# USACE Natural Resource Management

# Insects

## Rusty-patched Bumble Bee

**Rusty-patched Bumble Bee *(Bombus affinis)*:** Rusty-patched bumble bees all have heads which are entirely black and predominantly yellow bodies. Workers and male bees have a rusty, reddish path centrally located on the back. This species lives in colonies which includes a single queen and female workers. In the late summer, new queens and males are produced. Queens are the largest bees in the colony. (USFWS)

**Status:** *Endangered, listed 2017*

**NatureServe:** *Imperiled*

G2
Imperiled

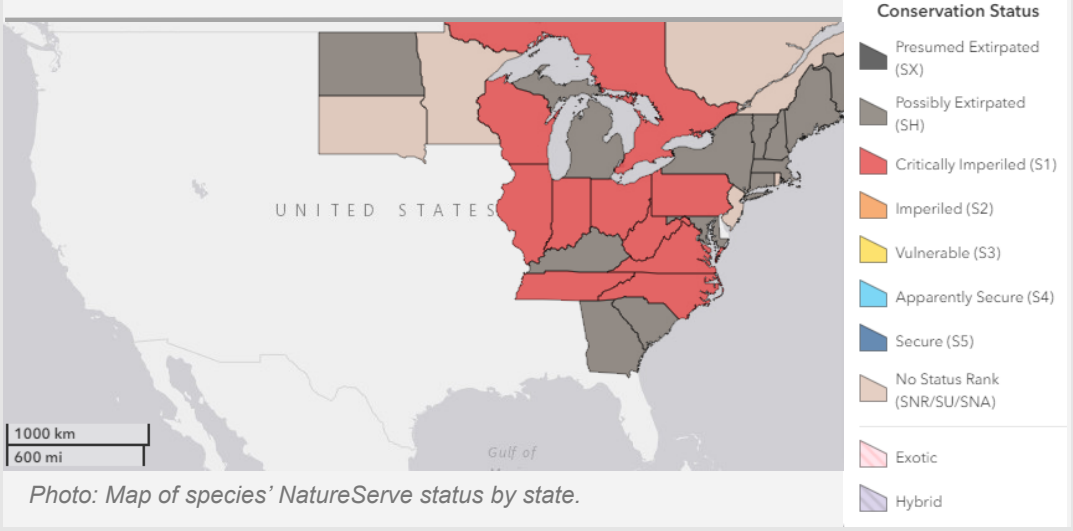


*Photo: Map of species' NatureServe status by state.*

**Genus:** All bumble bees, including the rusty-patched bumble bee, belong to the genus *Bombus*. This genus includes approximately 250 species found in temperate regions of North America, Central America, South America, Europe, and Asia. 23 of these species can be found in the Eastern U.S. alone. (USFWS)

*Photos Left to Right*: Tamara Smith (USFWS), Dan Mullen (USFWS), & USFWS Media Library

**Management and Protection**:

- Historically, the rusty-patched bumble bee had an expansive range across the Upper Midwest and eastern United States. However, since 2000 this species presence has only been reported from 13 states. The reasons for this species' decline are not fully understood, however it is thought to be the result of a synergistic interaction between an introduced pathogen and pesticides. (USFWS)
- The health and long-term productivity of populations is impacted by the quantity and quality of nectar and pollen available as well as the proximity of these resources to nesting habitat. (USFWS)
- Minimizing the potential for exposure to harmful pesticides is critical to the recovery of the rusty-patched bumble bee. The U.S Fish and Wildlife Service's recovery plan for this bumble bee notes that pesticide exposure can be minimized by creating pesticide registry programs, utilizing pollinator-safe labeling on nursery plants, establishing buffers around known populations and implementing integrated pest management.
- Providing a diverse array of healthy floral resources with staggered blooming periods benefits the rusty-patched bumble bee by providing plentiful nectar and pollen throughout the entire year. (USFWS)

**USACE ROLE:** On June 20, 2014, a Presidential Memorandum titled, “Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators” directed agencies to develop plans to enhance pollinator habitat. Under section 3, subsection K of the Memorandum, “The Army Corps of Engineers shall incorporate conservation practices for pollinator habitat improvement on the 12 million acres of lands and waters at resource development projects across the country, as appropriate.” In response to the Memorandum, the USACE set out to work with others to promote education, awareness, and management practices that provide for improved bee and pollinator populations and habitat. Efforts were made to identify existing policy and/or guidance and modify it for pollinator health. Additionally, USACE strived to implement conservation and best management practices for pollinator health.

**What is USACE NRM Doing:** Within the 13 states that still have reported occurrences of the rusty-patched bumblebee, there are more than 130 USACE projects. In the FY20 NRM Assessment, these projects reported that over 5,500 acres were being managed or maintained as pollinator specific habitat. Additionally, these projects reported that 2,125 acres had been improved, restored, or enhanced for pollinators during the 2020 Fiscal Year.

One project managing for pollinators is Cheatham Lake. In October of 2016, the project held a National Public Lands Day (NPLD) event during which local master gardeners lead volunteers in cleaning out two garden beds directly in front of the Cheatham Lake Resource Manager’s Office. A presentation was given on the importance of pollinator gardens, why particular plants are used, and how to properly garden just before volunteers planted bee and butterfly friendly vegetation in the gardens. Subsequent NPLD events have focused on maintenance and further improvement of the gardens. These gardens benefit the rusty-patched bumble bee in addition to other pollinator species.


*Photo: Cub Scouts from Pack 503 installed a new pollinator habitat sign at Cheatham Lake in Ashland City, Tennessee, on Sept. 19, 2020 in support of National Public Lands Day.*