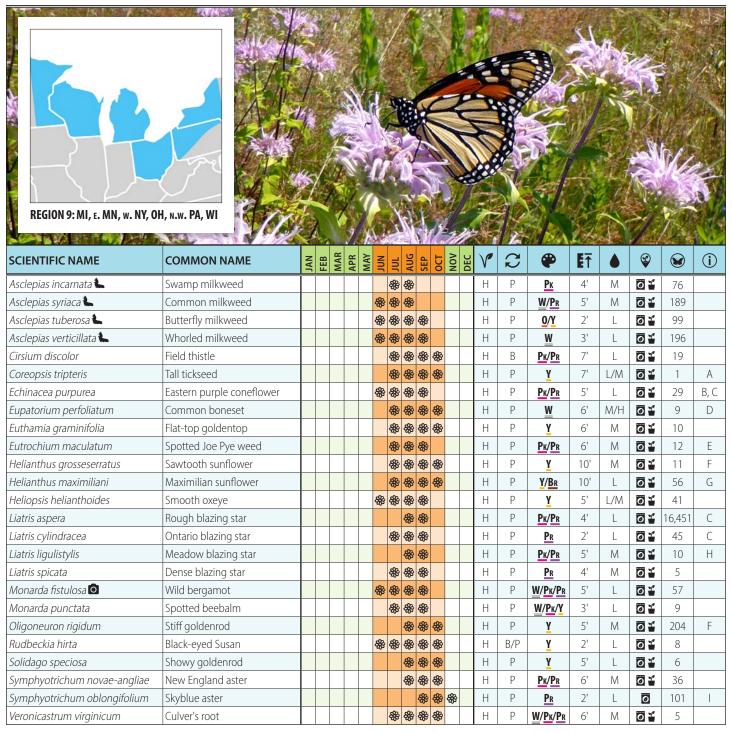
MONARCH BUTTERFLY NECTAR PLANTS



KEY

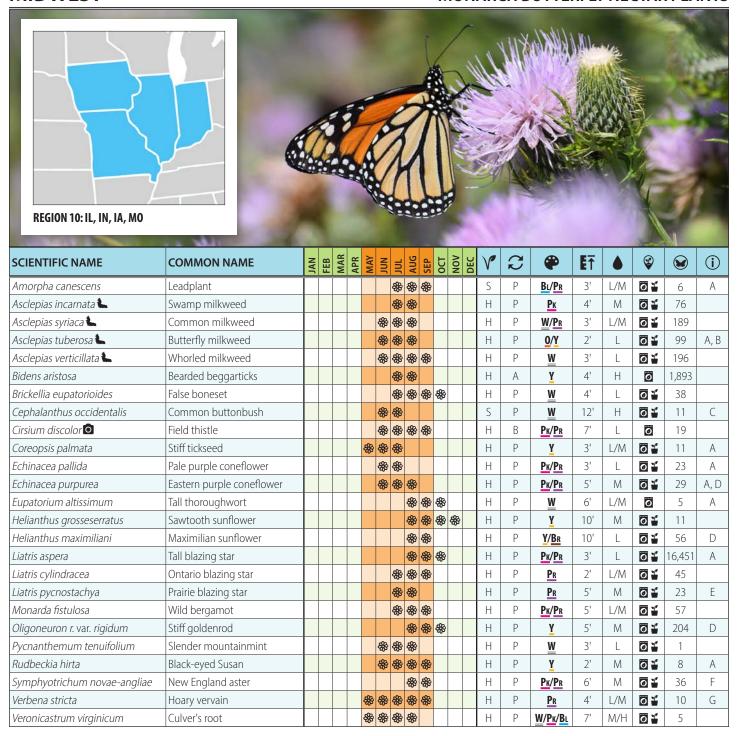
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- C Lifecycle: annual (A), biennial (b), perennial (P).
- Flower color: red (R), pink (Px), orange (0), yellow (Y), green (G), blue (BL), lavender (L), violet (Y), purple (PR), brown (BR), white (W).
- **E** ↑ Max height (in feet).
- **♦ Water needs:** low (L), medium (M) and high (H).
- Availability: seeds available (2), plants available (1).
- **Observations:** the number of observations received of monarch adults nectaring across their entire range.
- **Photograph** © Scott Seigfreid.

- A. Natural distribution in AR, KS, and OK (not TX). *A. sullivanti* also excellent (found in OK and KS).
- B. Natural distribution limited to TX.
- C. Grows best in alkaline soils with good drainage.
- D. Can be aggressive.
- E. Birds eat seeds.
- F. Drought tolerant.



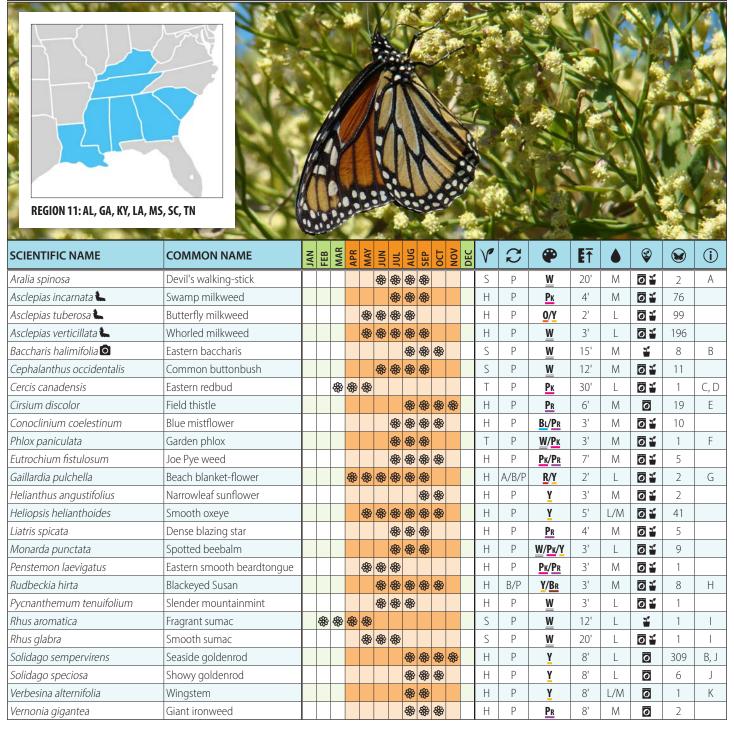
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- Flower color: red (R), pink (PK), orange (O), yellow (Y), green (G), blue (BL), lavender (L), violet (Y), purple (PR), brown (BR), white (W).
- **E**↑ Max height (in feet).
- **♦ Water needs:** low (L), medium (M) and high (H).
- Availability: seeds available (2), plants available (1).
- **Observations:** the number of observations received of monarch adults nectaring across their entire range.
- **Photograph** © The Xerces Society/Sarah Foltz Jordan.

- A. Also consider Coreopsis palmata.
- B. Deer resistant.
- C. Drought tolerant.
- D. Needs consistent moisture.
- E. Attractive to rusty patched bumble bee (Bombus affinis).
- F. May be too aggressive for small areas.
- G. Host for silvery checkerspot (*Chlosyne nycteis*) and bordered patch (*Chlosyne lacinia*) butterflies.
- H. Natural distribution in western part of region. *Liatris punctata* more common in eastern part of region.
- I. Fragrant foliage may deter deer browsing.



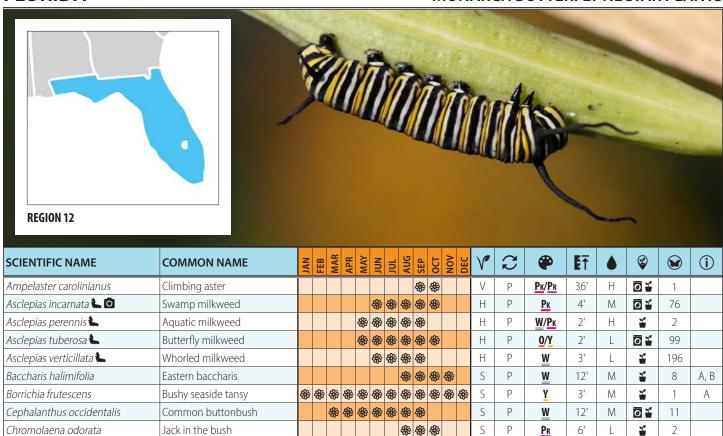
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- Availability: seeds available (2), plants available (1).
- **Observations:** the number of observations received of monarch adults nectaring across their entire range.
- **Photograph** © The Xerces Society/James Eckberg.

- A. Drought tolerant.
- B. Easily grown from seed.
- C. Grows well in wet soils.
- D. Can be aggressive.
- E. Attractive to pink bleeding flower moth (*Schinia sanguinea*).
- F. Tolerates clay soils.
- G. Host for common buckeye (Junonia coenia) butterfly.



- **Bloom time: orange** months indicate monarchs are present.
- **Milkweeds** (Asclepias spp.) are monarch caterpillar host plants.
- Form: herb (H), shrub (S), vine (V), tree (T).
- C Lifecycle: annual (A), biennial (b), perennial (P).
- $\textbf{Flower color:} \ \text{red} \ (\underline{\textbf{R}}), \ \text{pink} \ (\underline{\textbf{Px}}), \ \text{orange} \ (\underline{\textbf{0}}), \ \text{yellow} \ (\underline{\textbf{Y}}), \ \text{green} \ (\underline{\textbf{G}}), \ \text{blue} \ (\underline{\textbf{BL}}), \ \text{lavender} \ (\underline{\textbf{L}}), \ \text{violet} \ (\underline{\textbf{V}}), \ \text{purple} \ (\underline{\textbf{Px}}), \ \text{brown} \ (\underline{\textbf{Bx}}), \ \text{white} \ (\underline{\textbf{W}}).$
- **E**↑ Max height (in feet).
- **♦ Water needs:** low (L), medium (M) and high (H).
- **Observations:** the number of observations received of monarch adults nectaring across their entire range.
- **Photograph** © Rebekah D. Wallace, University of Georgia/Bugwood.org.

- A. There is an exotic invasive, Aralia alata, that should not be planted.
- B. Tolerates saltwater spray and sandy soil.
- C. Early bloom important for earliest monarchs arriving in southern part of region
- D. Source of nesting material for native leafcutter bees.
- E. Native thistles have declined due to control of Canada thistle (*C. arvense*).
- F. Phlox pilosa is also excellent and available, blooming Apr-May.
- G. Establishes easily from seed.
- H. Drought tolerant.
- I. Good for bank or soil stabilization.
- J. All goldenrods (*Solidago* spp.) are excellent.
- Considered undesirable plant in livestock forage. Excellent nectar source.



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Woody goldenrod

Narrow-leaved sunflower

Blue mistflower

Scorpion's-tail

Sweetscent

Spiked blazing star

Spotted bee balm

Carolina laurelcherry

Blackeyed Susan

Azure blue sage

Scarlet sage

Lyreleaf sage

Frostweed

Giant ironweed

Seaside goldenrod

Firebush

E↑ Max height (in feet).

Chrysoma pauciflosculosa Conoclinium coelestinum

Helianthus angustifolius

Heliotropium angiospermum

Hamelia patens

Liatris spicata

Monarda punctata

Prunus caroliniana

Pluchea odorata

Rudbeckia hirta

Salvia coccinea

Solidago sempervirens

Verbesina virginica

Vernonia gigantea

Salvia azurea

Salvia lyrata

- **♦ Water needs:** low (L), medium (M) and high (H).
- Availability: seeds available (), plants available ().
- **Observations:** the number of observations received of monarch adults nectaring across their entire range.
- **Photograph** © Steven Katovich, USDA Forest Service, Bugwood.org.

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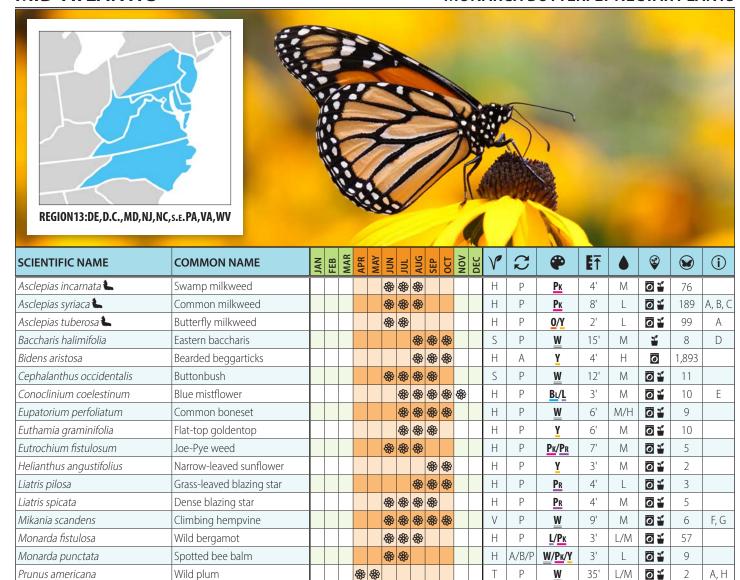
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- A. Tolerates saltwater spray.
- B. Good for erosion control.
- C. Drought tolerant.
- D. Birds eat berries.
- E. Short-lived, reseeds.



- **Bloom time: orange** months indicate monarchs are present.
- Milkweeds (Asclepias spp.) are monarch caterpillar host plants.
- Form: herb (H), shrub (S), vine (V), tree (T).
- C Lifecycle: annual (A), biennial (b), perennial (P).
- Flower color: red (R), pink (PK), orange (O), yellow (Y), green (G), blue (BL), lavender (L), violet (Y), purple (PR), brown (BR), white (W).

Narrow-leaf mountain-mint

Blackeyed Susan

Wreath goldenrod

Seaside goldenrod

Smooth blue aster

New England aster

New York ironweed

Wingstem

E ↑ Max height (in feet).

Pycnanthemum tenuifolium

Symphyotrichum I. var. laeve

Symphyotrichum novae-angliae

Rudbeckia hirta 🗖

Solidago sempervirens

Verbesina alternifolia

Vernonia noveboracensis

Solidago caesia

- **♦ Water needs:** low (L), medium (M) and high (H).
- Availability: seeds available (2), plants available (1).
- **Observations:** the number of observations received of monarch adults nectaring across their entire range.
- Photograph © Mark Dumont/flickr.

(i) ADDITIONAL INFORMATION:

A. Drought tolerant.

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- B. Considered undesirable in livestock forage.
- C. Spreads by rhizomes and seed.
- D. Tolerates saltwater spray and sandy soils

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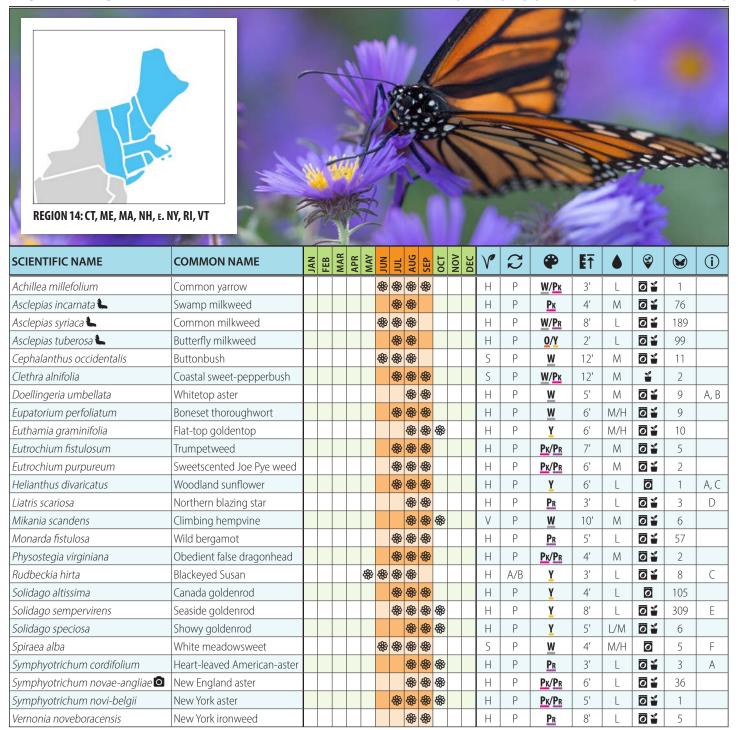
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В

- E. Can spread quickly.
- F. Can grow 9' in length, but height is generally <1'.
- G. Great source for coastal fall migrating monarchs.
- H. Edible fruit.
- I. Understory species (shade tolerant).
- J. Host for pearl crescent (Phyciodes tharos) butterfly.



- **Bloom time: orange** months indicate monarchs are present.
- Milkweeds (Asclepias spp.) are monarch caterpillar host plants.
- **Form:** herb (H), shrub (S), vine (V), tree (T).
- C Lifecycle: annual (A), biennial (b), perennial (P).
- Flower color: red (R), pink (Px), orange (0), yellow (Y), green (G), blue (BL), lavender (L), violet (Y), purple (PR), brown (BR), white (W).
- **E**↑ Max height (in feet).
- **♦ Water needs:** low (L), medium (M) and high (H).
- **②** Availability: seeds available (**②**), plants available (**⑤**).
- **Observations:** the number of observations received of monarch adults nectaring across their entire range.
- **Photograph** © Uli Lorimer/flickr.

- A. Shade tolerant.
- B. Birds eat seeds.
- C. Drought tolerant.
- D. Plant only in residential areas to avoid hybridization with the endemic and at-risk *Liatris scariosa* var. *novae-angliae*.
- E. Tolerates saltwater spray and sandy soils.
- F. Spiraea tomentosa also excellent.







Habitat signs (like the one above) help improve understanding of habitat needs, and are a focal point for conversations. When children are involved in creating habitat, like this monarch habitat established as a demonstration site in Wisconsin, both they and those enjoying their creations tend to be more engaged. (Photographs © The Xerces Society/Thelma Heidel-Baker [left, right], and Kerry Lynch [center].)

Additional Resources

U.S. Department of Agriculture (USDA):

- Monarch Resources (including WHEGs): www.nrcs.usda.gov/monarchs
- → Pollinator Resources: <u>http://plants.usda.gov/pollinators/nrcsdocuments.html</u>
- USDA People's Garden: https://peoplesgarden.usda.gov

The Xerces® Society for Invertebrate Conservation:

- Pollinator Habitat Assessment Guides: www.xerces.org/habitat-assessment-guides
- Monarch Conservation: www.xerces.org/monarchs
- Monarch Nectar Plant Guides: www.xerces.org/monarch-nectar-plant-guides
- Pollinator Conservation:
 www.xerces.org/pollinator-conservation

Other Ways to Help Monarchs

Adding signage to plantings to indicate you are supporting monarchs and other wildlife helps spread the word about the good work you are doing and helps promote pollinator plantings. Signs jump start conversations about habitat needs, native plants, and reducing negative impacts of herbicides and pesticides. Signs created by children are especially engaging. You can also join in monitoring efforts, logging monarch arrival and development, milkweed growth, etc. (see *Community Science Opportunities*).

Community Science Opportunities:

- Western Monarch Milkweed Mapper: www.monarchmilkweedmapper.org
- See Western Monarch Count: www.westernmonarchcount.org
- Integrated Monarch Monitoring Program: https://monarchjointventure.org/immp

Other Sources:

- Celebrating Wildflowers (U.S. Forest Service): www.fs.fed.us/wildflowers
- Million Pollinator Garden Challenge: http://millionpollinatorgardens.org
- Journey North Monarchs: https://journeynorth.org/monarchs
- Monarch Joint Venture: http://monarchjointventure.org

Note on the Plant Lists

The plant species included in these lists are based on monarch nectaring observations compiled from numerous sources by the Xerces Society, including published and technical reports, species databases, research datasets, and personal communications with monarch researchers, botanists, and other experts. Over 1,200 observations of 358 native species were collated into a matrix that was then broken down into 14 regions.

Acknowledgments

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Robert Glennon and Jeffray Jones (VA); Sally Kepfer (DE); Andy Burr, David Kraft (KS), and James Baker (AR). Many others contributed observations of plants visited by monarch adults, continue to add observations to a growing dataset, and/or reviewed the lists and shared comments (www.xerces.org/data-sources-for-the-monarch-nectar-plant-guides). PHOTOS: We thank the photographers who generously allowed use of their images. Copyright of all photographs remains with the photographers. The Xerces Society is an equal opportunity employer and provider. © 2018 by The Xerces Society for Invertebrate Conservation. Xerces® is a trademark registered in the U.S. Patent and Trademark Office.