Conservation status of bumble bees of Loveland, Ohio

Name		Conservation Status								
Scientific	Common	IUCN[1]	FWS	Ohio	Loveland[2,3]	Current range relative to historic[1]	Persistence in range relative to historic[1]	Current relative abundance relative to historic[1]	Average decline[1]	Comments
						(%)				
Bombus affinis	rusty patched bumble bee	Critically Endangered	Endangered	Endangered	Extirpated	54.7	29.8	7.5	69.4	Recent analyses suggest current range is less than 10% of historic range. Believed to be extirpated from Ohio. Nearest known populations occur in high elevation regions of Appalachian Mountains and northwest Illinois.
Bombus auricomus	black-and-gold bumble bee	Least Concern	None	None	Rare	88.6	89.0	50.1	24.1	While this species appears secure, no records exist within the greater Loveland region suggesting a lack of ecological prerequisites necessary to support this species of open habitats.
Bombus bimaculatus	two-spotted bumble bee	Least Concern	None	None	Common	96.6	204.8	188.2	0.0	Very common species found throughout greater Loveland region. One of top three most abundant bumble bee species in greater Loveland region and Ohio.
Bombus bohemicus	gypsy cuckoo bumble bee	Critically Endangered	None	None	Extirpated	3.7	9.2	2.8	94.8	Cleptoparasitic of both *B. terricola* and *B. affinis,* both of which are extirpated from greater Loveland region and most of Ohio. Cleptoparasitic bees usurp queens of host species and make host's workers forage for their brood.
Bombus citrinus	lemon cuckoo bumble bee	Least Concern	None	None	Uncommon	98.5	124.2	130.1	0.0	While this species appears secure, very few have been documented in the greater Loveland region. Enhancement of habitat should lead to increased abundance.
Bombus fervidus	golden northern bumble bee	Vulnerable	None	None	Rare	87.0	85.8	38.0	29.7	This species has only been documented once in the greater Loveland area in recent years. Enhancement of habitat may increase and improve opportunities for this species to reestablish populations here.
Bombus fraternus	southern plains bumble bee	Endangered	None	None	Extirpated	71.4	43.3	14.4	57.0	This species may never have been super abundant in the greater Loveland region due to the species favoring open landscapes. However, records in southern Ohio indicate past presence. Enhancing large spaces of grassland and prairie habitats may improve the species' chances of reestablishing itself in greater Loveland region.
Bombus griseocollis	brown-belted bumble bee	Least Concern	None	None	Common	90.2	166.9	215.3	0.0	Very common species found throughout greater Loveland region. One of top three most abundant bumble bee species in greater Loveland region and Ohio.
Bombus impatiens	common eastern bumble bee	Least Concern	None	None	Common	97.5	158.6	294.2	0.0	Very common species found throughout greater Loveland region. One of top three most abundant bumble bee species in greater Loveland region and Ohio.
Bombus pensylvanicus	American bumble bee	Vulnerable	Under Review	None	Rare	81.2	53.2	11.4	51.4	Very few records in greater Loveland region. However, a robust enough population exists that if conservation actions are taken to enhance and increase habitat, eliminate problematic pesticides, and protect nesting and overwintering areas, then the species can rebound.
Bombus perplexus	perplexing bumble bee	Least Concern	None	None	Extirpated	94.0	166.3	92.2	0.0	While this species is faring well in large portions of its range, local extirpations have occurred, including, it appears, in the greater Loveland region and surrounding areas. There is a possibility the species is present, but intensive surveys in Loveland have yielded no records. Regional conservation actions are likely needed to bring the species and other bumble bees back to the greater Loveland region.
Bombus sandersoni	Sanderson's bumble bee	Least Concern	None	None	Extirpated	98.8	142.7	87.4	0.0	This species appears secure throughout its range. Whether this species was historically present in the greater Loveland region is not known given its similarities to *B. vagans* and limited sampling. However, the species was documented in the unglaciated portion of Ohio. Given the historical landscape of southwest Ohio there is a good possibility the species was present here at the periphery of its range. Landscape changes and loss of habitat have likely contributed to the species extirpation from the greater Loveland region and surrounding areas.
Bombus terricola	yellow-banded bumble bee	Vulnerable	None	None	Extirpated	63.7	67.3	19.2	49.9	In the eastern U.S., this species is more at home in cooler climates in the northern U.S., Appalachia, and Canada and would likely be at the southern edge of its range in the greater Loveland region. Habitat loss and to a lesser extent climate change, has contributed to its extirpation in most of Ohio, including the greater Loveland region.
Bombus vagans	half-black bumble bee	Least Concern	None	None	Extirpated	106.7	103.7	109.0	0.0	No records of this species in greater Loveland region. Few records exist to the north and east. It is possible that efforts to increase and improve habitat may assist in the reestablishment of this species in the greater Loveland region.
Bombus variabilis	variable cuckoo bumble bee	Critically Endangered	Under Review	None	Extirpated	56.8	0.0	0.0	81.1	Cleptoparasitic of *B. pensylvanicus*. Due to its host's precipitous population decline, this species has suffered greatly. This is considered one of North America's rarest bumble bees, only being documented a few times across its historic range in the past few decades. Improving populations of *B. pensylvanicus* is a major prerequisite for helping this imperiled species recover.

[1] Source: 2015. Hatfield, R., S. Colla, S. Jepsen, L. Richardson, R. Thorp, and S. Jordan. IUCN Assessments for North American *Bombus* spp.

[2] Loveland Conservation Status ranks: **Common** – Abundant, population is secure in greater Loveland region; **Uncommon** – Few individuals (<10) observed in greater Loveland region and likely to become *Rare* without conservation actions; **Rare** – Very few individuals (<5) observed in greater Loveland region, and likely to become *Extirpated* without conservation actions; and **Extirpated** – Species historically present in greater Loveland region but no longer occur here due to a variety of anthropogenic stressors (e.g., habitat loss and degradation; nonnative pathogens; insecticide-use; climate change).

[3] Evaluation completed by Love Our Land's ecologist, Doug Gilbert. Doug is federally permitted to survey rusty patched bumble bee (RPBB) and has netted and identified thousands of bumble bees throughout the eastern and midwestern United States. Additionally, Doug has collaborated on several conservation documents associated with RPBB, other bumble bees, and other pollinators.

Summary

Loveland Conservation status rank breakdown: **Common** = 3 species; **Uncommon** = 1 species; **Rare** = 3 species; and **Extirpated** = 8 species.

Less than 50 percent of historically present bumble bee species are present today in the greater Loveland region. Of these, only 20 percent are considered 'secure' without aid of conservation actions. Important conservation actions you can support and adopt include 1) habitat protection and restoration, 2) replacing nonnative landscaping vegetation and lawns with diverse assemblage of native vegetation that provide blooms from spring to fall, 3) ceasing use of systemic insecticides (e.g., neonicotinoids), including those that are used on plants sold at certain nurseries and other retailers, 4) educate yourself on pollinator conservation to become a pollinator steward, and 5) support policies at the local, state, and federal levels that promote conservation of bumble bees and other pollinators.