**Meet Me in the Garden, September 10, 2016**

**North Country Master Gardener Volunteers Welcome You to our Newly Created Monarch and Pollinator Sanctuary (MAPS)**

**Can you imagine a world without butterflies?**

* In the beginning, the earth’s vegetation was primarily woody plants and shrubs pollinated by the wind
* About 130 million years ago, in what is now SW China, something amazing happened – leaves became flowers!
* Biodiversity of plants, and new animals appeared also; flowers depended on the animals to distribute their pollen, and animals depended on flowers for food, creating new seeds and plants
* Over 200,000 species of animals help pollinate almost 90% of all flowering plants around the world, including butterflies, bees, bats, moths and birds

**Butterflies**

* All 18,000 species of butterflies found worldwide are colorful, daytime fliers specially designed with a tongue that uncurls and sucks nectar from flowers
* Pollen grains stick to the butterflies’ bodies, legs and feet and are then transferred to other flowers and plants
* Butterflies can see red, and love colorful flowers in warm colors
* Western Monarch butterflies migrate to find milkweed and lay eggs
* Each spring western Monarch migrate from southern California to Washington state; eastern Monarchs travel from the Sierra Madre Mountains in Mexico to the eastern US and Canada

**Bees**

* Bees are often considered pollinator superheroes – 250 species in the US alone
* Queen bees emerge from hibernation in spring build nests for female worker bees
* Following generations collect pollen and nectar and bring it back to the nest
* Final generations of the season contain queens and male mates – only the queens survive over the winter hibernation
* Bees have several adaptations which allow then to collect and transport pollen and nectar – one unique adaptation is the ability to “buzz pollinate” plant species with pollen but no nectar, such as tomatoes, cranberries, apples, cherries, blackberries, blueberries, alfalfa, red clover, snapdragons and foxglove

**Bats**

* Bats are the only flying animal on earth, and make up over one fifth of all mammals
* Bats feed on insects, important for pest control, and are critical pollinators in desert climates
* Bats emerge after sunset searching for nectar and pollinate cactus flowers which only open at night
* Bats’ faces and bodies become covered in pollen that is transferred between flowers
* Bats are excellent fliers who eat fruit and spread the seeds in their dung

**Other Pollinators**

* Flies, moths, wasps, reptiles, mammals beetles are important pollinators worldwide
* My personal favorite pollinator is the *Midge fly*, the only animal small enough to pollinate the cacao flower, giving us billions of pounds of chocolate annually!

**People and Pollinators**

* Pollinated flowers produce seeds, often encased on fruit like apples, bananas, oranges, berries, cucumbers, tomatoes and peppers
* Plants that produce vegetables like carrots, cabbage, lettuce, celery and cauliflower need pollen to grow – the veggies to not directly need pollination since they are the immature roots, leaves, and stems of the plants
* Flowering plants and pollinators are key in the production of oxygen, medicine, clothing, dyes, waxes, cleaning products and building materials

**People Helping Pollinators**

* Create a pollinator garden with native plants and heirloom varieties with

various bloom times

* Opt for natural pest control such as ladybugs and spiders
* Create shelter and refuge for birds and bees – branches, trees, shrubs, yard debris
* Educate yourself and inspire others to care!
* Support organizations working to protect pollinators (see handouts)

 Credit to DisneyNature “Wings of Life “ Teacher’s Background Information and Disney Worldwide Conservation Fund jhm 9.9.16