**Pollinator Conservation Symposium**

**Location:** Salish Kootenai College

**Date:** March 18–19, 2025

**Day 1: March 18 – Community Engagement and Education**

**8:30 AM - 9:15 AM: Registration & Breakfast (Theater)**

**Welcome packets**, name tags, and workshop materials distribution.

**Menu:**

* Fresh fruit salad
* Yogurt, muffins/pastries
* Coffee, tea & juices

**9:15 AM - 9:50 AM: Welcome and Opening Remarks (Theater)**

* Prayer and welcome blessing Naomie Billedeaux
* Introductions by **Salish Kootenai College representatives**
* **Keynote Address:** Stephanie Gillin*, Confederated Salish Kootenai Tribes*

**10:00 AM - 10:45 AM: Session 1 – *The Role of Invasive vs. Other Flowers for Bumble Bees in Montana, North Dakota, and South Dakota (Virtual in the Theater)***

**Authors: Tabitha A. Graves (1), Erica Gustilo (1), Wendy Velman(2), Rebecca E Newton(2), Christopher Boone(2), Richard G Hatfield** (3) (1) U.S. Geological Survey, Northern Rocky Mountain Science Center, West Glacier, MT (2) Bureau of Land Management, Montana/Dakotas State Office (3) Xerces Society for Invertebrate Conservation

Presented Virtually by: Tabitha Graves

Understanding the relative value of native and invasive species objectively can help identify regionally appropriate plans to support imperiled pollinators. Traditional pollinator visitation methods do not consider selection or other values. We implement an objective, repeatable, and flexible approach to quantify the relative value of floral resources to bumble bees, which we call flower value scores. Flower value scores reflect a flower’s relative contribution to bee nutrition by integrating bumble bee use, selection, richness, and bloom duration. We evaluated overall selection and selection across 4 ecoregions, sex, and season using 688 bumble bee and flowering plant surveys.

Overall bumble bees consistently selected floral species among data subsets and across ecoregions, but selection did not correlate with traditional visitation counts. Floral use varied by bumble bee species, implying that diverse pollinator communities need diverse plantings. Important species for bumble bees included *Chamerion angustifolium, Geranium viscosissimum, and Penstemon confertus* in early- and mid-season, *Monarda fistulosa* in mid-season,and *Lupinus* sp*.* and *Campanula rotundifolia* in early-, mid-, and late-season. Nonnative *Centaurea stoebe* (knapweed) and *Melilotus officinalis* (yellow sweet clover)also had high flower value scores, though bees selected only forknapweed, suggesting pollinator support requires pairing nonnative plant removal with native plant revegetation.

**10:45 AM - 11:00 AM: Break**

**Refreshments:**

* Fresh whole fruit
* Trail mix
* Pastries
* Coffee, tea & cold beverages

**11:00 AM - 11:45 AM: Session 2 – *Western Bumble Bee as a Case Study for Understanding Broader Threats to Pollinators (Virtual in the Theater)***

**Authors: William M. Janousek, Tabitha A. Graves;** *U.S. Geological Survey, Northern Rocky Mountain Science Center, West Glacier, MT, USA*

Presented Virtually by: William M. Janousek

The Western bumble bee (*Bombus occidentalis*), once common throughout Western North America is under consideration for listing by the U.S. Fish and Wildlife Service (USFWS). To support the USFWS Species Status Assessment of the Western bumble bee we assessed the relative influence of climate, land cover, and pesticides on the occurrence of Western bumble bee across its range in the United States. We used presence-absence data from 14,457 surveys conducted over 23 years (1998-2020). We found strong support for a negative relationship between occurrence and two climate components: temperature during the warmest quarter and cumulative years of drought. Lower occurrence rates were also associated to areas with higher pesticide usage, particularly neonicotinoids. We found an average decline of 57% across the 23 years of the study with some areas experiencing> 80% decline. The rapid loss of a once-common pollinator like the Western bumble bee may serve as a bellwether for many other pollinators that could be similarly impacted by projected changes of temperature and precipitation in the future.

**11:45 AM - 12:45 PM: Lunch Break (Sherri McDonald)**

**Networking Opportunity**

**Menu:**

* Build-your-own **Red Lake Nation Wild Rice Bowl**
* Ground beef
* Leaf greens
* Sautéed mushrooms
* Roasted squash & vegetables
* Cranberries
* Huckleberry or chokecherry sauce
* **Gluten-free & vegetarian options available**

**12:45 PM - 1:30 PM: Session 3 –*Creating a Pollinator-Friendly Plot Using Native Plants***

Presented by: Caroline McDonald and Ashley Stivers Lake County Conservation District Ronan, Montana

Creating a pollinator-friendly garden using native plants is an accessible and impactful way to support your local ecosystem. We will explore how anyone, whether in rural or urban settings, can make a difference in improving pollinator habitat. This session will include a step-by-step guide to creating a pollinator plot including: site prep, plant selection and benefits, and site maintenance. We will highlight the native plants in Lake County's Western MT Wildflower Mix and how they benefit the landscape and their pollinators. We will also discuss how to integrate native plants into your existing landscape to enhance pollinator habitat.

**1:30 PM - 1:45 PM: Break**

**Refreshments:**

* Vegetable tray with dressing
* Beef sticks
* Coffee, tea & cold beverages

**1:45 PM - 2:30 PM: Session 4 – *Montana Bumble Bee Atlas: A Collaborative Effort to Conserve Bumble Bees through Community Science***

Authors: Michelle Toshack and Rich Hatfield

Presented by: Michelle Toshack

The Montana Bumble Bee Atlas mobilizes hundreds of community scientists to help track and conserve the state’s bumble bees. In its inaugural field season in 2024, participants submitted 2,412 observations, documenting 21 species across diverse landscapes. This effort is part of a broader initiative, with Bumble Bee Atlases currently active in 20 states. Each regional or statewide Atlas generates data on bumble bee distribution, phenology, and habitat associations. Participants are trained through workshops that provide foundational knowledge on bumble bee ecology, conservation strategies, and standardized sampling protocols.

By engaging volunteers and addressing data gaps, the Atlas can supplement data in areas where recent survey effort is lacking. The standardized methodology ensures consistent data collection on habitat characteristics, land management, and non-detection, providing information for status assessments and conservation decision-making. The data can also inform best management practices, guide conservation practitioners and policymakers, and foster public awareness of pollinator conservation. This presentation will highlight the project’s inception, design, and outcomes to date, while providing information on the upcoming field season.

**2:30 PM - 5:00 PM: Poster Session (RD3)**

Menu

* Charcuterie board
* Bison chili & vegetarian chili
* Salad bar and dressings

**5:15 PM - 6:30 PM: Session 6 – *Clay Bolt: Macrophotography & Conservation***

**Presentation on Macro Photography and Conservation:** In the theater, a 60 minute photograph series open to all communities and anyone interested. Must attend to sign up for the following day's extended workshop limited number of participants will be able to attend day 2.

**Day 2: March 19 Professional Development**

**& Advanced Practices**

**8:30 AM - 9:00 AM: Breakfast & Networking (RD3)**

**Menu:**

* Fresh fruit salad
* Yogurt, muffins/pastries
* Coffee, tea & juices

**9:00 AM - 9:45 AM: Session 7 – *Bee The Change: Growing Habitat, One Backyard at a Time***

**Presented by:** Marirose Kuhlman, Habitat Coordinator, Missoula County Ecology & Extension

Bee The Change: Growing Habitat, One Backyard at a Time" and I will present about our department's efforts to create accessible, community-driven pollinator conservation programs in the Missoula area and why it's important

**9:45 AM - 10:30 AM: Session 8 – *Why Bee Diversity Matters and How to Measure It.***

**Presented by: Dr. Skyler Burrows,** Curator U.S. National Pollinating Insects Collection/Utah State University

There are over 20,000 species of bees worldwide and they are a significant contributor to the

health of many ecosystems. A number of bee species have shown signs of decline worldwide,

which could have far-reaching consequences, from food security to pollination services, and

overall ecosystem stability. To better understand and mitigate these declines, it’s essential to

effectively monitor bee communities and consider them an important part of habitat

management and planning. This session explores why diverse bee communities are critical to

proper ecosystem function. We also examine what factors are likely involved in the observed

declines. Then we will provide an overview of commonly used for assessing bee communities,

including the strengths and limitations of each technique.

**10:30 AM - 10:45 AM: Break**

**Refreshments:**

* Fresh whole fruit
* Trail mix
* Pastries
* Coffee, tea & cold beverages

**10:45 AM - 12:00 PM: Session 9 –*Protect, Preserve, Perpetuate and Pollinate! Cultural Preservation depends on pollinators. No Plants, no Animals, no People.* (Location: Late Louie Caye Building)**

**Presented by:** Tim Ryan will also conduct a cordage making lesson with the Dogbane plant. Limit to 20 people.

The revitalization of traditional ways of being for the Salish, Qlispe and Ksanka people are at risk from declining pollinators. The plants and animals that produce the traditional foods, medicines, teas, construction materials along with spiritual plants and animals are all at risk. Something that our ancestors did not think was possible. Diverse, healthy, and properly functioning ecosystems support pollinators and are essential for cultural revitalization and perpetuation.

**12:00 PM - 1:00 PM: Lunch Break**

**Menu:**

* **Bison chili OR bison stew**
* Lentil stew (*vegetarian option*)
* Gluten-free cornbread
* Frybread
* Watermelon

**1:00 PM - 2:00 PM: Session 10 – *Inspiring citizens and municipalities to support pollinator conservation: the pollinator matrix modeling tool***

**Dean Pearson1,2, Alli DePuy3, and Marirose Kuhlman4** 1Rocky Mountain Research Station, USDA Forest Service, Missoula, MT 2 Ecology and Evolution, University of Montana, Missoula, MT 3 Inspired Classroom, Missoula, MT 4 Missoula County, Department of Ecology and Extension, Missoula, MT

Anthropogenic impacts like climate change, pollution, and habitat loss present ominous environmental threats that can seem insurmountable to concerned citizens. Habitat loss and pesticides present particularly acute threats to insect pollinators that are essential to human agricultural systems and therefore to human wellbeing. Herein, we demonstrate how individuals can take actions to benefit pollinators at local scales in their own backyards and communities. We introduced a simple, online modeling tool, The Urban Pollinator Matrix, which allows local citizens and municipalities to model how backyard and community-scale actions like planting native wildflowers or reduced mowing and pesticide use can increase pollinator populations. This tool is designed to provide a template for municipalities around the globe to inspire local action and empower local citizens to address anthropogenic threats for the betterment of the planet and for their own wellbeing. Importantly, this flexible tool can be applied to a range conservation management actions for pollinators and other species in urban or natural environments.

**The Pollinator Matrix can be found at https://matrix.mpgranch.com/#/gallery**

**2:00 PM - 4:00 PM: Session 11 - Clay Bolt Macro photography**

Photography Workshop: 30-45 minute instructional presentation then 30-45 minute outdoor time to practice photographing insects. Those who want to participate should bring their own cameras. Cellphones work but a point-and-shoot or DLSR is preferred.

**2:00 PM - 4:00 PM: Session 12 – *Building Habitat for Native Backyard Bees***

Presented by: Rye Dickson

In this workshop, you will join native bee researcher, farmer and educator Rye Dickson to learn the basics of native bee nesting and how to make your yard more friendly for year-round residency. You will get crafty with a drill and learn how to make and maintain a nesting block for mason bees and leafcutter bees. You will leave with a nesting block ready to hang as well as some blueprints to build other houses and create more habitat.

**2:45 PM - 3:00 PM: Break**

**4:00 PM - 5:00 PM: Closing Remarks (Theater)**

* **Key Takeaways** from the workshop
* **Final remarks** by organizers and partners
* **Closing Keynote Address: Tim Ryan** Salish Kootenai College