DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service


Endangered and Threatened Wildlife and Plants; Draft Recovery Plan for the Rusty Patched Bumble Bee

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of availability and request for public comment.

SUMMARY: We, the U.S. Fish and Wildlife Service, announce the availability of the draft recovery plan for rusty patched bumble bee for public review and comment. We request review and comment on this draft recovery plan from local, State, and Federal agencies, and the public.

DATES: We must receive comments by [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].


Submitting Comments: You may submit comments by one of the following methods:

SUPPLEMENTARY INFORMATION.

FOR FURTHER INFORMATION CONTACT: Tamara Smith, by phone at 952–252–0092, via email at tamara_smith@fws.gov, or via the Federal Relay Service at 800–877–8339.

SUPPLEMENTARY INFORMATION: We, the U.S. Fish and Wildlife Service (Service), announce the availability of the draft recovery plan for the endangered rusty patched bumble bee (Bombus affinis) for public review and comment. The draft recovery plan includes objective, measurable criteria and management actions as may be necessary for removal of the species from the Federal List of Endangered and Threatened Wildlife. We request review and comment on this draft recovery plan from local, State, and Federal agencies, and the public.

Recovery Planning

Section 4(f) of the Endangered Species Act of 1973, as amended (Act; 16 U.S.C. 1531 et seq.), requires the development of recovery plans for listed species, unless such a plan would not promote the conservation of a particular species. Also pursuant to section 4(f) of the Act, a recovery plan must, to the maximum extent practicable, include (1) a description of site-specific management actions as may be necessary to achieve the plan’s goals for the conservation and survival of the species; (2) objective, measurable criteria that, when met, would support a determination under section 4(a)(1) that the species should be removed from the List of Endangered and Threatened Species; and (3) estimates of the time and costs required to carry out those measures needed to achieve the plan’s goal and to achieve intermediate steps toward that goal.
Species Background

Historically, the rusty patched bumble bee was broadly distributed across the eastern United States and Upper Midwest, from Maine in the United States and southern Quebec and Ontario in Canada, south to the northeast corner of Georgia, reaching west to the eastern edges of North and South Dakota (Figure 1; USFWS 2016, p. 49). Survival and successful recruitment require floral resources (for food) from early spring through fall, undisturbed nest sites in proximity to foraging resources, and overwintering sites for the next year’s queens. Prior to listing (in 2017), the species experienced a widespread and precipitous decline. The cause of the decline is unknown, but evidence suggests a synergistic interaction between an introduced pathogen and exposure to pesticides (specifically, insecticides and fungicides; USFWS 2016, p. 53). The remaining populations of rusty patched bumble bee are exposed to a number of interacting stressors, including pathogens, pesticides, habitat loss and degradation, managed bees, the effects of climate change, and small population biology (USFWS 2016, p. 40). These stressors likely operate independently and in combination, causing synergistic effects. Refer to the Species Status Assessment Report (USFWS 2016) for a full discussion of the species’ biology and threats. Under the Act, the Service published a final rule to add the rusty patched bumble bee to the Federal List of Endangered and Threatened Wildlife as an endangered species on January 11, 2017 (82 FR 3186). The final rule took effect on February 10, 2017.

Recovery Criteria

The draft recovery criteria are summarized below. For a complete description of the rationale behind the criteria, the recovery strategy, management actions, and
estimated time and costs associated with recovery, refer to the Draft Recovery Plan for Rusty Patched Bumble Bee (see ADDRESSES for document availability).

The ultimate recovery goal is to remove the rusty patched bumble bee from the Federal List of Endangered and Threatened Wildlife (“delist”) by ensuring the long-term viability of the species in the wild. In the recovery plan, we define the following criteria for reclassification (“downlisting” from endangered to threatened) and delisting based on the best available information on the species.

**Downlisting Criteria**

*Criterion 1:* A minimum of 159 populations distributed across 5 Conservation Units, as specified in the table below.

*Criterion 2:* A minimum number of healthy populations within each Conservation Unit, as specified in the table below.

For recovery purposes, a healthy population will be demonstrated by:

2.1 Consistent detection of at least 5 distinct colonies over the most recent 10 years. Individual colonies may be identified through genetic analyses or by using the number of individuals detected (if proven, through research, to be a reliable method). All 5 colonies do not need to be detected in each of the 10 years but must be detected in multiple years.

2.2 Evidence of genetic health over the most recent 10 years. Genetic health must be demonstrated by at least two genetic metrics (e.g., effective population size, heterozygosity, and allelic richness).

2.3 Pathogen and pesticide loads are below levels that could cause meaningful
loss of reproductive capacity of the population.

2.4 A high level of certainty—demonstrated via a rigorous analysis—that the population will persist given stressors and environmental variation.

**Criterion 3:** Population clusters are distributed across a diversity of habitat types, aspects, slopes, elevations, and latitudes within each Conservation Unit. A population cluster is two or more healthy populations that are adjacent to each other.

**Rusty patched bumble bee Conservation Units (CU), total number of historically occupied populations per Conservation Unit, minimum number of populations per Conservation Unit (Downlisting Criterion 1), and the minimum number of healthy populations per Conservation Unit (Downlisting Criterion 2).**

<table>
<thead>
<tr>
<th>Conservation Unit</th>
<th>Number of historically occupied populations per CU</th>
<th>Minimum number of populations per CU (Criterion 1)</th>
<th>Minimum number of healthy populations per CU (Criterion 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CU1: Upper West</td>
<td>274</td>
<td>32</td>
<td>16</td>
</tr>
<tr>
<td>CU2: Lower West</td>
<td>125</td>
<td>14</td>
<td>7</td>
</tr>
<tr>
<td>CU3: Midwest</td>
<td>347</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>CU4: Southeast</td>
<td>250</td>
<td>29</td>
<td>14</td>
</tr>
<tr>
<td>CU5: Northeast</td>
<td>389</td>
<td>45</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>1,385</td>
<td>159</td>
<td>80</td>
</tr>
</tbody>
</table>

**Delisting Criteria**

**Criterion 1:** Downlisting criteria 1, 2, and 3 have been met.

**Criterion 2:** Mechanisms are in place that provide a high level of certainty that downlisting Criteria 1, 2, and 3 will continue to be met into the foreseeable future.

In achieving delisting Criterion 2, Conservation Unit-specific mechanisms should ensure:

2.1 Population abundance, numbers, and distribution will be maintained at the levels required to meet downlisting criteria,
2.2 Sufficient quality and quantity of suitable habitat will be maintained, and

2.3 The negative effects of the primary threats (including but not limited to pathogens, pesticides, climate change, and managed bees) will be managed.

Availability of Public Comments

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Authority

The authority for this action is section 4(f) of the Endangered Species Act, 16 U.S.C. 1533(f).

Lori Nordstrom
Assistant Regional Director
Ecological Services
Midwest Region
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