

Gardening for Pollinators

Buffalo Garden & Rural Living Expo

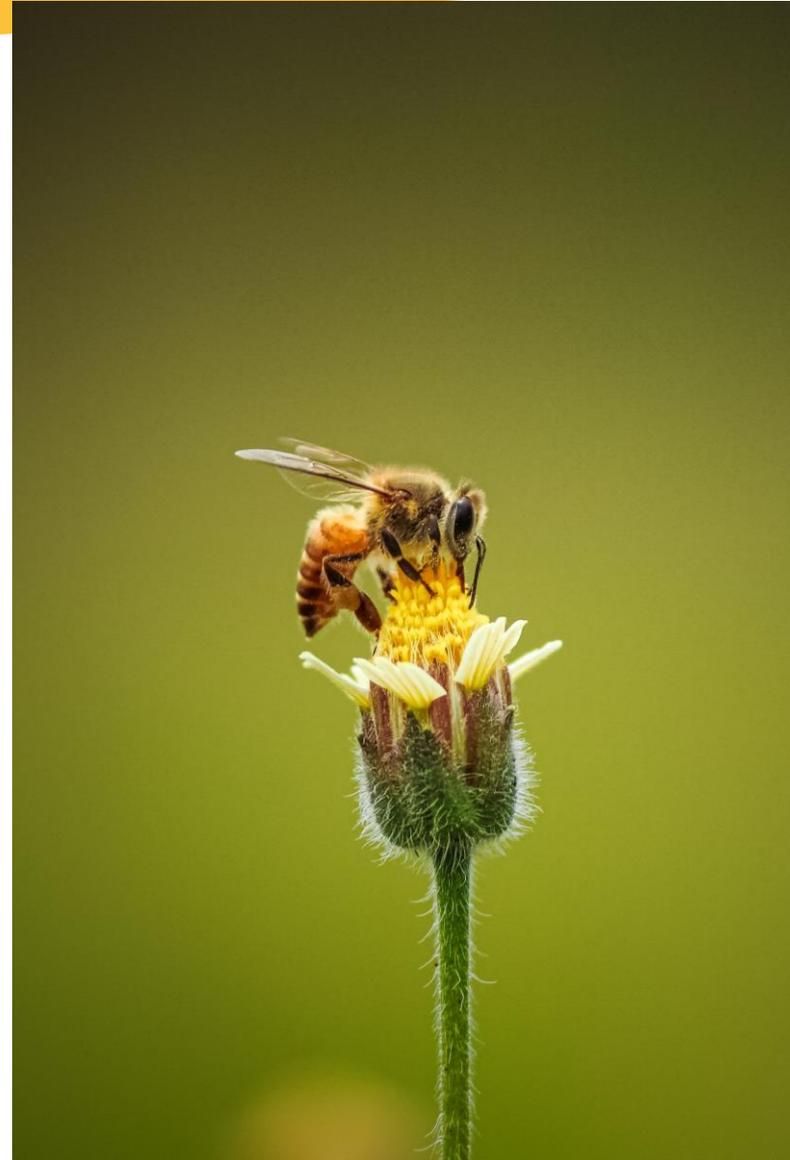
March 18, 2023

Micah Most, Johnson Co. Extension



Road Map

- Introduction
- Pollinator/plant relationships
- Plants for pollinators
- Year-round habitat
- Beyond the flowers
- Resources



What's your WHY?

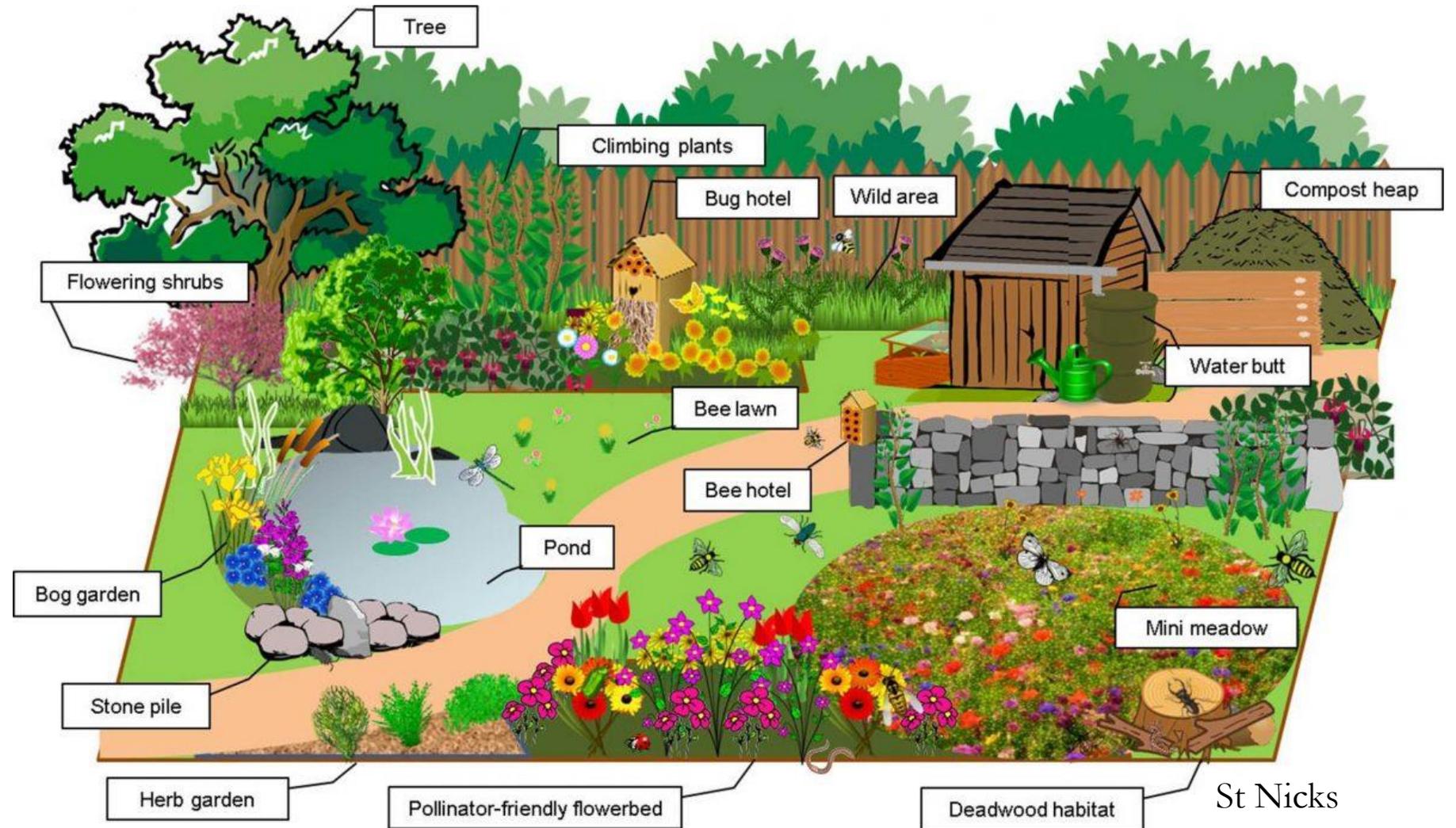
- Honey production
- Vegetable garden – increase prod'n
- Altruistic = “save the bees”
- Others?



Your garden is an ecosystem.

Habitat Essentials

- Food
- Water
- Shelter



Types of pollinators

Insects

- Bees
 - Honey
 - Bumble
- Butterflies
- Wasps
- Beetles
- Flies



Birds

- Hummingbirds

Bats

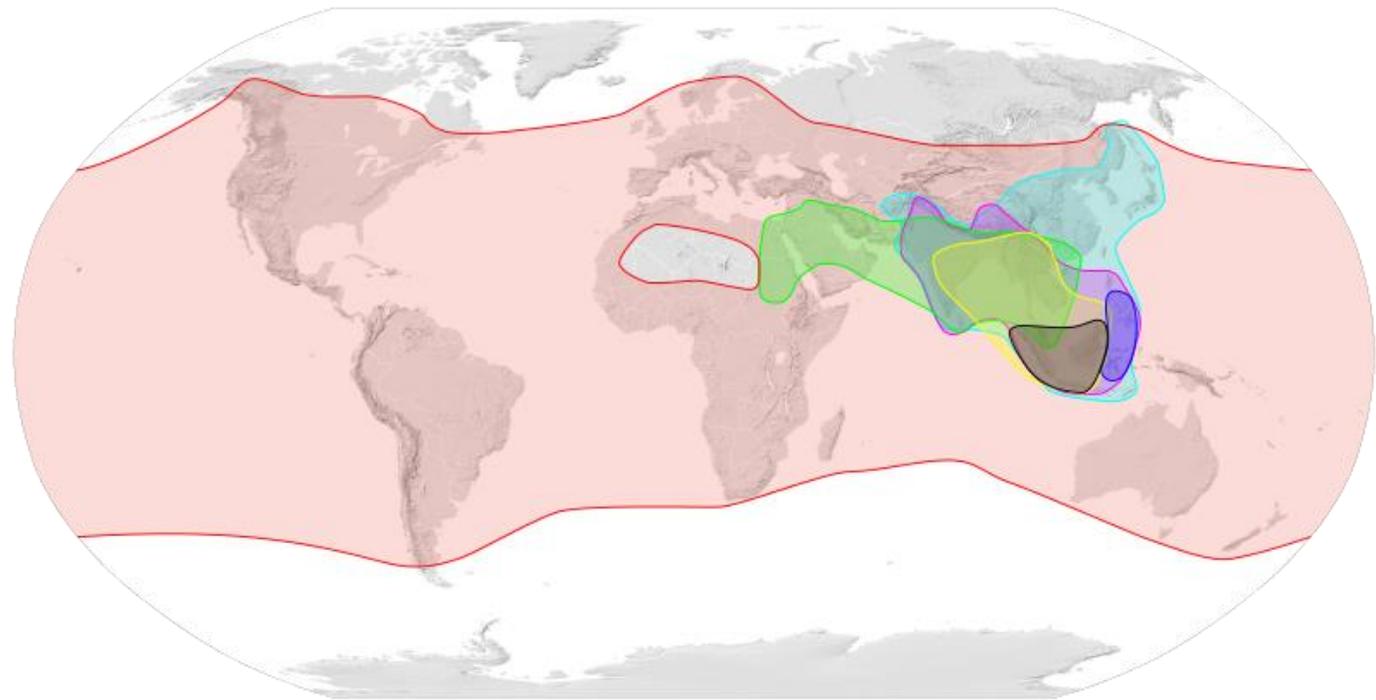
- WY bats eat insects

Wind & Water

- Graminoids
- Sweet corn

NOTE: Honeybees are not native to WY

- *Apis mellifera*
- Africa and Eurasia



Wikimedia Commons

Pollinators need plants,
plants need pollinators

Pollinator Syndrome:

“Suites of flower traits that have evolved in response to natural selection imposed by different pollen vectors, which can be abiotic (wind and water) or biotic, such as birds, bees, flies, and so forth through a process called pollinator-mediated selection.”

Faegri & Pijl, Proctor et al.

Tendency of pollinator groups to be attracted to a specific types of flowers

Pollinator Syndromes

Trait	Bats	Bees	Beetles	Birds
Color	Dull white, green or purple	Bright white, yellow, blue, or UV	Dull white or green	Scarlet, orange, red or white
Nectar Guides	Absent	Present	Absent	Absent
Odor	Strong musty; emitted at night	Fresh, mild, pleasant	None to strongly fruity or fetid	None
Nectar	Abundant; somewhat hidden	Usually present	Sometimes present; not hidden	Ample; deeply hidden
Pollen	Ample	Limited; often sticky and scented	Ample	Modest
Flower Shape	Regular; bowl shaped - closed during day	Shallow; have landing platform; tubular	Large bowl-like, Magnolia	Large funnel like; cups, strong perch support



US Forest Service

Pollinator Syndromes

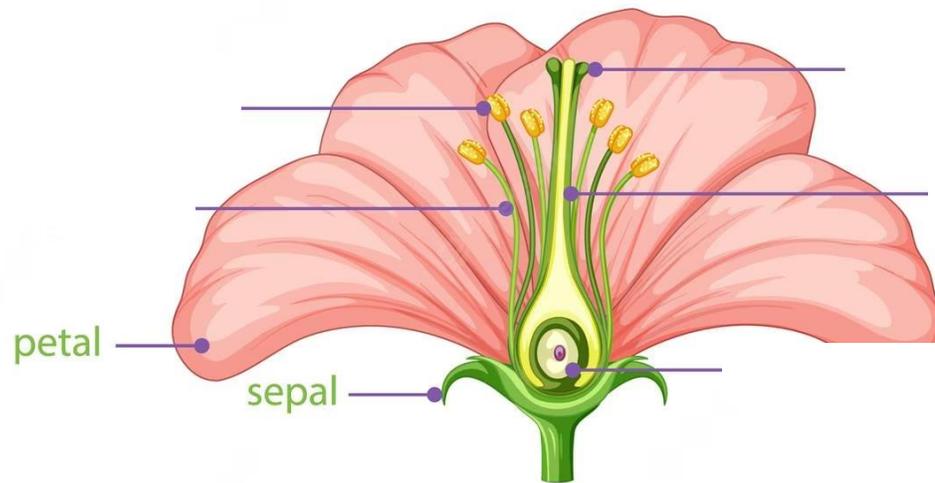
Trait	Butterflies	Wind
Color	Bright, including red and purple	Dull green, brown, or colorless; petals absent or reduced
Nectar Guides	Present	Absent
Odor	Faint but fresh	None
Nectar	Ample; deeply hidden	None
Pollen	Limited	Abundant; small, smooth, and not sticky
Flower Shape	Narrow tubular spur; wide landing pad	Regular: small and stigmas exerted



US Forest Service

Basic Botany – Reproductive Anatomy

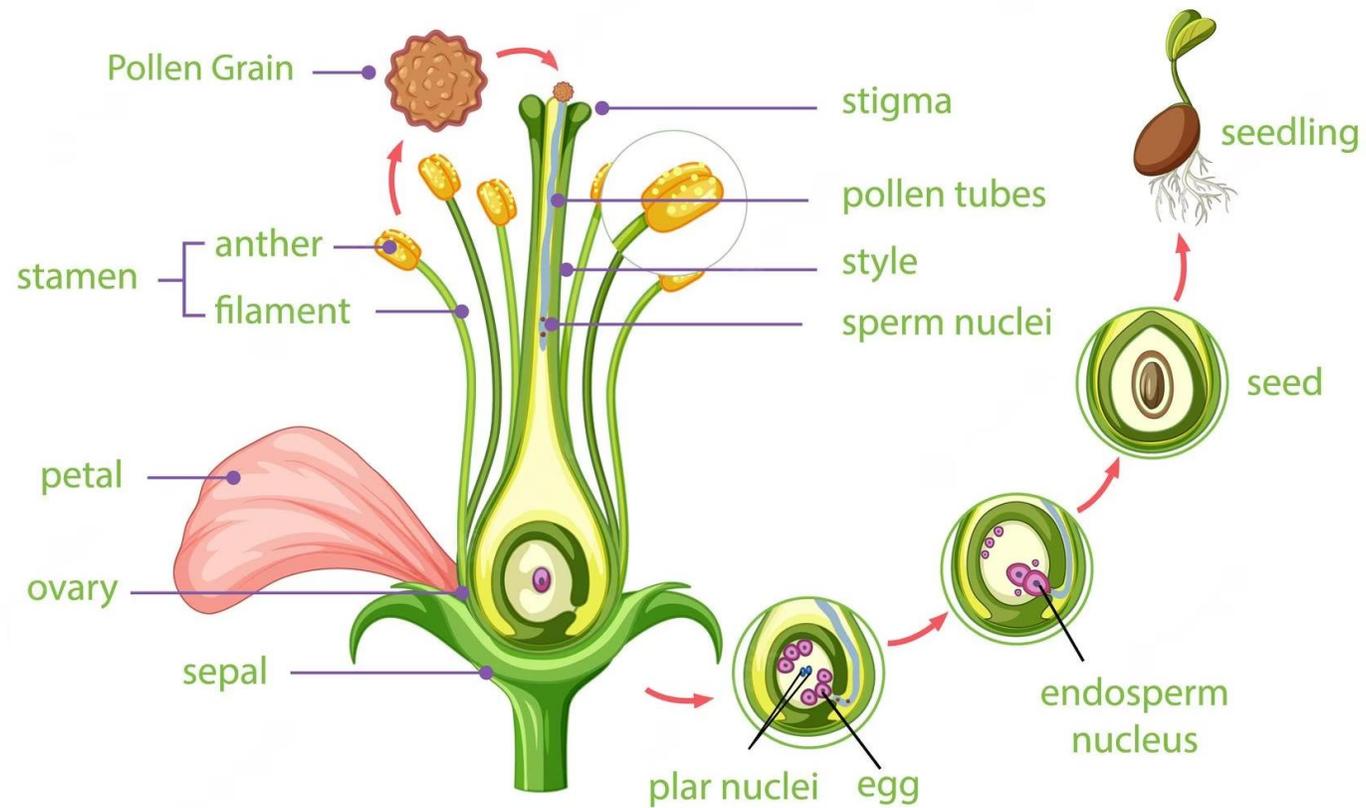
Parts of a flower



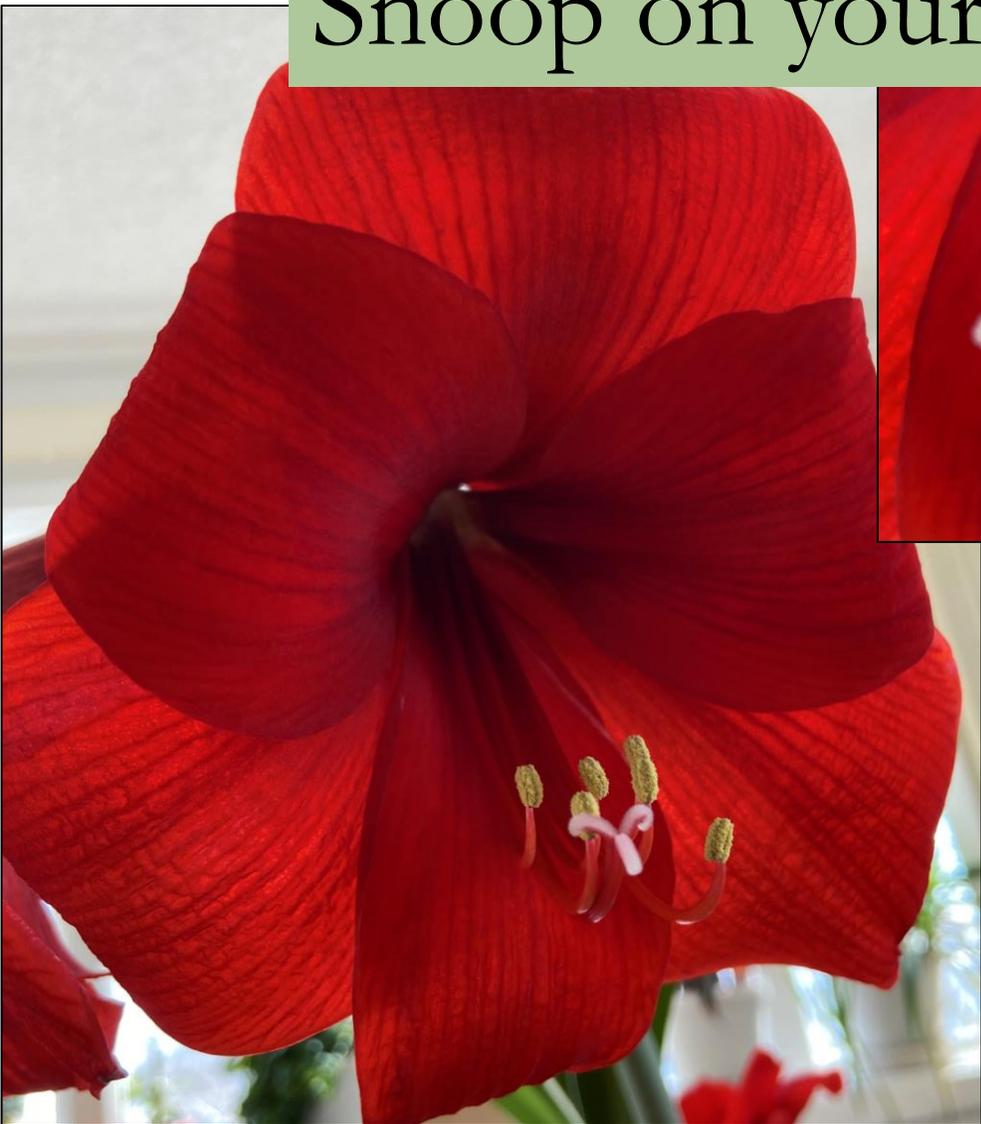
Pollination of Flowering Plants

Basic Botany – Reproductive Physiology

Pollination of Flowering Plants



Snoop on your plants this growing season



Plants for Pollinators



Is this good pollinator habitat?



Monoculture



UW

Extension
Johnson County

Is this good pollinator habitat?

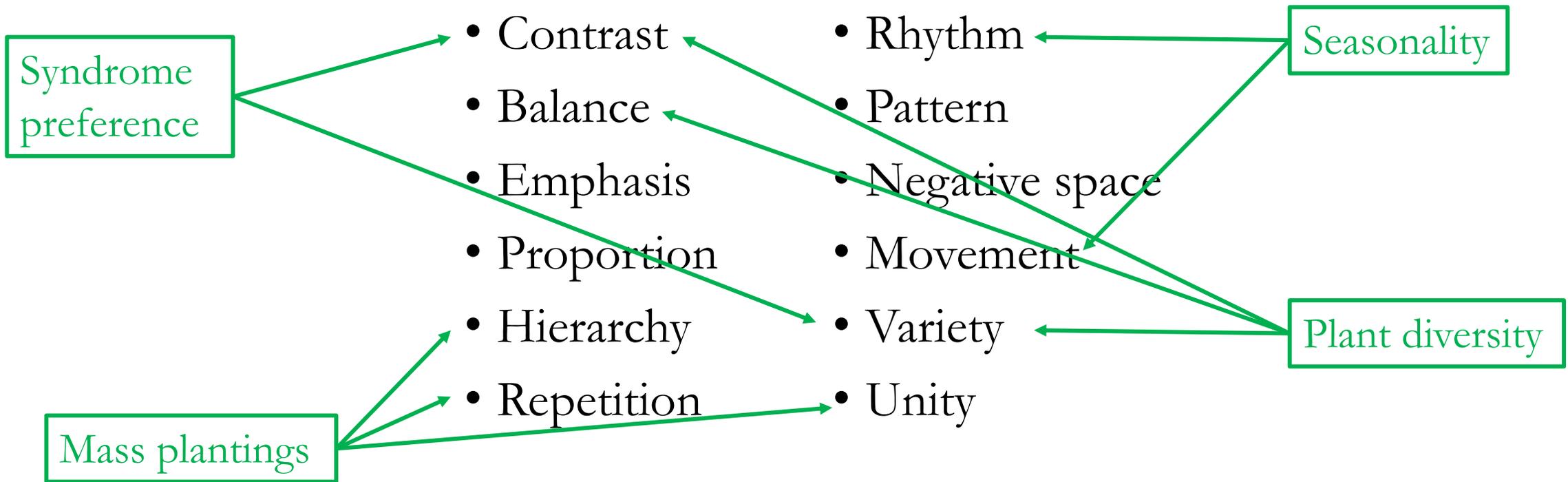


What makes good pollinator habitat?



Diversity is KEY

Principles of design to support pollinators



Year-round habitat

Flowers for all seasons



Spring
Photo: J. Thompson

What species do we see?

Flowers for all seasons



Summer
Photo: J. Thompson

What species do we see?

Flowers for all seasons



Late summer/fall
Photo: J. Thompson

What species do we see?

Flowers for all seasons



Spring
Photo: J. Thompson



Summer
Photo: J. Thompson

You can do this!



Late summer/fall
Photo: J. Thompson

So . . . What to plant??

. . . It depends.

- Property goals
- Hardiness zone
- Exposure
- Soils
- Water access



2006 © Peter M. Dziuk



Native plants for native pollinators?

- Not an absolute
- Always a good idea
- *Plants with Altitude*



Native plants for native pollinators?

- Obligate host
- Specific relationships



Easy Access

- Mass plantings save energy
- Make your garden a “grocery store”
- Appeal to the eye



Beyond the flowers – your garden is an ecosystem

Rethinking the watering hole

- Separate from pet & livestock water point
- **Shallow and wide**
- Provide escape ladder
- Bees like it stinky
- Drought = hungry & thirsty pollinators



Backyard Beekeeping

Fall Cleanup

- Leave a stubble on lawn and landscape beds
- Leave the leaves?
- Brush pile
 - Birds
 - Small mammals - rodents



Tyler Arboretum



Use your trees

- Clear Creek Conservation District spring tree orders

1. Autumn Blaze Maple
2. Norwegian Maple
3. Sienna Glen Maple
4. Little Leaf Linden
5. Frontier Elm
6. Valley Forge Elm
7. Patriot Elm
8. Canada Red Cherry
9. Golden Willow
10. Pine Trees
Austrian Pine
Mugho Pine
11. Colorado Spruce
25 gal
12. Quaking Aspen
15 gal
13. Cottonless Cottonwood
4. Narrowleaf Cottonwood

15. Jonagold Apple
16. Honey Crisp Apple
17. McIntosh Apple
18. Jonathan Apple
19. Prairie Fire Crabapple
20. Profusion Crabapple
21. Bing Cherry
22. Montmorency Cherry
23. Lapins Cherry
24. Lambert Cherry

25. Red Twig Dogwood
26. Autumn Brilliant Serviceberry
27. Peking Cotoneaster
28. Common Lilac
29. French Lilac
30. Rocky Mountain Juniper. Limited QTY
31. Burning Bush
32. Siberian Pea Shrub
33. Blackberry
34. Himrod Grapes



A note on pesticides

Integrated Pest Management (IPM)

- Control methods
 - Mechanical/physical
 - Cultural
 - Biological
 - Chemical



Insecticides will kill insect pollinators

- ALWAYS read labels before use
- Be aware of setting
- Plant residues can contain residues
 - Most break down
 - Herbicides more evidently harmful to garden plants



Pollinator Resources

POLLINATOR RESOURCES

- UW Extension *Promoting Pollinators on your Place*
- Wyoming Pollinators B&B Live!
Recorded webinar, ~1 hour long
- Xerces Society for Invertebrate Conservation



UW Biodiversity Institute



HOME

ABOUT

PROGRAM STORIES

TRAINING

SERVICE

RESOURCES

NEWS

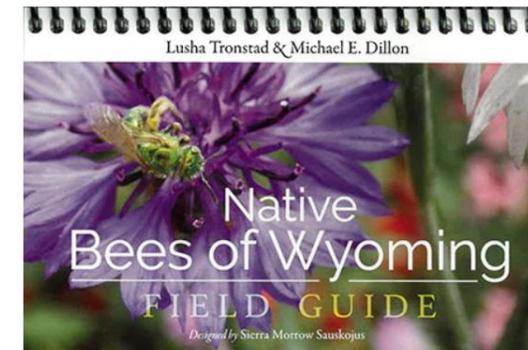
DONATE



Mission:

The mission of the Wyoming Naturalist Program is to cultivate a community of volunteers to steward the state's natural resources through conservation education and service.

The program provides education and training to participants in [biodiversity, ecology, conservation, management](#) and interpretation, so that they can become leaders in the effort to protect our natural resources and the special places where we live.



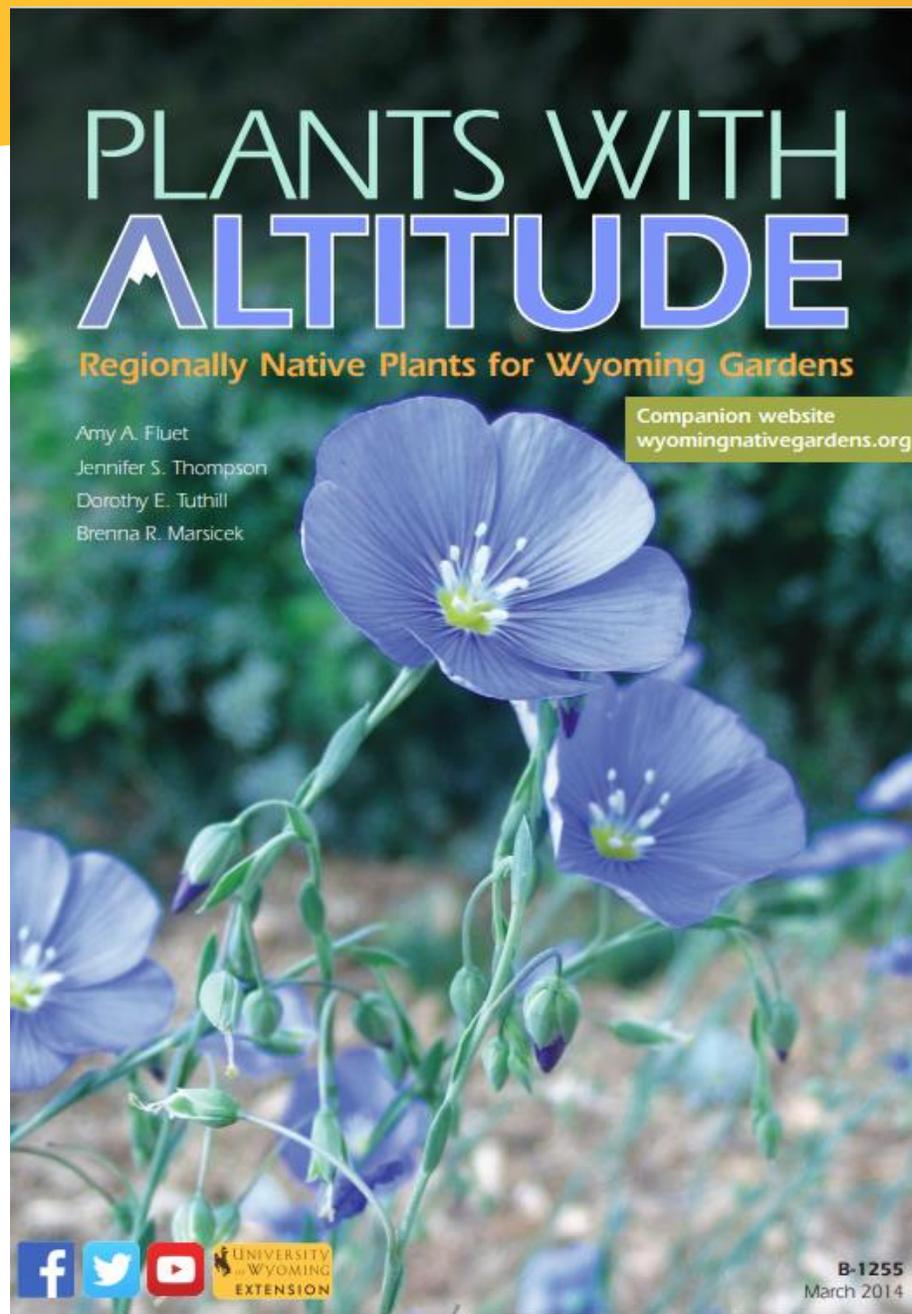
Further Reading

- Online in pdf format

\$5.00 + shipping

~\$4.02 to ship to Buffalo

= \$9.27



Upcoming Events

- **Wyoming Bee College**
 - March 24-25th in Cheyenne
 - wyomingbeecollege.org
 - cwissner@uwyo.edu
- **Country Living: An Intro to Small Acreage Living**
 - April 8th in Buffalo
 - Amanda @ CCCD
 - 307-620-3021

Follow along on social media!

@ UW Extension Johnson County



Thanks for listening



Johnson County Extension

QUESTIONS?

Micah Most

mmost@uwyo.edu

307-684-7522

