BEST PRACTICES

Bee Friendly to Your Yard

There has been much buzz in local and national media about the trouble facing bees. Colony collapse disorder is affecting bees worldwide. In the U.S., a third of the bee population disappeared in 2010. Bee keepers lost 50 percent of their hives in the winter of 2012-2013. Much of our food supply is dependent on pollination by bees. A decrease in their numbers threatens the security of our food supply.

Scientists agree that this decrease in the bee population is caused by humans. Many theories have been explored as to the specific cause. Some of the suggested theories include lack of food for the bees caused by habitat loss, viruses and fungal diseases. The main culprit which has emerged is the use of pesticides.

Pesticides not only kill bees, they also indiscriminately kill other vital organisms. When it rains, pesticides are washed off and flow into our storm drains. Most storm drains flow directly to the nearest water body. In this way, pesticides sprayed in your yard can become a threat to local aquatic wildlife and fish.

The single most important thing you can do to protect bees is to refrain from using pesticides in your yard. There are alternatives to pesticides to control plant diseases. The following resources can help:

Things You Can Do to Help Bees

- Avoid the use of pesticides in your yard.
- Plant bee-friendly (blooming) plants that are native or non-invasive.
- Allow clover to grow in your lawn.
- Keep a shallow dish of water filled with pebbles in your yard for bees to drink.
- Grow or buy organic food.
- Educate your family and friends about bees and how to protect them.

Thurston County's Common Sense Gardening Guildes:	http://www.co.thurston.wa.us/HEALTH/ehcsg/guides.html
Grow Smart Grow Safe Guide:	http://www.growsmartgrowsafe.org/

To create a bee-friendly yard, plant an array of plants that bloom from spring through fall. Some edible plants that bees love include squashes, tomato, blueberries and sunflowers. Flowering plants which attract bees include Pacific ninebark, salal, Oregon grape, kinnikinnick, orange honey suckle, Russian sage, Siberian iris, lavender, lilac and cosmos.

Never plant non-native wildflowers and other non-native plants that become naturalized or spread and become invasive. To see a list of recommended non-invasive plants, visit www.co.thurston.wa.us/tcweeds/escaped.asp for the Garden Wise, Non-Invasive Plants for Your Garden guide.

Wasps, hornets and yellow jackets are very different from honeybees, mason bees and bumblebees. Many people find wasps, hornets and yellow jackets to be a nuisance in their yards as they can display aggressive behavior.

Adults of these species feed on sugary foods and gather pieces of meat to feed their offspring. To avoid attracting these insects to your yard, follow these tips:

1. Keep fruit from trees picked up off the ground,
2. Cover compost piles or place fine mesh over openings in compost bins, and
3. Cover sweet foods, such as fruit or sugary drinks, and meat dishes on picnic tables.

If you have nests of aggressive wasps, hornets or yellow jackets in your yard, there is a safe, local and FREE way to have the insects removed. Mike Juhl, known as the "Bee Man", makes house calls to Thurston County residents. Bee Man Exterminators will remove the pests at no charge to you. The Bee Man uses a pesticide-free vacuum system to remove the insects. He then sells the insects for their venom. The venom is diluted and used to desensitize people allergic to bee stings.

To schedule the Bee Man to come out to your yard, call 360-866-1834. To make an appointment online, or for more information, visit **http://www.cascadiavenomcollection.com**

To Bee, or Not to Bee?

As summer arrives, bees and wasps inhabit yards and other urban and natural areas. While they may seem like a nuisance, many of these insects are beneficial. Bees pollinate flowering plants with their thick furry bodies. According to the WA State Department of Health, it is estimated that insect pollination is needed for one third of our food supply, and most of this pollination is done by bees. Wasps also have a minor role in pollination, generally done by the males. Yellow jackets and paper wasps are advantageous because they feed on insects that damage trees and crops.

Insect	Fun Facts	Identification
Bumble Bee 	• Establishes new colonies each spring • Produces little honey (not enough to harvest for human consumption) • Can sting repeatedly (stingers smooth)	• Thick body with orange, yellow, and/or black coloring • Very furry body • Size is highly variable and can be up to an inch long
Honey Bee 	• Resides in perennial colonies • Can only sting once and then dies (stingers barbed, which causes them to get caught in skin and ripped from the bee's body)	• Thin wings • Sleek abdomen • Fuzzy torso • Typically 0.75 inches long
Mason Bee 	• Solitary bees • Digs and nests in holes in the ground or in wood • Males never sting • Females rarely sting	• Shiny, dark blue in color
Hornet 	• Preys on insects • Aggressive • Can sting repeatedly • Can spray venom	• Up to 2 inches long • Yellow and black or white and black in color

Paper Wasp 	• Preys on insects • Forms annual colonies • Rarely aggressive • Builds paper nests consisting of wood fibers (single comb) • Can sting repeatedly	• Up to 0.75 inches long • Slender with long legs
Yellow jacket 	• Preys on insects • Forms annual colonies • Aggressive • Builds paper nests consisting of wood fibers (multiple stacked combs) • Can sting repeatedly	• Up to 0.5 inches long • Yellow and black or white and black

What's all the Buzz About?

Western Bumble Bee (*Bombus occidentalis*)

- Once common in the western United States and Canada.
- Primarily yellow thorax with black abdominal segments, identifying characteristic is a white tail.

Western bumble bees are considered to be excellent pollinators due to the fact that they do not depend on any one flower type. Also, bumble bees are able to fly in lower light levels and cooler temperatures than other bees. Because of its versatility, the Western bumble bee has been commercially reared to pollinate commercial crops.

Like other bees, bumble bees live in colonies consisting of a queen and her offspring. The queen is responsible for laying the eggs and developing the colony. Workers are responsible for most of the food collection, feeding of young and defending the colony. The males' sole function is to mate with queens.

Bumble bee colonies depend on flowers for their nutritional needs. Nectar provides carbohydrates and pollen provides protein. Colonies are annual and depend upon a queen to establish. The queen collects nectar and pollen from flowers to support egg production, which are fertilized by the sperm she has stored since mating the previous fall. During the early development of the colony the queen is responsible for all duties. Once the colony is established she then remains in the nest laying eggs. The production of other queen bees is dependent upon access to sufficient quantities of pollen. The amount available directly affects the number of queens produced.

Threats to survival:

- Spread of disease from commercial bee industry
- Pesticides and insecticides
- Introduced pests and diseases
- Habitat loss and fragmentation
- Agriculture intensification
- Invasive plants competing with native nectar and pollen plants
- Climate change

So what's the buzz about?

Until the mid-1990's, the western bumble bee was one of the most commonly seen bees. Since then, it has disappeared from half its historic range. This past summer several individuals were identified and confirmed in the Seattle area. If you are interested in more information or in citizen science opportunities, please visit the Xerces

Society, a nonprofit group that protects wildlife through the conservation of invertebrates and their habitat www.xerces.org.

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