



## Virginia Master Naturalist Program Project Proposal Form

*Project proposals should be completed by partner organizations or chapter members and submitted to the chapter's Board of Directors for review. Projects will be evaluated for relevance to program mission and objectives. Projects and activities implemented without approval are not considered Master Naturalist activities, do not count towards required service hours, and do not carry the liability shield.*

**Project Name** (For approval and recording purposes): Bumble Bee Watch, <https://www.bumblebeewatch.org/>

**Submitted By:** Scott Jost

**Phone or Email Contact:** 540-560-5189, [sdjost@gmail.com](mailto:sdjost@gmail.com)

**Project Purpose and Value** (How will this project contribute to natural resource management, conservation, or education?): Bumble Bee Watch is a collaborative effort to track and conserve North American bumble bees. This community science project allows participants to help researchers determine the status and conservation needs of bumble bees, help locate rare or endangered populations of bumble bees, learn about bumble bees, their ecology, and ongoing conservation efforts, and connect with other community scientists. Bumble bees are essential pollinators in agriculture, wildlands, and urban areas. Evidence shows, however, that many species are suffering serious population declines. To support conservation efforts, more information is needed about the distribution and trends of bumble bee populations.

The Xerces Society for Invertebrate Conservation, a primary Bumble Bee Watch partner, “is a science-based conservation organization, working with diverse partners that include scientists, land managers, educators, policymakers, farmers, and communities. By utilizing applied research, engaging in advocacy, providing educational resources, addressing policy implications, and building community, we endeavor to make meaningful long-term conservation a reality.” (<https://xerces.org/about-xerces>)

Bumble Bee Watch is a Virginia Master Naturalist state-endorsed project (see <http://www.virginiamasternaturalist.org/at-home-projects.html> under the Citizen Science subheading), though it has not yet been approved by the Headwaters Master Naturalist chapter.

**Project type** (Is this project education/outreach, citizen science/monitoring, stewardship, or administrative?): This is a citizen science/monitoring project. I am proposing it as an individual project, though I hope that other Headwaters Virginia Master Naturalist program members might also become interested in participating.

**Project Description** (Describe what the project involves. What will participants actually do?): Bumble Bee Watch observers make photographs of bumble bees and then upload them, along with contextual data, through the Bumble Bee Watch website or mobile app. Observers identify the bumble bees in the photographs, which are then verified by bumble bee experts. The identifications contributed by citizen scientist volunteers help researchers determine the status and conservation needs of bumble bees, and in some cases, help locate rare or endangered populations of bumble bees. Through their participation, citizen scientist volunteers learn about bumble bees, their ecology, and ongoing conservation efforts.

**Project Location** (*Where will this project take place?*): Bumble Bee observations can be made anywhere, and Bumble Bee Watch places no parameters on where observations can be made. As a Virginia Master Naturalist, I will create my observations for this project on public land including pollinator habitats created on city property and maintained by the City of Harrisonburg, where I live. I will make observations in Big Meadows in Shenandoah National Park which has an abundance of bumble bees, and on other public lands within the Headwater Master Naturalist service area.

**Time Frame** (*What, if any, is the time frame for this project? Be as specific as possible –What time does the volunteer need to be there and how late are they expected to stay? If it is seasonal, what are the approximate dates or appropriate weather conditions? Is this an on-going project or does it have a fixed end date? About how many hours can a volunteer expect to put into this project?*): This project is ongoing, though my involvement in it will be seasonal. Bumble bees are active in our area from spring (I saw my first queen of this season in early March) into late fall. I will also have the most time to work on this project from May to August when I am on summer break from college teaching.

**Partner Contact** (*If a partner is involved, who at that organization is the contact for this project?*):

**Name:** An Individual contact is not provided. **Organization:** The Xerces Society for Invertebrate Conservation

**Phone number:** (855) 232-6639 (The Xerces Society main)

**Email:** [bumblebeewatch@xerces.org](mailto:bumblebeewatch@xerces.org)

**Project Chair** (*Who from the chapter is the contact person and organizer for this project?*): Scott Jost. This is an individual project for now. I hope that others in our chapter might become interested and join me.

**What, if any, prior experience or expertise is required or preferred?**

None.

**What training will be provided and by whom?**

Bumblebee Watch does not provide training. However, the organization's website provides useful resources including an FAQ, tips for photographing bees, bumblebee anatomy guide, and an additional resources page.

**Resources provided** (*What equipment or other resources will be provided for the volunteer(s)?*):

The Bumble Bee Watch website provides a tool for uploading photographs, identifying the bees, and entering other required contextual data for submission. A training video demonstrates the process in detail. In addition to the online data submission tools and the resources listed above, Bumblebee Watch provides a free app allowing contributors to photograph, upload, identify, and enter contextual data from a smartphone.

**Resources needed** (*What will the volunteer(s) or chapter need to provide and how will these resources be acquired?*): I have a smartphone to photograph and upload through the app. I also have professional-quality cameras, lenses, and lighting equipment for making high quality macro photographs of bees. I will provide my own transportation to sites where I monitor bumble bees.

**Safety hazards and protocols** (*What hazards might the volunteers encounter and what safety protocols should be followed?*): Bumble bees are docile if they are not cornered and do not perceive a nest to be threatened. Still, there is the potential for stings (I was stung last summer when on the ground photographing sleeping bumble bees for a personal project and a couple of them crawled from the grass into my clothing.) Understanding bee behavior and common sense probably comprise adequate safety protocols when photographing bees and traveling to location.

**Are minors involved?** (*If yes, then all volunteers must be trained in working with youth and the Above Suspicion policy.*) No.

**How will the project be evaluated during implementation and after completion?**

There is no evaluation process for citizen scientist contributions to Bumble Bee Watch. I can evaluate my own contributions by comparing my bee identifications against the those made by bee the experts who verify identifications for all uploaded bumble bee observations. Should my involvement Bumble Bee Watch end, or Bumble Bee Watch itself is discontinued, I would be happy to provide any form of evaluation requested by our chapter.

**How will the Virginia Master Naturalist program be recognized?**

I don't believe that volunteer contributors to Bumble Bee Watch, or organizations they are affiliated with, are specifically recognized. The only exception is a list of top contributing individuals by state on the website home page. I can certainly write about the project for the VMN newsletter and create press releases for local media outlets about the work I am doing (and other VMN folks who might join me in the future). I can also potentially give public presentations, create social media posts, and blog about working as a VMN volunteer with Bumble Bee Watch, citizen science, and bee conservation.

**How will volunteers benefit from participation in the project?**

As a volunteer, I will gain experience observing and identifying bumble bees and learning their habits and habitats. Though I have not yet collected data for Bumble Bee Watch, I am beginning my second season of photographing and videorecording bees as a personal project that is also part of my creative scholarship as a faculty member at Bridgewater College. This personal/professional exploration of bees has inspired me to begin educating myself about native bees and to want to actively work to protect bees and bee habitat. For example, last summer I participated in a survey project, "Ask a Bumble Bee! A Community Science Project for Bumble Bee and Carpenter Bee Floral Preferences" created and managed by Jenan El-Hifnawi and Sam Droege of the USGS Bee Inventory and Monitoring Lab. At home, we are replacing non-native landscaping in our yard with native plants and with a special emphasis on creating a pollinator-friendly environment. I expect that these types of interrelated activities and interests will continue to grow and develop through my participation in Bumble Bee Watch.

*For Chapter Board of Directors Only: Project approved? YES NO Date of approval:*