Cultivating Pollinator Habitat

EXTENSION

1

Sustainability
The All-Encompassing Concept

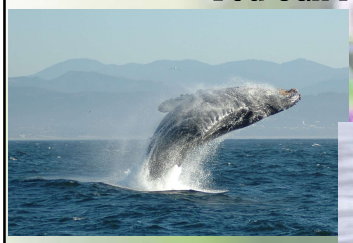
- Loss of American grasslands for habitat and connectivity
- Pollination to 80% of All Flowering Plants; 75% of Fruits, Nuts, Vegetables

Corwin Rain Garden

EXTENSION

2

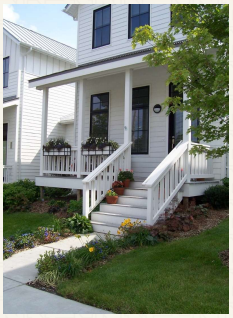
You Can Help!



EXTENSION

3

No Site Too Small
University of Missouri Research



Steve Rodie

EXTENSION

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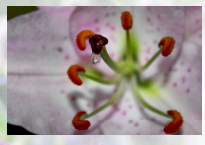
Plant Habitat!

Why do pollinators need plants?



EXTENSION

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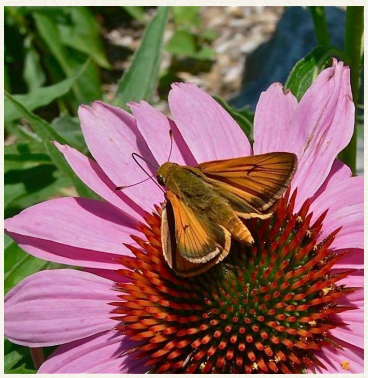

"If you build it, they will come."

- Food
- Water
- Shelter
- Nesting Sites/Nesting Materials
- Conservation Practices

Bob Elkins

EXTENSION

6

What is wrong with this landscape?

- Not a good environment for pollinators!

7

Lack of Plant Diversity

8

What's Wrong?

9

Lack of Nesting Sites

10

Pollinator Hot Spots

11

Food: Choosing the Right Plants

- Diversity
  - Native
  - Well-adapted
- Pollen AND Nectar
- Survive just fine without a lot of inputs
- Spring, Summer, Fall

Kris Reiswig

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Plant Selection

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Outside the Lines

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Outside the Lines

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All Plants: trees, shrubs, wildflowers, vegetable plants, fruit trees, herbs, grasses, bulbs, weeds

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Plant Selection to Benefit Adult and Larval Stages

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Three Season Of Flower

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Three Seasons of Flowers
Spring

Plant Insect Interaction

- Larva Host Plant
  - Clouded Sulphur
- Sweat Bees (*Lasioglossum* sp).
- Blister Beetle
- Bumble Bees

Baptisia australis

EXTENSION

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Three Seasons of Flowers
Spring

Plant Insect Interaction

- Mining Bees (*Andrena* spp.).
- Sweat Bees (*Lasioglossum* spp.).

Sanguinaria canadensis

EXTENSION

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Three Seasons of Flowers
Spring

Plant Insect Interaction

- Sweat Beets (*Lasioglossum*)
- Bee Flies (*Bombylius*)
- Syrphid Flies (*Branchypalpus*)
- Large Mining Bees (*Andrena*)

Anemone patens

EXTENSION

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Three Seasons of Flowers
Spring

Insect/Plant Interaction

- Mining bee (*Andrena distans*)
- Small Carpenter Bee (*Ceratina*)
- Sweat Bees
  - *Lasioglossum*
  - *Halictus*
- Mason Bees (*Osmia*)
- Bumble Bees (*Bombus*)
- Cuckoo Bees (*Nomada*)
- Syrphid Flies (*Pipiza*)
- Thick-Headed Flies (*Myopa*)

***Geranium* sp.**

EXTENSION

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Three Seasons of Flowers
Summer

Insect/Plant Interaction

- Mining Bee (*Andrena*)
- Small Carpenter Bee (*Ceratina*)
- Long-Horned Beetles
  - *Strangalepta*
  - *Leptura*
- Fire-Colored Beetles (*Pedilus*)
- Carrot Wasp (*Gasteruptiid*)
- Syrphid Flies (*Toxomerus*)

***Aruncus dioicus*.**

EXTENSION

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Three Seasons of Flowers
Summer

***Coreopsis* sp.**

***Gaillardia* sp.**

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Three Seasons of Flowers
Summer

Eryngium yuccifolium

Lilium michiganense

EXTENSION

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Three Seasons of Flowers
Summer

Polygonatum biflorum

Asclepias viridiflora

EXTENSION

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Three Seasons of Flowers
Fall

Chelone lyonii

Agastache foeniculum

EXTENSION

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Three Seasons of Flowers
Fall

Boltonia asteroides

Eupatorium altissimum

EXTENSION

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Three Seasons of Flowers
Fall

Ratibida pinnata

Vernonia sp.

EXTENSION

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Planting in Groups

EXTENSION

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Utilizing Unity as a Way to Organize Details of a Pollinator Garden

- Grouping same plants together
- Layering plants for a variety of heights
- Linking things together to make it easier for pollinators to forage.

Farrah Gant

EXTENSION

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Planting in Groups

EXTENSION

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More than Flowers

EXTENSION

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Water

EXTENSION

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Water

- Birdbath or shallow pond
- Creek
- Water feature
- Butterfly puddling area

Scott Evans

Mary Illig

EXTENSION

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More Than Domesticated Honey Bee

EXTENSION

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More than Domesticated Honeybee

Blue Orchard Mason Bee

- Solitary bee
- Nests in dead wood or hollow centers
- Important pollinators of fruit crops
- Most commonly seen in spring
- 250 vs. 2 hives

EXTENSION

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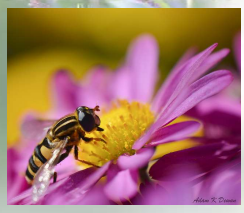
More than Domesticated Honeybee

Flies

- Second most important
- Pollinate carrots, onions, strawberries
- Important pollinator of alpine plants



EXTENSION

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Native Bee & Agriculture

- 100 species of native bees in Wisconsin cranberry bogs
- 112 species of native bees visit high-bush blueberries in Michigan
- Native bees TRIPLE cherry tomato production in California
- Native bees have positive affect on honey bees: make them work

EXTENSION

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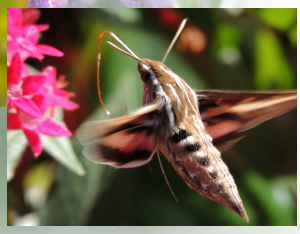
Wanna-bees



EXTENSION

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Wanna-bees

EXTENSION

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Wanna-bees

EXTENSION

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≈ 4,000 species of native bees
- 2,800 Ground Nesting
- 1,200 Cavity Nesting

EXTENSION

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A lot of gardeners don't recognize the importance of nesting sites for bees and in particular, the importance of nest sites for ground nesting bees" – Dr. Gail Langellotto

EXTENSION

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Shelter

EXTENSION

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Shelter

- "Bones of the garden"
- Trees and shrubs
- Protection from wind and rain
- Rock pile
- Dead wood/garden debris

Erica Corwin

EXTENSION

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Nesting Sites/Nesting Materials

Mary Jane Frogge

- Insect Hotel
- Bare Soil, Free of Mulch
- Groundcovers

EXTENSION

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EXTENSION

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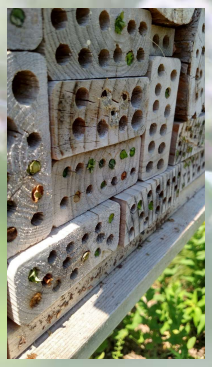
Shelter



EXTENSION

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EXTENSION

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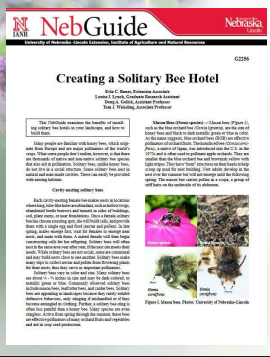
Shelter

http://extensionpublications.unl.edu/assets/pdf/g2256.pdf



EXTENSION

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Access to Soil

EXTENSION

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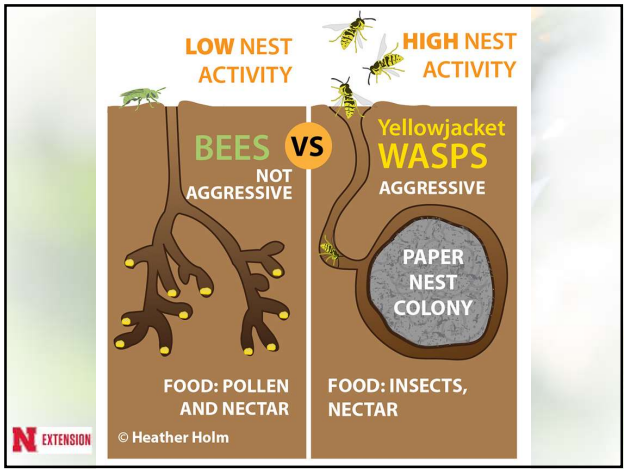

EXTENSION

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Access to Soil

EXTENSION

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Access to Soil

55

Access to Soil

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Conservation Practices

Reduced Pesticide Use

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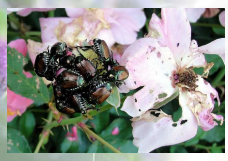
Pesticides

- No such thing as "Non-toxic" or "Chemical free"
- I.P.M.
- Cosmetic Damage



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Conservation Practices

- Identifying Pollinators No Matter Their Life Stage

Karen Lofgren-Anderson

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Conservation Practices

M. & L. Welsher

- No Rock Mulch
- Drip Irrigation/Rain Barrels

Kathy Jeffers

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Fall Clean-Up?
Jody Green
Spring Clean-Up?
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Nebraska Pollinator Habitat Certification Program
Nebraska Pollinator Habitat
EXTENSION
http://go.unl/pollinators
• Plant List
• Best Management Practices
Farrah Gant
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Kathleen Cue
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