

The Sweep Net

July 2011

A newsletter to keep you up-to-date on pollinator and beneficial insect activities at the Pullman Plant Materials Center, the Washington NRCS State Office and beyond.



Bumble bee visiting a taper-leaf penstemon (*Penstemon attenuatus*) flower.

Summer Pollinator Workshops

The Pullman PMC hosted several pollinator trainings during the last month, including workshops for the Washington 4-H Teen Conference, Up2U, and the Pullman Parks and Rec Garden Camp. At these workshops short presentations were given by Pamela Pavek, PMC Agronomist, and members of the WSU entomology department, followed by an exhibit of foods produced by pollination, a walking tour of the Pollinator Habitat Demonstration Planting, and opening of honey bee hives to observe bee activity and sample fresh honey. The hard working pollinators really made an impression on the young minds!

The Sweep Net
July 2011



Pullman Parks and Rec Garden Camp participants sampling honey directly from the hive.

The Pullman PMC also hosted Eric Mader from the Xerces Society, who led two Pollinator Conservation Short Courses, one at the PMC and one in Wenatchee (co-hosted with Wenatchee Valley College). Eric covered several aspects of pollinator conservation, including the current status of pollinators, basic bee biology, bee-friendly farming and habitat restoration. At the Pullman course, additional presentations were given by Pamela Pavek, PMC Agronomist, and Dr. Tim Hatten, local bee expert and CEO of Invertebrate Ecology, Inc. At the Wenatchee course, additional presentations were given Dr. Don Rolfs, retired periodontist and self-trained entomologist, Dr. Bob Gillespie, entomologist and faculty member at Wenatchee Valley College, and Pamela Pavek. Over 100 people attended the two trainings. It was exciting to have landowners, graduate students, Mater Gardeners and representatives from nearly all conservation organizations together in one room, learning about this very important topic from one of the experts. Everyone in attendance would probably agree Eric's knowledge is impressive and his enthusiasm for this subject, very contagious!



Eric Mader explaining the Xerces' new Pollinator Habitat Assessment Tool.

More Information and Contacts

Information presented at the Xerces Pollinator Conservation Short Courses can be found on the Xerces website: www.xerces.org. NRCS documents can be found on the Plant Materials website: <http://plant-materials.nrcs.usda.gov/wapmc/publications.html>.

The presenters may also be contacted:

Eric Mader: eric@xerces.org

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Tim Hatten: timhatten@invertebrateecology.com

Bob Gillespie: bgillespie@wvc.edu

Don Rolfs: donrolfs@aol.com

Xerces Pollinator Conservation Short Course in Western Washington

To address the pollinator conservation needs in Western Washington, the Xerces Society is planning an additional Pollinator Conservation Planning Short Course for the Bellingham area during October 2011. More information, as it becomes available will be listed at: www.xerces.org/events.

Establishing Native Wildflowers Webinar

Mace Vaughan and Eric Mader will also conduct a NRCS webinar titled “Establishing Native Wildflowers for Pollinators, Beneficial Insects and Wildlife” on September 8, 2011, at 11:00am PDT. The seminar will be available on MyMeetings: <https://www.mymeetings.com/nc/join/>, Conference number: PW3389714, Audience passcode: 2003431, Dial-in number: 888-324-8120.

No-Till Forb Seeding Update



Evaluating emergence of no-till seeded forbs in 20-year old stand of intermediate wheatgrass, May 10.

The Sweep Net
July 2011

The three CRP sites seeded last fall with 16 species of native forbs using no-till drills had fair to excellent establishment this spring. Data was collected from these sites on June 30.

Site 1 had a three-year old stand of native bunch grasses with a level aspect. This site was the first to be seeded, and the drills may have gone too deep. This factor, combined with the level aspect which resulted in cold, wet soils, caused the site to have latest and poorest emergence of all sites. This site was also heavily infested with ventenata. Drills were raised slightly for Sites 2 and 3.

Site 2 had a 20-year old stand of intermediate wheatgrass and an east facing aspect. This site had the best emergence and least amount of weeds of all sites. Forb counts averaged 10 plants per linear foot and included: western yarrow, grand collomia (an annual), Wyeth's buckwheat, Oregon sunshine, blanket flower, sticky purple geranium, little sunflower, nine-leaf lomatium, lupine species, taper-leaf penstemon, tall/slender cinquefoil, and western mountain aster. Forbs blooming in June were grand collomia and Oregon sunshine. Only a few weeds were present: fiddleneck, bedstraw and pennycress.

Site 3 had a four-year old stand of native bunch grasses and a south-facing aspect. This site had better emergence than Site 1, but not as good as Site 2. This site is dominated by prickly lettuce, which will be mowed during the growing season.

All sites have been sprayed with 12 oz/ac Select herbicide to control the annual and perennial grass growth. Forb counts will be made again next June to track the changes in species composition.

Thus far, it appears seeding forbs with no-till techniques is a successful strategy. The strategy results in minimal disturbance to the weed seed bank, reduces opportunities for new weed seed to establish, and does not significantly alter the soil carbon:nitrogen balance. We will soon develop plans to replicate this study at other locations.



First-year growth of native forbs established with no-till drills in 20-year old stand of intermediate wheatgrass, June 30.

Featured Pollinator Plant

Penstemons (*Penstemon spp*) comprise the largest genus of plants endemic to North America, with approximately 250 species. Almost all species are desirable to pollinators. Plants can be found inhabiting a variety of sites, including sandy or gravelly soil and rocky cliff sides. Flowers range in color from white and yellow to pink, purple, blue and red. The flowers have special features to attract bees (bumble bees in particular) and other pollinators such as hummingbirds and moths. The flower's 5 petals are fused to form a tube, and the bottom 3 petals serve as a bee "landing pad". Some flowers have bright colored lines or hairs which guide the bee to the nectar deep inside the tube. While approaching the nectar, bees brush against the overhanging stigma, where pollen from other flowers is deposited, and against the anthers, where more pollen is obtained. Recent genetic research has caused the penstemon genus to be moved from the Scrophulariaceae (Figwort) family to the Plantaginaceae (Plantain) family!

(Sources: Trees, Shrubs and Flowers to Know in Washington and British Columbia; Attracting Native Pollinators; University of Idaho Stillinger Herbarium)



Bumble bee visiting a Chelan penstemon flower (*Penstemon pruinosus*). Pamela Pavek

Featured Pollinator



Digger bee. Diane Wilson

Digger bees (*Anthophora spp*) prefer to nest in loam or sandy loam soils in the form of flat ground or vertical banks. They forage pollen and nectar from a variety of plants, and are able to obtain nectar from deep flowers such as penstemons due to their long tongues. Out of 400 species worldwide, 70 species occur in the U.S., with the most abundance and diversity occurring in the western states. These bees are fast flying, robust, hairy, and vary in size and color. Many have bands of pale hair on the abdomen, and females have prominent rigid hairs (scopae) on their hind legs for transporting pollen. (Sources: Attracting Native Pollinators; www.bugguide.net)

Did you know...

male honey bees, called drones, do not have a stinger and can be held and petted without risk of being stung? A stinger is a modified ovipositor, which is found only on females. Male bees develop from eggs that have not been fertilized and therefore are haploid, having only one set of chromosomes. Males are larger than female worker bees but smaller than the queen. They have larger eyes, longer antennae and abdomens more round than female bees. Once you become comfortable identifying male bees, you'll be able to impress your friends by picking them up and handling them!



Who We Are

For more information, please visit our [website](http://plant-materials.nrcs.usda.gov/wapmc/index.html):

<http://plant-materials.nrcs.usda.gov/wapmc/index.html>

Or email or call one of our staff:

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