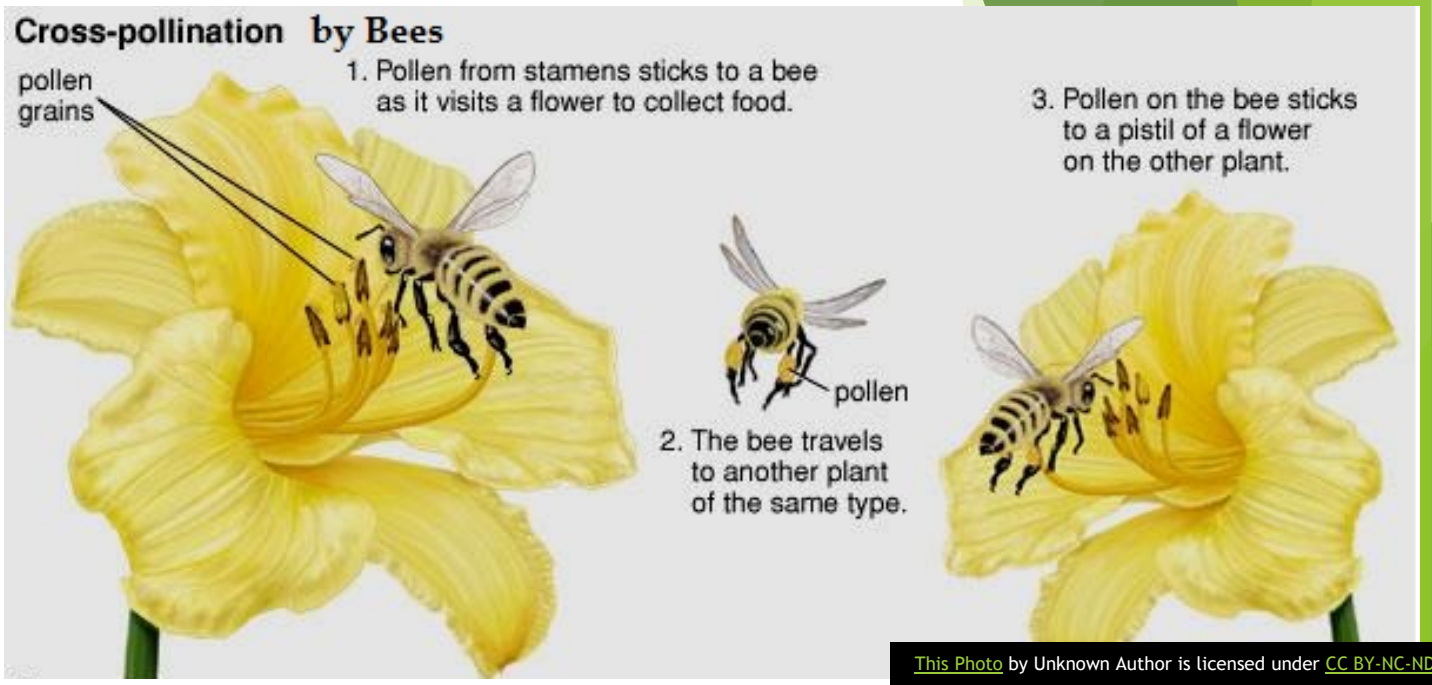
St. Joseph County Soil & Water Conservation District

Planting for Pollinators

What is pollination?

- “During pollination, pollen is moved from the flower’s male part (stamen) to the female part (stigma) of the same or another flower. This fertilization starts the production of fruits and seeds. Some flowers rely on the wind to move pollen, others rely on animals,”- INDNR



What are pollinators?

- Pollinators are beneficial insects and animals that transfer pollen between plants in order to help new plants grow through plant fertilization
- Pollinators thrive on pollinator-friendly native plants

Why should we help?

- We rely on pollinators for several things in our daily lives, whether we realize or not!
- Pollinators are in danger largely due to habitat alteration

How can we help pollinators?

- There are two main ways you can help pollinators:
  - Avoid habitat destruction, degradation, and fragmentation whenever you can
  - Plant for pollinators

Types of pollinators

- Indiana is home to several species of pollinators, including species of:
  - Ants
  - Bats
  - Bees
  - Beetles
  - Birds
  - Butterflies
  - Flies
  - Moths

Ant flowers

- The flowers that are visited by ants are typically:
  - Low growing
  - Have small inconspicuous flowers
  - Have flowers that are close to the stem

https://www.fs.fed.us/wildflowers/pollinators/animals/ants.shtml

Photo by Steve Buchmann

Bat flowers

- The flowers that are visited by bats are typically:
  - Open at night;
  - Large in size (1 to 3.5 inches);
  - Pale or white in color;
  - Very fragrant, a fermenting or fruit-like odor; and/or
  - Copious dilute nectar.

https://www.fs.fed.us/wildflowers/pollinators/animals/bats.shtml

Photo from discoverlife.org © Copyright Sheryl Pollock 2011.

Bee flowers

- The flowers that are visited by bees are typically:
  - Full of nectar
  - Brightly colored with petals that are usually blue or yellow or a mixture of these (bees cannot see red)
  - Sweetly aromatic or have a minty fragrance
  - Open in daytime
  - Provide landing platforms
  - Often bilaterally symmetrical (one side of the flower is a mirror image of the other)
  - Flowers are often tubular with nectar at base of tube

https://www.fs.fed.us/wildflowers/pollinators/animals/bees.shtml

Photo by Beatriz Moisset.

Beetle flowers

- The flowers that are visited by beetles are typically:
  - Bowl-shaped with sexual organs exposed
  - White, to dull white or green
  - Strongly fruity
  - Open during the day
  - Moderate nectar producers
  - May be large solitary flowers (i.e. magnolias, pond lilies)
  - May be clusters of small flowers (goldenrods, Spirea)

https://www.fs.fed.us/wildflowers/pollinators/animals/beetles.shtml

Bird flowers

- The flowers that are visited by birds and hummingbirds are typically:
  - Tubular and have petals that are recurved to be out of the way
  - Have tubes, funnels, cups
  - Strong supports for perching
  - Brightly colored: red, yellow, or orange
  - Odorless (birds have a poor sense of smell)
  - Open during the day
  - Prolific nectar producers with nectar deeply hidden
  - Modest pollen producers that are designed to dust the bird's head/back with pollen as the bird forages for nectar

https://www.fs.fed.us/wildflowers/pollinators/animals/birds.shtml

Photo by Wayne Owens.

Butterfly flowers

- Butterflies typically visit flowers that are:
  - In clusters and provide landing platforms
  - Brightly colored (red, yellow, orange)
  - Open during the day
  - Ample nectar producers, with nectar deeply hidden
  - Nectar guides present
  - May be clusters of small flowers (goldenrods, Spirea)

https://www.fs.fed.us/wildflowers/pollinators/animals/butterflies.shtml

Photo by Beatriz Moisset, 2002-2004

Fly flowers

- The flowers that are pollinated by flies are typically:
  - Pale and dull to dark brown or purple
  - Sometimes flecked with translucent patches
  - Putrid order, like rotting meat , carrion, dung, humus, sap and blood
  - Nectar guides not present
  - Produce pollen
  - Flowers are funnel like or complex traps

https://www.fs.fed.us/wildflowers/pollinators/animals/flies.shtml

Photo by Dr. Bill May.

Moth flowers

- The flowers that are visited by moths are typically:
  - In clusters and provide landing platforms
  - White or dull colors
  - Open late afternoon or night
  - Ample nectar producers, with nectar deeply hidden, such as morning glory, tobacco, yucca, and gardenia

https://www.fs.fed.us/wildflowers/pollinators/animals/moths.shtml

Planting for pollinators

- Planting for pollinators means using hearty, native, pollinator-friendly plants in your gardening/ planting

Credit: SW Indiana USDA NRCS

Native plants

- Native plants are plants that occur naturally in an area without the need for human introduction
  - A native plant is “a plant that is a part of the balance of nature that has developed over hundreds or thousands of years in a particular region or ecosystem… Only plants found in this country before European settlement are considered to be native to the United States.” – USDA NRCS

Credit: Don Donovan, USDA-NRCS

Things to consider when planting for pollinators

- Location
- Plants
- Space
- Time to be spent/ care

What do pollinators need?

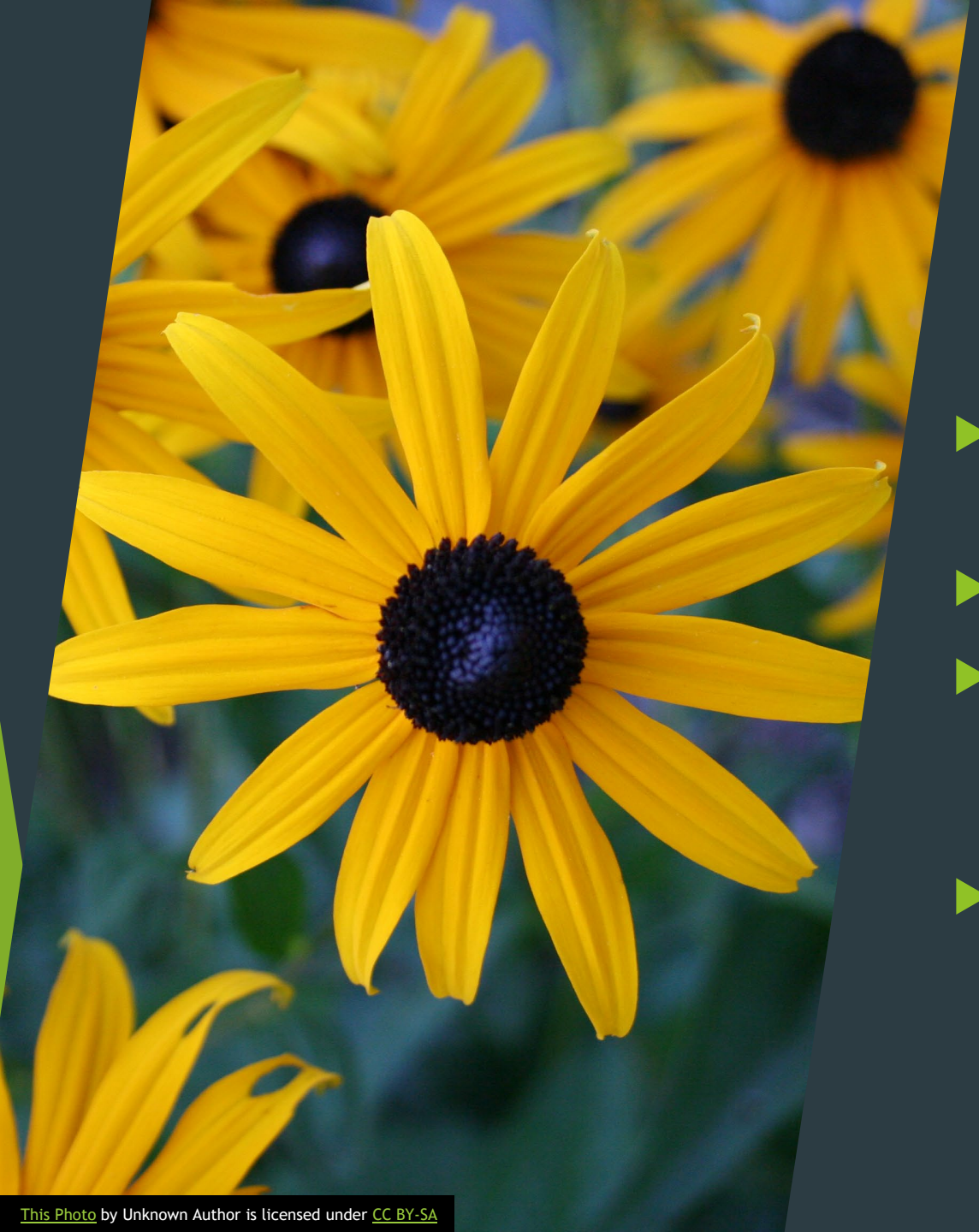
- Successful pollinator –friendly spaces need these 3 things:
  - Food
  - Habitat/shelter
  - Water

What plants should I use?

- Purdue Extension offers a great list of Indiana-native pollinator-friendly plant species here
- Some of the most commonly used plants in Indiana pollinator planting include:
  - Purple coneflower
  - Black-eyed Susan
  - Milkweed
  - Asters
  - Bergamot

Purple coneflower

- Grows in several soil types in full sun
- Blooms in summer
- Good for bees, butterflies and moths
- Perennial



Black-eyed Susan

- Grows in several soil types in full sun
- Blooms in summer
- Good for bees, butterflies, moths, flies, and wasps
- Perennial

Milkweed

- Milkweed is special because it is the only food source of the Monarch caterpillar which becomes the Monarch butterfly, an important pollinator
- Milkweed is perennial
- There are several varieties of milkweed, 5 of which Purdue Extension identifies as Indiana-native pollinator-friendly milkweed
  - Marsh/swamp milkweed
  - Sullivant's milkweed
  - Common milkweed
  - Butterflyweed/ butterfly milkweed
  - Whorled milkweed

Marsh/swamp milkweed

- Grows in wet soils in full sun
- Blooms in summer
- Good for bees, beetles, and butterflies

Brundage, Stephanie

Wasowski, Sally and Andy

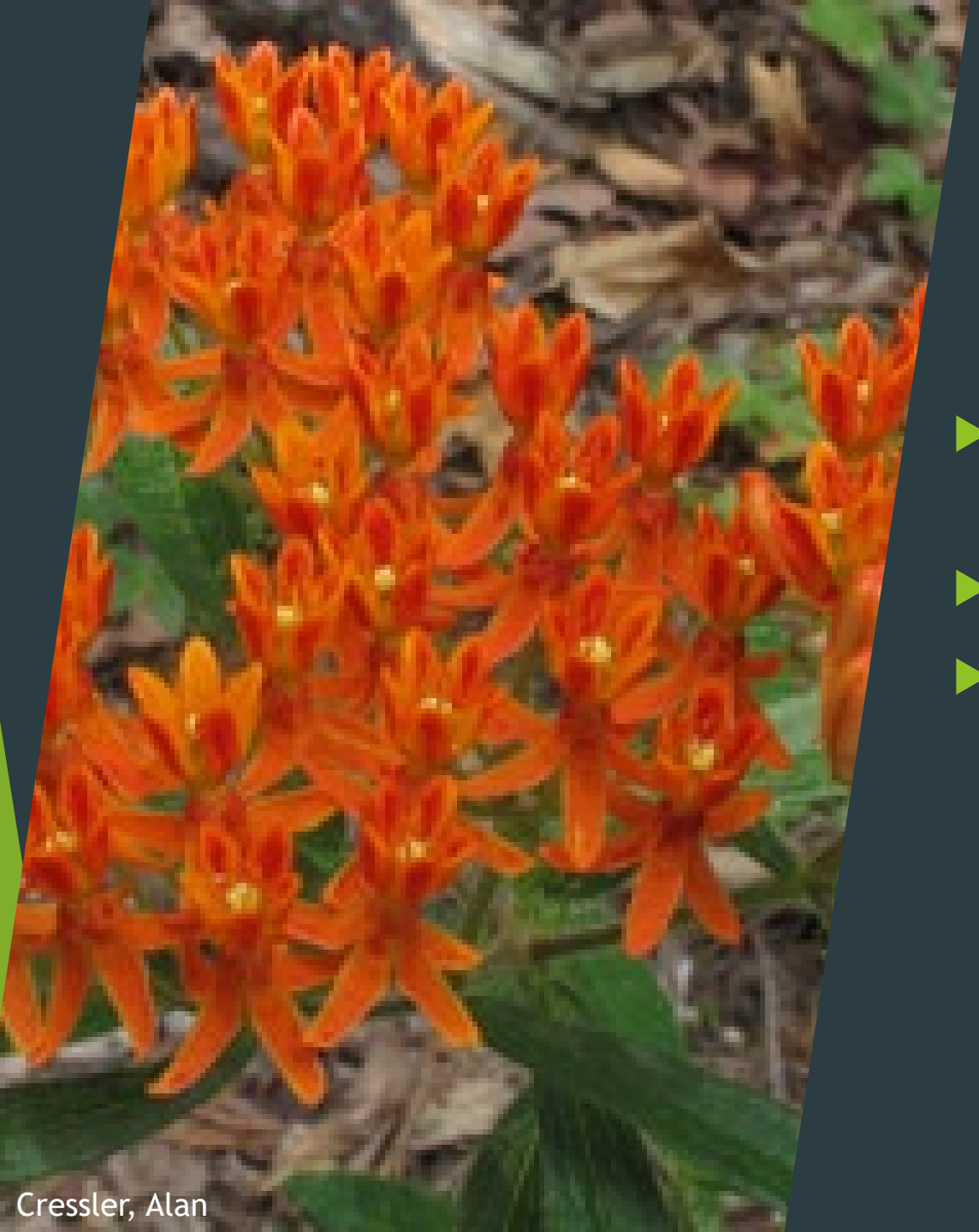
Sullivant's milkweed

- Grows in wet mesic and mesic soils in full sun
- Blooms in summer
- Good for bees, beetles, and butterflies

Cressler, Alan

Common milkweed

- Grows in mostly dry soil types in full sun
- Blooms in summer
- Good for bees, beetles, butterflies, and moths



Cressler, Alan

Butterflyweed/ butterfly milkweed

- Grows in mostly dry soil types in full sun
- Blooms in summer
- Good for bees, butterflies, and moths

Whorled milkweed

- Grows in mostly dry soils in full sun
- Blooms in summer
- Good for bees, butterflies, and moths

Asters

- There are several varieties of aster, 10 of which Purdue Extension identifies as Indiana-native pollinator-friendly asters:
  - Sky-blue aster
  - Heart-leaved blue wood aster
  - Heath aster
  - Shining aster
  - Smooth aster
  - Calico aster
  - New England aster
  - Swamp aster
  - Short's aster
  - Flat-topped aster
    - Asters are a host for the pearl crescent butterfly

Asters

- Typically bloom in the fall
- All are good bee and beetle hosts
- Some varieties are good butterfly, moth, fly, and wasp hosts
- Perennial

Swamp aster- Bransford, W.D. and Dolphia

New England Aster- Bloodworth, Stefan

Calico aster- Brundage, Stephanie


Reveal, James L.

Bergamot

- Grows in several soil types in full sun
- Blooms in summer
- Good for bees, butterflies, moths, and wasps
- Perennial

Pollinator-friendly trees

- Flowering trees are also excellent food sources for pollinators
- Some of Indiana's most well-known flowering trees include:
  - Flowering dogwood
  - Black cherry
  - Redbud
  - Tulip poplar

Flowering dogwood

- Grows typically in moist soils in full sun or partial shade
- Blooms in spring

Black cherry

- Grows typically in moist, fertile soil in open sun (but can thrive in a variety of conditions)
- Blooms in late spring

Redbud

- Typicallys grow in moist soil in shady or sunny areas
- Blooms in spring

Tulip poplar

- Grows typically in moist soil in full sun
- Blooms in late spring, early summer

Maintaining your pollinator space

- Know your plants
- Keep an eye on water
- Weed by hand
- Never use weed killers, chemical fertilizers, or pesticides

More planting tips

- If buying plants from a greenhouse, make sure they have not been treated with any pesticides beforehand
- Avoid hybrid flowers
- Use a variety of plants
- Leave dead vegetation where it lies
- Butterflies are attracted to unsavory things in addition to flowers. Some overripe banana, oranges, and other fruits may draw more butterflies to your area
  - Alternatively, start a compost pile in your pollinator area

Questions?

Need More information?

- Call or email us!

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