

**KENDALL COUNTY FOREST PRESERVE DISTRICT  
OPERATIONS COMMITTEE  
AGENDA**

**WEDNESDAY, FEBRUARY 5, 2020  
6:00 P.M.**

**KENDALL COUNTY BOARD ROOM**

- I. Call to Order
- II. Roll Call
- III. Approval of Agenda
- IV. Public Comments

**OLD BUSINESS**

No agenda items posted for consideration.

**NEW BUSINESS**

- V. Review of Preliminary Financial Statements through January 31, 2020
- VI. Review and Approval of Special Use Permit Requests
  - 1. KC-EMA Training - Harris Forest Preserve, 02/08/2020
  - 2. KC-EMA Training - Jay Woods Forest Preserve, 06/13/2020
  - 3. Rheta Murdaugh – “Schoop Scoot” 5K Run at Ellis House and Equestrian Center - 09/13/2020
- VII. Review of Winter 2020 Public Program Fees and Charges
- VIII. EquiLesson, Transition Updates
- IX. MUNIS Transition Updates
- X. Granicus Website Transition Updates
- XI. Fox River Bluffs Cropland Conversion Updates
- XII. 2019 Pilot Bowhunt Program Survey and 2020 Program Recommendations
- XIII. Program Updates (NB Enrollment; Summer Camps; Facility Rentals)
- XIV. February Operations Focus Report
- XV. Executive Session
- XVI. Summary of Action Items
- XVII. Public Comments
- XVIII. Other Items of Business
- XIX. Adjournment



110 W. Madison St., Yorkville, IL 60560 Ph: 630-553-4025 Fax: 630-553-4023

## Facility Rental Contract

Permit #: 20-00018  
Contract Date: 02/04/2020  
Use Type: Department Training  
Description: Shelter  
Registrar: Rebecca Antrim  
Phone: (630) 946-4381  
Email: kgotte@co.kendall.il.us

Page 1 of 1

**Customer**  
**Kendall County Emergency Manag**  
**Kimberly Gotte**  
**1102 Cornell Lane**  
**Yorkville, IL 60560**

### Rental Information

**Location:** Shelter 4 @ Harris Forest Preserve  
10460 Route 71  
Yorkville, IL 60560

**Total Hours:** 4.50

Date	Day	Time	Description	Qty	Unit	Rate	Total	Tax
2/8/2020	Sat	8:30 AM - 1:00 PM	No Charge - Shelter Flat (Head Count: 50)	1.00	Each	\$0.00	\$0.00	\$0.00

No alcohol allowed.

KC Emergency Management - Search & Rescue Training  
50 people

Total Hours	4.50
Total Fees	\$0.00
Total Sec Dep	\$0.00
Total Tax	\$0.00
Rental Total	\$0.00

### Rental Terms and Conditions

Permittee has read, signed and agrees to all enclosed documentation. The undersigned, their organization and its members (the Permittee), in consideration for the use of the above described facilities, agree to hold Owner harmless from all loss and/or damage resulting from the use of the facility. Security Deposit, where applicable, is due at time reservation is made. Full Rental Fee is due 60 calendar days prior to event date.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



110 W. Madison St., Yorkville, IL 60560 Ph: 630-553-4025 Fax: 630-553-4023

## Facility Rental Contract

Permit #: 20-00019  
Contract Date: 02/04/2020  
Use Type: Department Training  
Description: Shelter  
Registrar: Rebecca Antrim  
Phone: (630) 946-4381  
Email: kgotte@co.kendall.il.us

Page 1 of 1

**Customer**  
**Kendall County Emergency Manag**  
**Kimberly Gotte**  
**1102 Cornell Lane**  
**Yorkville, IL 60560**

### Rental Information

**Location:** Jay Woods @ Jay Woods Forest Preserve  
860 Creek Road  
Plano, IL 60545

**Total Hours:** 4.50

Date	Day	Time	Description	Qty	Unit	Rate	Total	Tax
6/13/2020	Sat	8:30 AM - 1:00 PM	No Charge - Shelter Flat (Head Count: 50)	1.00	Each	\$0.00	\$0.00	\$0.00

No alcohol allowed.

KC Emergency Management - Search & Rescue  
50 people

Total Hours	4.50
Total Fees	\$0.00
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Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Special Events Policy**  
**Kendall County Forest Preserve District**

The Kendall County Forest Preserve District will allow Special Events that it deems to be in the public interest to be held on District property. A Special Event will be defined as an event in which District property will be used in a manner that is inconsistent with normal preserve activities, such as an event that involves the sale of concessions and/or other goods and services, the use of temporary structures, or multi-day events.

These Events will not be allowed to disturb the natural resources of the District in any way, and will only be allowed on District properties where the District deems there to be adequate facilities.

- Those persons, groups, or organizations requesting to hold a Special Event on District property will have to obtain a Special Event Permit from the District.
- A two month lead time is required.
- All events are required to supply an itinerary at time of application.
- Business, churches, scouts, school groups, etc. require a Certificate of Insurance naming Kendall County Forest Preserve District as an Additional Insured.

The Special Event Permit fee is in addition to the reservation fee for the location where your event is being held. Reservations may be made up to one year in advance.

The District staff shall, with the concurrence of the Forest Preserve Committee, award the Special Event Permits.



**Special Event Permit Application  
Kendall County Forest Preserve District**

Instructions: Please sign the form and return it, along with the appropriate insurance certificate to:

Kendall County Forest Preserve District  
110 West Madison Street  
Yorkville, IL 60560

Please submit application at least two months prior to the Special Event.

**Applicant Information:**

Event Name: Shoop Scoot 5K Organization: Channahon-Minooka Running Club

Contact Person: Rheta Murdaugh

Address: 210 S. Raven Road, Shorewood, IL 60404 County: Will  
*Street* *City* *State* *Zip*

Telephone: Home: (815)744-2880 X 101 Cell: (708) 949-1650

E-mail: [murdaugh\\_r2d2@comcast.net](mailto:murdaugh_r2d2@comcast.net)

**Special Event Information:**

Name of Forest Preserve: Baker Woods – Ellis House & Equestrian Center Date(s): Sept. 13, 2020

Event: Shoop Scoot 5k – Fundraising Event for the American Heart Association

Estimated Attendance: 100+

Arrival Time (includes set-up): 7:00 am (race start at 8:30 am)

Departure Time (includes take down): 11:00 am

Will this Special Event include:

**A = \$ 50.00**

	Yes	No
1. The use of temporary structures?	<u>X</u>	___
2. Collecting/Charging an entrance or registration fee?	<u>X</u>	___

3. Selling concessions/food?          X  

**A = \$ 50.00 (continued)**

Will this Special Event include:	Yes	No
4. Selling goods and services?	<u>      </u>	<u>  X  </u>
5. Electronically amplified sound?	<u>      </u>	<u>  X  </u>

**B = \$ 150.00**

6. Business uses in Preserve?	<u>      </u>	<u>  X  </u>
7. Group larger than 250 people?	<u>      </u>	<u>  X  </u>
8. Extensive Use of grounds?	<u>  X  </u>	<u>      </u>

**C = \$ 250.00**

9. Extensive Use of staff time?	<u>  X  </u>	<u>      </u>
10. Closes and/or limits part(s) of preserve to other users?	<u>  X  </u>	<u>      </u>

► Permittee will be charged only for the highest category (A, B, or C) that is checked.

Description of the Special Event, including details of any 'Yes' answers from above:

The 5k run will include a 3.1 mile course within the Baker Woods Forest Preserve trail system.

\_\_\_\_\_  
Applicant's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Special Event Agreement  
Kendall County Forest Preserve District**

The Kendall County Forest Preserve District (District) and Rheta Murdaugh (Permittee) agrees as follows:

1. The Permittee shall meet the following insurance requirements:
  - A. Permittee shall have general liability coverage of \$1,000,000 per occurrence.
  - B. Certificates of Insurance must state the following: *The Kendall County Forest Preserve District is an additional insured on a primary and non-contributory basis.*
2. The Permittee shall pay the District \$250.00 for this approved Special Event Permit. Payment is due upon approval of permit.
3. The Permittee agrees to indemnify and hold harmless the District against any and all claims, losses, suits, and damages against the District arising, directly or indirectly out of the use of District premises or performance of this Special Event Agreement, specifically including claims resulting from any act or omission of the Permittee and the District, individually, and/or jointly and severally.
4. If concessions/food is to be sold at the Special Event, the vendors must comply with all requirements and regulations of the Illinois Department of Health and/or other governmental bodies having control over such vending operations, including the Kendall County Health and Human Services Department. The vendor shall possess all food and beverage dispensing licenses, taxes, and permits that are required by law.
5. The Permittee shall limit the Special Event activities to those described in the Special Use Permit Application.
6. The Permittee shall follow all District rules and regulations (see attached).
7. The Special Event Permit and the Permittee shall be present on-site at the Special Event.
8. The attached itinerary shall be a part of the Special Event Agreement.

Kendall County Forest Preserve District:

Signed: \_\_\_\_\_, Director / President

Permittee:

Signed: \_\_\_\_\_

Date: January 30, 2018

Re: Spring Public Program Budget: Fees and Charges  
3-Feb-20

[illegible]



# Kendall County Forest Preserve District

## Spring 2020 Children's Program Series

### **Outdoor Explorers**

Outdoor Explorers is a program geared for 6-10 year olds. Each season we will explore a different theme as we hike, create crafts, meet animals, play games, and make new friends!

**Ages:** 6-10 years old plus caregiver

**Location:** Hoover Forest Preserve  
Eagle's Nest Pavilion

**Time:** 1-3 pm

**Price:** \$5 per child

**April 13– Spring Adventures**  
**Register by April 9**

**To register and pay\* for a program:**

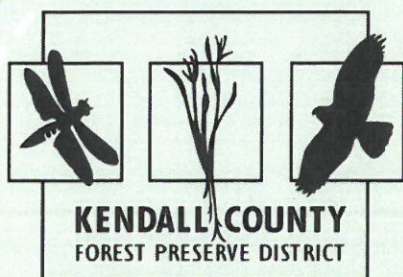
Call 630-553-2292

or email

edombrowski@co.kendall.il.us

\*If a class does not meet its minimum enrollment, it will be cancelled at least two days prior to the event.

Early registration prevents cancelled classes!



### **Toddling Naturalist**

Toddling Naturalist is a program geared for 1-3 year olds. We will explore the natural world through a variety of activities. Each monthly program includes a combination of nature hikes, stories, songs, games, or crafts.

**Ages:** 1-3 years old plus caregiver

**Location:** Hoover Forest Preserve  
Eagle's Nest Pavilion

**Time:** 10-11 am

**Price:** \$5 per child

**March 18–Marvelous Mammals**  
**Register by March 16**

**April 15–Spring Adventures**  
**Register by April 13**

**May 6– Awesome Amphibians**  
**Register by May 4**

### **Babes in the Woods**

Babes in the Woods is a hour-long program for 4-6 year olds. Children will discover the wonders of nature through stories, nature hikes, crafts, songs, or games. Every month we will explore a different theme.

**Ages:** 4-6 years old plus caregiver

**Location:** Hoover Forest Preserve  
Eagle's Nest Pavilion

**Time:** 1-2 pm

**Price:** \$5 per child

**March 13– Maple Magic**  
**Register by March 11**

**April 17– Spring Adventures**  
**Register by April 15**

**May 22– Fun in the Garden**  
**Register by May 20**



# Kendall County Forest Preserve District Spring 2020 Programs

## Family Programs

### March 21 – Making Maple Magic

Take a guided hike through the woods at Hoover Forest Preserve to learn all about the basics of making maple syrup. After the hike, enjoy a pancake breakfast with real maple syrup!

**Ages:** All Ages

**Location:** Hoover Forest Preserve  
Meadowhawk Lodge

**Time:** 9:30-11:30 am

**Price:** \$8/person

**Register by March 17**



### April 18- Earth Day Hike

What better way to celebrate Earth Day than with fresh air, comradery, and exercise in the woods at the beautiful Hoover Forest Preserve? Join us as we search for signs of spring!

**Ages:** All Ages

**Location:** Hoover Forest Preserve  
Eagle's Nest Pavilion

**Time:** 9:30-11:30 am

**Price:** \$5/person

**Register by April 15**

## Spring Break Mini-Camp

### Springing into Spring

Go outside after a long winter! Spend your spring break discovering all of the changes that happen at Hoover Forest Preserve during spring. Each day of camp includes fun crafts, games, and outdoor adventures.

**\*Additional forms are required, please visit [kendallforest.com](http://kendallforest.com) for registration forms.**

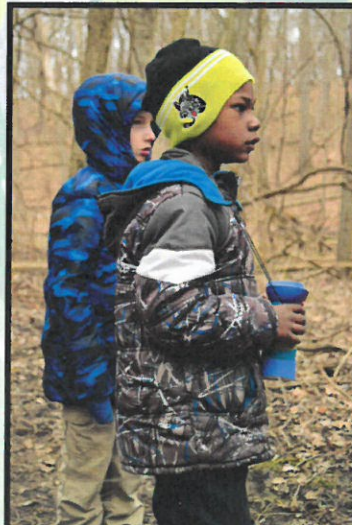
**Dates:** March 25-27

**Time:** 9-2 pm

**Ages–** Currently in Kindergarten-Grade 4

**Cost:** \$110/camper

**Location:** Hoover Forest Preserve  
Meadowhawk Lodge



To: Kendall County Forest Preserve District Operations Committee

From: David Guritz, Director

RE: Website and Software Transition Updates

Date: February 5, 2020

#### EquiLesson Transition Updates

The Ellis Equestrian Program has completed migration into the EquiLesson calendar system for tracking lessons, programs, and payments.

The District completed enrollment in the WorldPay platform in coordination with the KC Treasurer's Office to allow for online credit card payments.

The system will go live following an initial training and inter-office meeting to coordinate deposit paperwork requirements for the MUNIS system.

#### MUNIS Transition Updates

The District has transitioned to MUNIS for the submission of claims and backup information as well as deposits.

#### Granicus Website Transition

The "go-live" date for the new Granicus website is Monday, February 10. District staff are working to populate the various pages with content, downloadable documents, links, and photos. This will be a work in progress over the first month of operation, with primary concern focused on OMA calendar compliance. The color scheme is being updated as well. For the upcoming Committee of the Whole meeting, agenda will be posted Friday to both the current website and Granicus website, with future meetings posted only to Granicus after Monday.

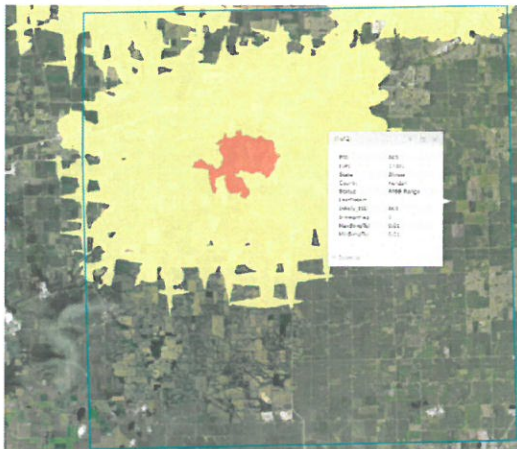


To: Kendall County Forest Preserve District Operations Committee  
From: David Guritz, Director  
RE: Fox River Cropland Conversion Updates  
Date: February 5, 2020

### Fox River Cropland Conversion Updates

Broadcast seeding of the 37-acre prairie footprint has been completed. District staff will work with Mark and Tom Mathre to broadcast and/or drill seed the cover crop for the area by mid-April.

In 2018, the IDNR documented the presence of *Bombus affinis*, the Rusty Patched Bumble Bee centered on Hoover, Fox River Bluffs and Subat Forest Preserves, and extending east into incorporated areas of Yorkville. This species is subject to the US Endangered Species Act 50 CFR – Section 7.



The documented presence of this federally-listed endangered species has far-reaching implications.

Portions of the Kendall County Highway Department's Phase II – Eldamain Road construction project is located within the identified "High Potential Zone" habitat area for the local population.

The District will need to be directly involved with the development of the mitigation, recovery, and monitoring plan for the species. Mitigation and recovery strategies will involve:

#### Mitigation Component

1. Consideration of expanding the prairie-seeded area at Fox River Bluffs to provide additional foraging habitat, and reducing the footprint for the tree mitigation area.

#### Recovery Plan Components

2. Expanded natural resource management efforts at Hoover, Fox River Bluffs and Subat Forest Preserves including:



- a. Continued invasive species removal.
- b. Continued planting and diversification of prairie and woodland areas, with focus on increasing abundance of high-forage value plant, tree and shrub species.
- c. Continued efforts to restore encroachment trails.
- d. Continued monitoring of *Bombus affinis* local population response.
- e. Public education on local pollinators including *Bombus affinis*.
- f. Implementation of best management practices for grounds maintenance and natural resource management activities at Hoover and Fox River Bluffs Forest Preserves for protection of the *Bombus affinis* local population.
  - i. Development of management plans for both preserve areas.
  - ii. Consultation with the US Fish and Wildlife Service for any future planned improvements and/or significant maintenance projects.
  - iii. Expansion of forage habitat areas.
  - iv. Increased monitoring, reporting, remediation, and enforcement of encroachment activities.

#### Monitoring Components

- 3. Habitat assessment (FQI) and natural area management recommendations for population recovery for both Hoover and Fox River Bluffs Forest Preserves.
- 4. *Bombus affinis* ongoing population monitoring.

The plans for mitigation, monitoring, species recovery, and natural areas management will be developed in consultation with the USF&WS, IDNR, IDOT, KC Highway and District to address and mitigate impacts from the Phase II Eldamain Road project, and implement the recovery and monitoring plan.

Fran Klaas is coordinating the submission of the initial application for consultation with the USF&WS.

The close proximity of the Fox River Bluffs Forest Preserve, plan for cropland conversion and tree mitigation, and opportunities to support local population recovery efforts at Hoover and Fox River Bluffs should provide significant opportunities to offset impacts from the pending Phase II Eldamain Road construction impacts.



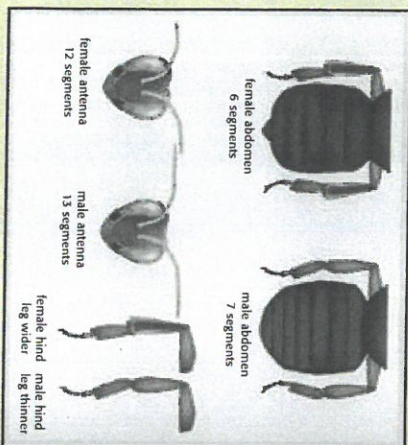


[www.xerces.org/bumblebees](http://www.xerces.org/bumblebees)  
THE XERCES SOCIETY  
FOR INVERTEBRATE CONSERVATION

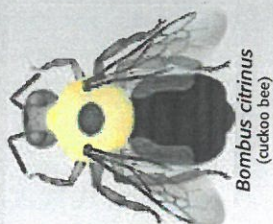
## POCKET GUIDE TO IDENTIFYING THE RUSTY PATCHED BUMBLE BEE *BOMBUS AFFINIS*

### Male or female?

Females have 6 abdominal segments versus 7 in males.  
Females have 12 antennal segments versus 13 in males.  
Female hind legs are wider than male hind legs.



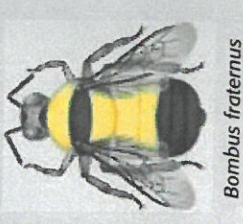
Females are found through spring, summer, and early fall. Workers and queens are both female. Males can be common in late summer and early fall. Females have pollen baskets (an indentation onto which they sometimes pack pollen) on their hind legs, and shorter antennae and abdomens. Males sometimes have larger eyes and longer hair.



*Bombus citrinus*  
(cuckoo bee)



*Bombus ternarius*



*Bombus fraternus*



*Bombus fervidus*



*Bombus rufocinctus*



*Bombus rufocinctus*



*Bombus pensylvanicus*



*Bombus auricomus*

Other common bumblebees of eastern North America  
There are around 20 bumble bee species present in eastern North America. Females of some of the most commonly found bees are pictured here. Some species pictured have varieties with different coloration.

For more identification information, visit [www.discoverlife.org](http://www.discoverlife.org) and [www.bugguide.net](http://www.bugguide.net)

### Identifying *Bombus affinis*



Worker



Male

Workers and males have a distinctive rusty brown patch on the front half of their second abdominal segment. The hair on their heads is mostly black. On the thorax, black hairs extend from a central patch in the middle of the thorax out towards the wings and centrally in a narrow V towards the rear.

### Similar bees with yellow at the rear of the second abdominal segment



*Bombus vagans* worker



*Bombus citrinus* male  
(cuckoo bee)

*B. affinis* and *B. vagans* females, and *B. citrinus* males have yellow hair covering most of the first two abdominal segments. However, *B. affinis* workers have a rusty patch on the second abdominal segment.

*B. vagans* workers and *B. citrinus* males have yellow hair on the top of their heads while *B. affinis* have black hair on the top of their heads. In addition, *B. vagans* have a longer face than do *B. affinis*.



Yellow-headed  
long-faced bee



Black-headed  
short-faced bee

### Similar bees without yellow at the rear of the second abdominal segment



*Bombus bimaculatus*

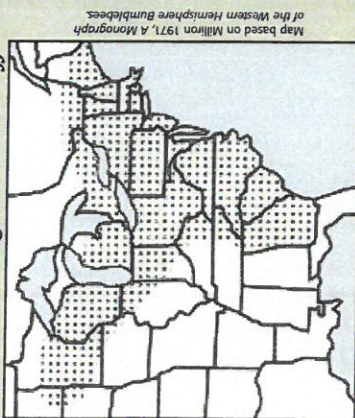


*Bombus impatiens*



*Bombus griseocollis*

### Historic range of *Bombus affinis*



Map based on Millon 1971, A Monograph of the Western Hemisphere Bumblebees

The rusty patched bumble bee was once common in the eastern United States and the upper Midwest. They can still occasionally be found in isolated patches, but *B. affinis* has disappeared from most of its former range in recent years. Your efforts to search for this bee will help document their current range. The Xerces Society and scientists studying declining bumble bees will use this information to promote conservation of remaining *B. affinis* populations.

If you find *Bombus affinis*, please contact [bumblebees@xerces.org](mailto:bumblebees@xerces.org). Visit [www.xerces.org/bumblebees](http://www.xerces.org/bumblebees) for more information.

Funding for bumble bee conservation provided by the CS Fund. Guide developed and illustrated by Elaine Evans, The Xerces Society. Thanks to Dr. Robbin Thorp, UC Davis.





## Conservation Management Guidelines *for the* Rusty Patched Bumble Bee (*Bombus affinis*)

Version 1.6

February 27, 2018



Photograph by Tamara Smith, UWFWS

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## Background

On January 11, 2017, the U.S. Fish and Wildlife Service (FWS) published the final rule to list the rusty patched bumble bee (*Bombus affinis*) as an endangered species under the Endangered Species Act (ESA) (U.S. Fish and Wildlife Service 2017). The listing became effective on March 21, 2017. For more information about the species, as well as guidance under the Endangered Species Act, visit our website [www.fws.gov/midwest/endangered/insects/rpbb](http://www.fws.gov/midwest/endangered/insects/rpbb).

*The purpose of this document is to provide voluntary management guidance to help FWS, other federal agencies, state agencies, private landowners and land managers manage their land to benefit the rusty patched bumble bee. Much of this guidance is focused on management of natural areas; however, many of the same principles can be applied to urban areas. For actions that may affect the rusty patched bumble bee and that are funded, authorized, or carried out by one or more federal agencies, we recommend that you also review the rusty patched bumble bee section 7 consultation guidance (see <https://www.fws.gov/midwest/endangered/insects/rpbb/ProjectProponent.html>). For non-federal actions that may result in take of the species, see, *Incidental Take Permits - Section 10(a)(1)(B) Guidance*, at the same website.*

This conservation guidance will also address the habitat needs of many pollinators, including all bumble bee species. Be sure to include milkweed in your floral resources and habitat for monarch butterflies will also be provided. This guidance document is subject to continual improvement and modification.

## Species Needs and Targets

### Needs

The rusty patched bumble bee needs three things: nesting habitat, floral resources to gather pollen and nectar, and overwintering habitat.

**Nesting Habitat:** Rusty patched bumble bee nests are typically in **abandoned rodent nests or other similar cavities, one to four feet below ground** (Plath 1922, pp. 190-191; Macfarlane et al. 1994, p. 4). Rusty patched bumble bee nests have also been occasionally observed above ground (Plath 1922, p. 190). Nests are thought to be typically within 1 km (0.6 mi) of summer foraging areas. Nests locations are likely be in open areas or near open areas where it is not heavily forested and not too wet (*i.e.*, not marsh, shrub wetlands, or wetland forest). Rusty patched bumble bee queens search for nesting sites after emerging in the spring and the nests are occupied by the colony throughout the active summer and fall flight period (**Figures 1 and 2**).

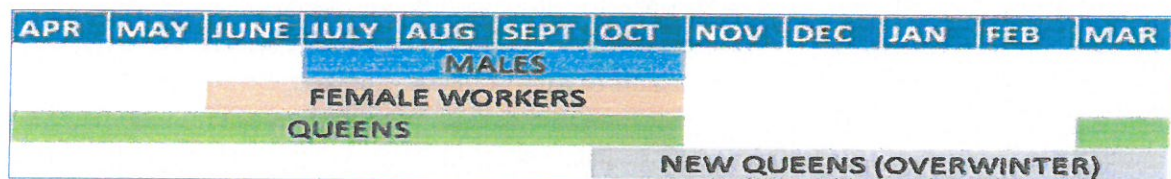
**Overwintering sites:** Bumble bees overwinter in small chambers in **loose soil and/or leaf litter just a few centimeters below the ground** or they use compost or rodent hills/mounds (Goulson 2010, p. 11). Little is known about the specific overwintering habitats of rusty patched bumble bee foundress queens

(the queens that develop in late summer and are the only members of the colony that survive winter). Overwintering habitat is often in or near **woodlands or woodland edges that contain spring blooming herbaceous plants, shrubs, and trees**, which allows proximity to woodland spring blooming flowers, particularly spring ephemeral wildflowers, a critical early spring food source. Solitary queens mate in the fall and overwinter roughly from mid-October through mid-March (**Figure 1**).

**Floral Resources:** Bumble bees gather pollen and nectar from the flowers of a wide variety of plants, typically within 1 km (0.6 mi) of nests (Xerces 2013, pp. 27-28, Knight et al. 2005, p. 1816; Wolf and Moritz 2008, p. 422; Dramstad 1996, pp. 163-182; Osborne et al. 1999, pp. 524-526; Rao and Strange 2012, pp. 909-911). The nectar provides carbohydrates and the pollen provides protein. The species is one of the first bumble bees to emerge early in the spring and the last to go into hibernation. To meet its nutritional needs, therefore, the rusty patched bumble bee requires access to a diverse group of plant species to ensure that there are flowers in bloom throughout the colony's long active flight period, roughly from mid-March through mid-October (**Figure 1**). The number of queens that a colony can produce is directly related to the amount of pollen that is available (Burns 2004, p. 150). The FWS, along with partners, developed a regionally specific plant list that is on our website at ([www.fws.gov/midwest/Endangered/insects/rpbb/plants.html](http://www.fws.gov/midwest/Endangered/insects/rpbb/plants.html)).

**Spring Foraging Habitat:** Rusty patched bumble bees may depend on woodland spring ephemeral flowers because of the species' early emergence; in the spring (roughly, mid-March through May) it is often found in and near woodland habitats (Colla and Dumesch 2010, p. 45-46).

**Summer and Fall Foraging Habitat:** Bumble bees typically forage within 1 km (0.6 mi) of nests. While the rusty patched bumble bee may visit any available flowers within the typical foraging distance of its nest, it is reasonable to assume that core foraging areas are those areas with concentrated resources (e.g., open fields and prairies with large patches of blooming native flowers) where the bee can find pollen and nectar while minimizing energy expenditure.



**Figure 1:** Phenology chart for rusty patched bumble bee. New queens overwinter from roughly mid-October through mid-March, when they then emerge and start to feed and establish colonies. The active foraging and flight period runs from mid-March through mid-October.



## Spring – Early Summer

Include early-blooming plants and maintain a diversity of flowers in your landscape.

To protect overwintering queens, avoid early raking or mowing; raking is best done in April and May.

Keep large patches of land unmowed and unfertilized to provide secure nesting sites; healthy ground-nesting mammal populations help create future nesting sites.

Because queens are still foraging and colonies are usually very small, avoid the use of pesticides.

## Summer – Fall

Include mid- and late-blooming plants such as goldenrod, milkweed, and aster in your landscape.

Leave leaf litter, downed wood, and uncut bunch grasses to serve as potential overwintering sites.

As colonies are producing new queens at this time of year, avoid using pesticides. If pesticides are necessary, choose products that are less harmful to bumble bees, and do not use them at times when bees are active or when plants are flowering.

## Winter

Late fall and winter are the best times for mowing. Cut with the mower deck at the highest safe level to avoid disturbing overwintering queens.

To protect overwintering queens, continue to leave large sections of unfertilized ground.

Small, controlled burns are okay, but burn less than 1/3 of available land annually, and leave unburned patches as a refuge for animals.

If needed, this is the best time to use a targeted herbicide treatment for invasive species.



Figure 2: Illustration of the rusty patched bumble bee life cycle by Alix Lucas, courtesy of the Xerces Society, with some general management recommendations for bumble bee conservation by season.



## Management Objectives and Targets for High Quality Rusty Patched Bumble Bee Habitat

Ideally, managed areas would have all three habitat features necessary to maintain one or more colonies of rusty patched bumble bee: nesting habitat, floral resources, and overwintering habitat. We recognize, however, that not every management area will contain all the features necessary for one or more colonies (e.g., small areas of land may only contain one key feature, such as overwintering habitat) and that areas are managed for a variety of purposes. We encourage land managers to consider how the areas under their management can contribute to habitat at the larger landscape level context in order to contribute to the conservation of one or more colonies of rusty patched bumble bee. For example, it is important to provide habitat heterogeneity at the county scale to help buffer from extreme events and climate variability at a broad scale.

Ideally, to sustain a colony or multiple colonies, an area would contain features and habitat characteristics necessary for foraging, nesting and overwintering that are identified in the following management objectives and targets.

### 1. Objective One – Create, enhance, or maintain foraging habitat

#### **Objective One Targets**

**Create or maintain foraging habitat in your management area that meet the following targets:**

- At least an estimated 50% of vegetative cover in the management area (i.e., the area that is being considered for management) is comprised of foraging habitat (plants that provide food);
- Ten or more flowering plant (herbaceous, shrubs, or trees) species blooming during the spring, not including invasive or noxious weeds;
- Ten or more flowering plant (herbaceous, shrubs, or trees) species blooming during the summer, not including invasive or noxious weeds;
- Ten or more flowering plant (herbaceous, shrubs, or trees) species blooming during the fall, not including invasive or noxious weeds;
- Nine or more superfoods<sup>1</sup> present such as wild bergamot (*Monarda fistulosa*), prairie clover (*Dalea* spp.), hyssop (*Agastache* spp.), goldenrod (*Solidago* spp.), asters (*Symphyotrichum* spp.), leadplant (*Amorpha canescens*), joe pye weed (*Eutrochium* spp.), and coneflowers (*Echinacea* spp., *Ratibida pinnata*); and,
- Nine or more immune building<sup>2</sup> plant species present such as wild bergamot, sunflowers

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<sup>1</sup> Superfood plants produce nectar that is rich in amino acids, a secondary source of protein for adult and larval bumble bees.

<sup>2</sup> Immune building plants are known to help build bumble bee immune systems.



(*Helianthus* spp.), white turtlehead (*Chelone glabra*), and native wild blueberries and cranberries (*Vaccinium* spp.).

- To buffer against extreme climate events, include frost and drought hardy plants that bloom throughout the active season, especially in the spring and fall.

## 2. Objective Two – Create, enhance, or maintain nesting habitat

**Objective Two Targets - Create or maintain nesting habitat in your management area that meets the following targets:**

- At least an estimated 20% of the area with undisturbed (that are not dug up/tilled) native bunch grasses;
- At least an estimated 20% of the area with uncompacted, loose soil (one key indicator of loose soil is evidence of rodent activity and rodent holes);
- At least an estimated 20% of the area that is left un-mowed (or mowed at a height of greater than 12 inches in the fall or winter), no/low intensity grazing<sup>3</sup>, and infrequent<sup>4</sup> burns (see prescribed fire and grazing sections below); and,
- Fallen leaves are not raked or otherwise removed.

## 3. Objective Three – Create, enhance, or maintain overwintering habitat

**Objective Three Targets - Create or maintain overwintering habitat within your management area that meet the following targets:**

- Wooded areas that contain highly diverse (10+) spring-time native flowering herbaceous plants, shrubs, and/or spring flowering trees;
- Wooded areas with less than 30% cover comprised of invasive or noxious weeds and woody plants (e.g., buckthorn); and,
- Areas with brush pile, duff layers, and fallen leaves that are not raked or otherwise removed.
- Plant hedgerows to help buffer against extreme events.

## 4. Objective Four – Create, enhance, or maintain target habitat features

**Objective Four Targets – Create or maintain the following features within your management area:**

- Permanent meadows or grasslands with a high diversity (10+ species) of native wildflowers;
- Maintain areas of open understory in woodlands to encourage the growth of native spring flowers;

<sup>3</sup> No or low intensity grazing depends on the type of animal, the size of the herd, and the size of the grazed site. Grazing is further described in the "Grazing" section, below.

<sup>4</sup> Fires are considered infrequent if at least 3 years is allowed to elapse without fire. Prescribed fire is further discussed in the "Prescribed Fire" section, below.

- If land is used for pasture or haying, the land is comprised of at least 30% non-invasive, forage plants;
- At least 60 % of the area under consideration that is within 25 ft (7.6 m) of surface water features has flowering forbs; and,
- Low density 0.5 hive/ac (0.5 hive/0.4 ha), or no domesticated honey bee hives present.

## **Actions that Could Cause Take**

Land management activities can cause take of rusty patched bumble bees. The Section 7 guidance and Section 10(a)(1)(B) Guidance provide (both available online at <https://www.fws.gov/midwest/Endangered/insects/rpbb/ProjectProponent.html>) brief descriptions of some, but not all, of the types of actions that we believe may lead to take. If the following management suggestions are taken, such take may be minimized but not necessarily eliminated.

Threats to the rusty patched bumble bee are discussed in more detail in the species status assessment and the listing documents (USFWS 2016, 2017), which can be found at [www.fws.gov/midwest/endangered/insects/rpbb/](http://www.fws.gov/midwest/endangered/insects/rpbb/). Briefly, stressors that should be considered when evaluating the effects of managing land on the rusty patched bumble bee include prescribed fire, haying, grazing, herbicide use, land-clearing, pesticide use; and the use of non-native bees. In addition to direct take resulting from these activities, habitat fragmentation and loss of the diversity of habitat that may result from land management should also be considered and evaluated.

## **Conservation Management Recommendations**

### **Protect, Create, Restore, and Maintain Habitats**

Access to diverse and abundant floral resources is essential for the rusty patched bumble bee during its active season, which is typically long compared to most other bumble bee species. The species is active and reliant on flowers during the entire growing season (mid-March through mid-October). Therefore, any action that will increase the diversity of wildflower resources throughout the growing season will tend to contribute positively to rusty patched bumble bee colony health.

Following these recommendations will provide for most other bumble bees, solitary bees and many butterflies. Including milkweed in floral resources will provide for monarch butterflies.

In general, FWS recommends activities that would strive to meet the rusty patched bumble bee conservation objectives and targets (identified in the previous section: [Management Objectives and Targets for High Quality Rusty Patched Bumble Bee Habitat](#)) and:

- Increase the diversity of native wildflowers by direct seeding to establish a new cover type – for example, conversion of cropland, intensively managed pasture or range, or intensively managed hayland to native floral and grassland habitat;



- Implement or alter grazing practices, prescribed fire, or other land management to increase the diversity of native wildflowers and that maintain or facilitate the development of nesting and overwintering habitat;
- Remove and control invasive plants (e.g., garlic mustard, *Allaria petiolata*) in woodlands, forest edges, prairies, and meadows – in any habitats used for foraging, nesting, or overwintering;
- Increase the diversity of native wildflowers in grasslands and pastures by inter-seeding or similar practices; and,
- Establish native trees and shrubs [e.g., willows, serviceberry (*Amelanchier*)], whose flowers are often good early season pollen and nectar sources.

We recommend assessing habitat within your management unit(s) using the rusty patched bumble bee habitat assessment, available online ([www.fws.gov/midwest/endangered/insects/rpbb/pdf/HabitatAssessmentFormGuideByXercesForRPBB.pdf](http://www.fws.gov/midwest/endangered/insects/rpbb/pdf/HabitatAssessmentFormGuideByXercesForRPBB.pdf)). Ideally, habitat would be assessed prior to management to quantify the baseline quality of the habitat for rusty patched bumble bee and to evaluate any stressors that might be affecting the bee or its habitat. Post management assessments will help to quantify habitat improvements and assess future needs.

## Prescribed Fire

**Prescribed fire is an excellent tool to maintain, restore, and enhance rusty patched bumble bee habitat, but must be implemented with considerable care and planning.** Prescribe fire has the potential for complex effects on the plant communities that are critical to the persistence of local colonies and fire and smoke could harm or kill bees in the burned area. In addition, fire may not be needed to conserve a rusty patched bumble bee colony(ies) unless certain aspects of the plant community (e.g., low density of nectar or pollen plants) are currently limiting colony growth. **When using prescribed fire, we recommend the following measures:**

General recommendations:

- Consider the landscape in which the actions will occur, specifically, the area within 1km (0.6 mi) from your area of interest, to determine if there are nearby floral resources available.
- Consider the timing of the burns and the habitat within the burns will occur, in particular, consider when floral resources will return and be available for foraging.
- **Only burn a specific area once every 3 to 6 years.** Use the maximum length fire return interval that is adequate to maintain or restore meadows and/or high-quality native prairie habitat on each unit. Allow *at least* 3 years to elapse without fire (i.e., minimum 4- year rotations) before re-burning any area. Burning more frequently may be required for establishing new habitat (e.g., burning for 2-3 years in a row).
- **Burn only small sections at a time.** If feasible to achieve your management objectives, allow fires to burn in a patchy ("finger") pattern within units. Do not make a concerted effort to burn

- 'every square inch'; leave fire "skips" unburned. Burning under cool or damp conditions may increase survival of insects present in the litter layer within the burned unit (e.g., Panzer 2002).
- **Map the extent of each fire** in rusty patched bumble bee habitat to ensure that future fire planning is based on an accurate understanding of prior fire history.
  - **Mow fire breaks that will result in patches of unburned areas**, if possible, to serve as refuge for animals within burn areas. Consider the use of proactive techniques to increase the patchiness of fires, especially if habitats that would serve as sources of recolonizing adults are small or within the foraging distance of the burn unit.
  - **Conduct pre-burn bumble bee surveys** and evaluate other applicable information to understand the distribution and relative abundance of rusty patched bumble bees within and among burn units and elsewhere within the area inhabited by the local colony(ies). See the rusty patched bumble bee survey protocols provided on our rusty patched bumble bee ESA guidance website (<https://www.fws.gov/midwest/Endangered/insects/rpbb/surveys.html>) for proper survey conditions, time of year, etc.
  - **Avoid high intensity fires.** High fuel levels increase the likelihood that fires may destroy nesting habitat for rusty patched bumble bees. Therefore, consider reducing fuel levels (e.g., by haying the previous late fall) before conducting burns where fuel levels seem to be high – if that would not interfere with the burn objectives.
  - If you plan to change the configuration of burn units or make other changes to your prescribed fire plan, **review the location and timing of recent burns.** Evaluate the potential effects of those recent burns on the current abundance and distribution of rusty patched bumble bees within the management area and elsewhere within the presumed extent of the local population (e.g., one or more colonies may be found within the High Potential Zone, see maps on <https://www.fws.gov/midwest/endangered/insects/rpbb/rpbbmap.html>).
  - Plan for the contingency that a prescribed fire will escape a burn unit and burn one or more additional units that contain rusty patched bumble bee habitat. If this is reasonably likely, determine how the rusty patched bumble bee colony or group of colonies would persist despite such a scenario.

If burning in foraging habitat (see [habitat definitions identified in the Species Needs and Targets section, above on pp. 3 -4](#)):

- **Only burn from mid-October through mid- March**, if possible, so that floral resources are not reduced when the species is feeding. If feasible to achieve your management objectives, conduct spring burns as early as is feasible or late fall burns. Late spring burns may reduce the nectar and pollen sources for newly emerged queens that are gathering food to establish their colonies.
- **If you cannot burn outside of the active season, burn no more than one-third of the suitable foraging habitat within your management area each year.** Consider the landscape context of the burns and include in your assessment the land within 1km (0.6 mi) of your area.
  - If possible, burn small sections at a time. Divide the rusty patched bumble bee habitat,



where prescribed fire is proposed, into as many burn units as is feasible and burn no more than one unit in any single year. Units should contain approximately equal amounts of rusty patched bumble bee habitat to ensure that the colony that is utilizing the site is not disproportionately affected by any single burn.

- In cases where there are nearby local colonies of rusty patched bumble bee that will provide immigrants from outside of the management area it may also be feasible to conserve a rusty patched bumble bee colony with less than three burn units, but that would require close coordination with neighboring landowners (see [Coordinated Management](#), below).

If burning in overwintering habitat or early spring foraging habitat (see [habitat definitions identified in the Species Needs and Targets](#) section, above on pp. 3 -4):

- **If burning during the overwintering period (mid-October through mid-March) or in spring, burn no more than one-third of the suitable habitat within your management area each year.** Units should contain approximately equal amounts of rusty patched bumble bee habitat to ensure that the colony that is utilizing the site is not disproportionately affected by any single burn. **Consider the landscape context of the burns and include in your assessment the land within 1km (0.6 mi) of your area.**
- If you need to burn in late spring to address a particular management need (e.g., control of smooth brome, *Bromus inermis*), other precautionary measures will be especially important. These include the division of occupied rusty patched bumble bee habitat into as many burn units as is practicable; ensuring that fires do not escape from burn units; maximizing the number of years between fires; and, reducing fuel loads (e.g., by grazing) in rusty patched bumble bee habitat in units where frequent or intense fire is not necessary.
- If it is not practicable to divide rusty patched bumble bee habitat into separate burn units within a management area, then we recommend carefully implemented grazing or haying, if feasible, instead. Alternatively, consider the landscape context to determine if at least two-thirds of suitable habitat remains unburned within 1 km (0.6mi) of your management area.

### **Mowing/Haying**

**Mowing and haying can be a useful management tool to control invasive plants and maintain open meadows and prairies.** Meadows and gardens with a variety of structural layers of habitat and bunch grasses have been shown to have a higher diversity of bumble bees than areas without such features (e.g., Mader et al. 2011). However sites under certain mowing regimes (e.g., May and/or July mowing) were found to have significantly fewer nests than non-mowed areas (i.e., Potts 2009), likely due to a loss in floral resources. **When mowing or haying, we recommend the following measures:**

- **Mow outside of the active season (i.e., mid-October through mid-March), if possible, in areas that provide summer foraging habitat.** If mowing must occur during the active flight season

(mid-March through mid- October), attempt to create a mosaic of structurally different habitat patches or ensure that the extent of the area mowed is not likely to affect more than one-third of the foraging habitat that is available on site or within the larger landscape [within 1 km (0.6mi)] of the site boundary.

- **Mow at the highest cutting height possible**, ideally 12-16 inches (30 - 40 cm), or a minimum of 8-10 inches (20 - 25cm) if possible. Mowing at this height will reduce disturbance of established nests or overwintering queens.
- **Mow no more than 1/2 of the open, non-forested foraging habitat within your management area per year**, if possible. Leave patches of unmowed habitat for the entire year. Consider the habitat availability in the larger landscape context [within 1 km (0.6mi) of your area].
- In cases where there are nearby local colony(ies) of rusty patched bumble bee that will provide immigrants from outside of the management area it may also be feasible to conserve a rusty patched bumble bee colony (ies) with less than three mow units, but that would require close coordination with neighboring landowners (see [Coordinated Management](#), below).
- **Mow at reduced speeds (< 8mph)**, if possible, to allow time for bees to avoid mowing equipment.
- **Map the extent of mowed areas** in rusty patched bumble bee habitat to ensure that future mowing planning is based on an accurate understanding of prior mowing history.

## Grazing

Grazing can be a useful management tool to encourage the growth of nectar resources, provide structural diversity for nesting habitat, control invasive species and maintain open meadows and prairies by managing succession. When grazing land, we recommend the following measures:

- **Design and conduct prescribed grazing practices that encourage wildflower diversity and abundance**, such as low intensity grazing and/or short duration grazing with long recovery periods.
- Do not exceed moderate stocking rates (e.g., such that the forage harvested by grazing animals does not exceed one-third of the current available forage).
- Divide the rusty patched bumble bee habitat where grazing is proposed into as many grazing units as is feasible and graze no more than one unit in any single year. Allow the vegetation to recover by rotating grazing areas and establishing ex-closures. Units should contain approximately equal amounts of rusty patched bumble bee habitat to ensure that the colony(ies) is not disproportionately affected by any single graze unit. If it is not practicable to divide rusty patched bumble bee habitat into separate grazing units within a management area, then we recommend carefully implemented prescribed fire or haying, if feasible, instead.
- In cases where there are nearby local colonies [within the estimated dispersal distance of 10km (6mi)] of rusty patched bumble bee that will provide immigrants from outside of the management area it may also be feasible to conserve rusty patched bumble bee with less grazing units, but that would require close coordination with neighboring landowners to ensure



that dispersal of adults is likely to be sufficient to reinforce numbers in the grazed area (see [Coordinated Management](#), below).

- The timing and frequency of grazing rotations will depend on the type and size of herd and the size of the area to be grazed. In general, grazing should occur for a short period of time and the site should be allowed an extended period for recovery (e.g., 14 days of grazing with 80-90 days of rest).
- We recommend that land managers **complete grazing strategy** according to the site characteristics and the type of grazing animals. We recommend that the grazing plan includes prescribed grazing practices that encourage wildflower diversity and abundance to help reach the rusty patched bumble bee [Management Objectives and Targets](#) described above.
- Limit grazing in high quality habitat during the active season (mid-March through mid - October) to ensure that it continues to meet the [Management Objectives and Targets](#) described above.
- **Map the extent of grazing** in rusty patched bumble bee habitat to ensure that future planning is based on an accurate understanding of prior grazing history.

## Pesticide Use

Targeted herbicide and insecticide use can be a useful management tool to control pests and invasive plants. Nevertheless, rusty patched bumble bees are unlikely to thrive if they are exposed to insecticides that are used broadly and systemically (e.g., seed coatings) or are foliar sprayed. When pesticides must be used, we recommend the following measures:

### Insecticide Use

Whenever applicable, in order to prevent insecticide exposure to pollinators, the safest action is to avoid use of insecticides in rusty-patched bumble bee habitat or in areas near habitat. There are a number of resources available to help with decisions on how to reduce pesticide use, how to reduce the potential for drift of pesticide to habitat, and how to keep yards and lawns pollinator friendly. The following is a list (not comprehensive) of resources that are available:

#### Insecticides Used in Agricultural Production Areas:

- Use the principles of Integrated Pest Management (IPM) which includes the use of multiple practices to control pests or invasive plant species, which lower pesticide use, including insecticides.
  - Use the services of certified crop advisors such as Natural Resources Conservation Service (NRCS) or your local extension office to help implement an IPM program.
  - NRCS has various programs that offer financial incentives for certain IPM practices, please contact a local NRCS representative for a list of these opportunities.
  - FWS guidelines on protecting pollinators from insecticides:

<https://www.fws.gov/pollinators/PollinatorPages/Threats.html>

- o Please see specific IPM guidance:
  - NRCS IPM Guidance:  
[https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/energy/conservation/?cid=nrcs143\\_023640](https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/energy/conservation/?cid=nrcs143_023640).
  - FWS IPM Guidance:  
[https://www.fws.gov/pollinators/pdfs/Reducing\\_Risks\\_to\\_Pollinators\\_from\\_Pest\\_Control\\_factsheet.pdf](https://www.fws.gov/pollinators/pdfs/Reducing_Risks_to_Pollinators_from_Pest_Control_factsheet.pdf)
  - Environmental Protection Agency (EPA) Reducing Pesticide Drift:  
<https://www.epa.gov/reducing-pesticide-drift>.
- o Read the label on the insecticide container and look for information on use and potential effects on bees and other pollinators. Product labels are legally binding and must be followed exactly, including specific pollinator protection language.

#### **Pesticides used in Lawns and Gardens - Backyard Habitat**

- EPA Tips for Reducing Pesticide Impacts on Wildlife:  
<https://www.epa.gov/safepestcontrol/tips-reducing-pesticide-impacts-wildlife>
- FWS guidelines on protecting pollinators from pesticides:  
<https://www.fws.gov/pollinators/PollinatorPages/Threats.html>
- NRCS Tips for Backyard Conservation:  
[https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/home/?cid=nrcs143\\_023552](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/home/?cid=nrcs143_023552)
- Minnesota Pollution Control: Reducing Pesticides in Lawns: Landowners with Yards/Gardens:  
<https://www.pca.state.mn.us/sites/default/files/w-hhw2-21.pdf>

#### **Herbicide Use**

- Contact your local extension agents and NRCS to learn about IPM methods and other actions on using herbicides that may limit effects to rusty-patched bumble bee habitat. Some of those suggestions could be:
  - o Apply herbicides as locally and directly as possible (cut-stem application, hand applications, spraying directly on the target plant).
  - o If feasible to ensure effective control of target plant species, apply herbicides pesticides when at times when bumble bees are less active (late at night, or late fall and winter). Bumble bees can fly at relatively cold temperatures and are active in early spring (e.g., mid- March) and in the morning and evening hours.

#### **Tree Clearing/Forest Management**

Tree clearing/forest management may lead to increases in foraging habitat or may provide better nesting habitat. Soil disturbance that occurs during timber operations, however, can be harmful to overwintering bumble bees. High quality forested habitats comprised of a diverse array of native plant



species provide important foraging habitat for the rusty patched bumble bee in the spring, provide are the primary overwintering habitat for the species, and also provide nesting habitat along their edges. Forest management during the species' active season (mid-March through mid-October) may be less likely to impact the species directly if conducted after spring ephemerals are no longer flowering and floral resources have drawn the bees out into open foraging and nesting areas. When rusty patched bumble bee overwintering is suspected (see definitions of overwintering habitat above) to be within the management/project area:

- **Implement your state's best management practices (BMPs), especially those that serve to minimize the spread of invasive species and to avoid or minimize soil compaction.** Visit (<https://stateforesters.org/action-issues-and-policy/state-forestry-BMPs-map-o-o>) for up to date information about BMP recommendations by state.
- **Avoid or minimize forest management that may destroy spring blooming flowers during their bloom periods.**
- **Consider thinning or single tree selection and dense invasive shrub removal** that may improve overwintering and spring foraging habitat.

### Commercial Bumble Bees

Currently only one species of bumble bees is being used for commercial operations – the common eastern bumble bee (*B. impatiens*). Commercial bumble bees are used in contained commercial facilities (e.g., tomato greenhouses) or may be used in open environments (e.g., for open-field pollination services). Commercially raised common eastern bumble bees may spread pathogens into wild bee populations and compete with wild bees for resources. **When using commercial bumble bees, care should be taken to minimize exposure of wild bees to managed bees and we recommend the following measures:**

- Limit use of commercial bumble bees to closed-systems (e.g., greenhouses) and try to avoid use in open fields.
- Place screens over openings (e.g., vents, windows, etc.) in greenhouses to minimize escape of the managed bees.
- Properly dispose of commercial bees after their use and do not release them into the wild.
- Do not purchase commercial bumble bees to use outside of the native range of the commercial species (e.g., do not purchase *B. impatiens* to use in western United States, where they are non-native).

### Commercial Honey Bees

European honey bees (*Apis mellifera*) have documented negative effects on the reproductive success of bumble bees (e.g., Goulson and Sparrow 2009, Singh et al. 2010, and Thompson 2004). Additionally, pollen can be a vector for disease transmission between honey bees and bumble bees (e.g., Singh et al. 2010; Fürst et al. 2014, Graystock 2015). We recommend that managers discourage the placement of

domesticated honey bee hives in natural areas with high quality habitat (abundant and diverse floral resources) where rusty patched bumble bees are likely to be present. We are not discouraging the use of honey bees in agricultural fields, but encourage landowners to plant native flowers and to try to keep their honey bee hives disease and pest free.

**We make the following recommendations for natural areas:**

- Discourage placement of domesticated honey bee hives in natural areas with high quality rusty patched bumble bee foraging and nesting habitat.
- Place hives as far away as possible from natural areas (at minimum 1 km [0.6 mi]) and away from potential rusty patched bumble bee nesting sites.
- Keep domesticated hive density below 0.5 hive/ac (0.5 hive/0.4 ha), if possible, particularly in areas that are on or near locations with recent (within the year 2007 or more recent) rusty patched bumble bee observations.

### **Coordinated Management among Nearby Sites**

Conservation of the rusty patched bumble bee will ultimately depend in part on connecting patches of high quality habitat and coordinated management may be one avenue to do so. We make the following recommendations to help facilitate coordinated management:

- Conduct bumble bee surveys or review available data to understand the extent of nearby local rusty patched bumble bees colonies and habitats. This may facilitate coordination and management of colonies that may cross between management units and ownerships. To see where there are known locations of the rusty patched bumble bee, see the Rusty Patched Bumble Bee Interactive Map (<https://www.fws.gov/midwest/endangered/insects/rpbb/rpbbmap.html>).
- Coordinate management activities with property owners and managers of nearby rusty patched bumble bee habitats. For example, plan burns and other temporarily adverse management activities during years when nearby habitats will not be burned.
- Where there are nearby local colony(ies) (within the estimated dispersal distance of 10km [6mi]) of rusty patched bumble bee that will provide immigrants from outside a management area, it may be feasible to conserve a rusty patched bumble bee colony (ies) with less than the recommended number of management units (e.g., mow or burn units). This would require close coordination with neighboring landowners to ensure that dispersal of adults is likely to be sufficient to reinforce numbers in the mowed area. To determine if there are nearby colonies, see the maps on (<https://www.fws.gov/midwest/endangered/insects/rpbb/rpbbmap.html>) – the red “High Potential Zone” polygons are areas with recent records of the species.



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# Rusty Patched Bumble Bee Habitat

## Assessment Form & Guide

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May 2017

The Xerces Society for  
Invertebrate Conservation

[www.xerces.org](http://www.xerces.org)



# Acknowledgements

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## Editing and layout

Sara Morris and Michele Blackburn. Template by Jessa Kay Cruz, Matthew Shepherd, Ashley Minnerath, and Hailey Walls.

## Cover Photographs

Cover main: A wooded bluff and streamside prairie in the Driftless Area of Wisconsin (photograph by Susan Carpenter, UW-Madison Arboretum); left: *Bombus affinis* (rusty patched bumble bee) on joe pye weed, *Eutrochium purpureum* (photograph by Rich Hatfield, The Xerces Society); right: eastern woodland with pollinator-friendly understory (photograph by Jennifer Hopwood, The Xerces Society).

## Photographs

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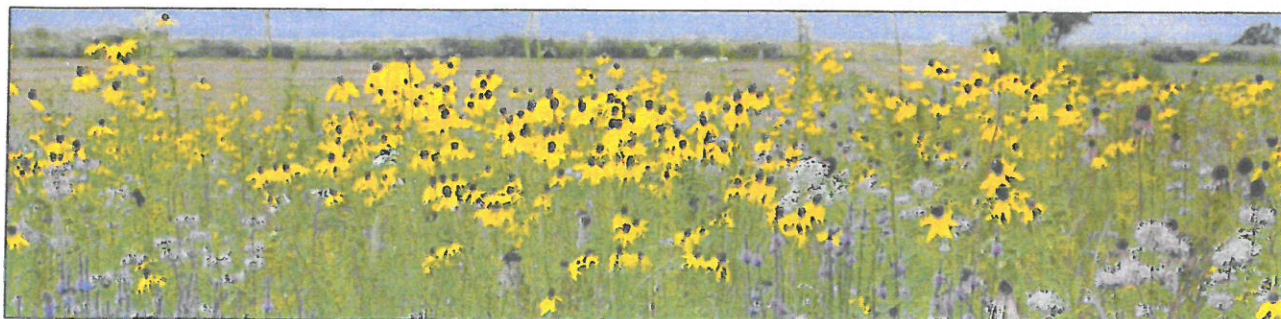
# Rusty Patched Bumble Bee Conservation Habitat Assessment Form and Guide

## Purpose

The rusty patched bumble bee (*Bombus affinis*) is listed as an endangered species by the U.S. Fish and Wildlife Service. This species has specific habitat requirements, including high quality foraging resources, nesting sites, overwintering sites, and protection from pesticides, introduced diseases, and other disturbances. This tool is meant to help educate conservation planners and landowners, prioritize conservation actions, and quantify habitat or land management improvements for the rusty patched bumble bee on a single site. As existing conditions and degree of habitat management at any given site are different the goal of this tool is not to compare one site with another. Rather, it is intended to help incorporate conservation efforts for the rusty patched bumble bee into a landscape management plan and then identify specific actions for habitat improvement and/or management practices to help protect the rusty patched bumble bee from potential threats. As with any tool of this nature, the evaluation and scoring practice is a subjective process, and the usefulness of the tool is dependent upon the consistency and skills of the evaluator. While the goal is to implement changes that will result in improved habitat, there may not always be a viable treatment for individual variables. The scoring goals outlined in the instructions are general guidelines, but the capacity to reach or exceed these goals varies widely in different landscapes and may be refined by conservation planners for a more regionally specific pollinator habitat assessment guide. This guide was developed with the purpose of assessing sites where the rusty patched bumble bee has been recently detected, but can also be employed by anyone seeking to improve their land for bumble bees.

## Instructions

- This rusty patched bumble bee habitat assessment guide is designed for natural areas on public and private lands. If you are working in a farm landscape, please consider using our *Pollinator Habitat Assessment Form and Guide: Farms and Agricultural Landscapes* (available as a free download at: [www.xerces.org/habitat-assessment-guides/](http://www.xerces.org/habitat-assessment-guides/); Note: this assessment form is not specific to the rusty patched bumble bee).
- The accompanying photos and notes will help you identify and assess some specific habitat features.
- An assessment would ideally be done twice, once during the habitat evaluation process (before project implementation) and once after any changes have been implemented.
- Each item in the assessment should be given a score of 0 if not present or the appropriate value from the "Score" column.
- If you are conducting an assessment for the USFWS, obtain the 10 x 10 km grid ID and sighting ID directly from the Service (contact your local field office: [https://www.fws.gov/midwest/es/flid\\_off.html](https://www.fws.gov/midwest/es/flid_off.html)). Use the 10 x 10 km grid cell to address question 1a.
- If this is not an official USFWS assessment, address question 1a using an online mapping program with a satellite view. Assess the habitat within a 5 km radius of your location.
- Prior to conducting an assessment, print aerial photos to help with site and landscape questions.
- Add up the scores to calculate a subtotal for each subsection.
- Next, add up subsection subtotals to get a total for each section. Transfer these figures into the summary table on page 3 to generate the overall score for each assessment.
- Ideally, landowners/managers should strive to achieve an overall score of at least 100, and an improvement of at least 40 points. If this is not possible for your region or land management plan, talk to your area biologist, regional ecologist, or planner for guidance.



A southern Wisconsin planting of diverse native prairie forbs that provides floral resources throughout the growing season.

## Site Summary

*Obtain the Grid ID and RPBB sighting ID from the USFWS. If this is not an official assessment leave blank.*

Owner/ Operator:		Planner:	
10 km x 10 km Grid ID:		Associated RPBB sighting ID:	
Survey locality/address:			
Dates	Existing condition assessment:		
	Assessment after implementation:		
Define and describe the project area (attach annotated maps; include Ecological Classification System information, if known):			

### Total Score for Habitat Assessment

The figures entered into this summary table will be calculated during completion of the assessment.

	BEFORE	AFTER
<b>Section 1:</b> Regional and Landscape Features <i>(max score 20)</i>		
<b>Section 2:</b> Site Features <i>(max score 35)</i>		
<b>Section 3:</b> Foraging Habitat <i>(max score 50)</i>		
<b>Section 4:</b> Nesting and Overwintering Habitat <i>(max score 30)</i>		
<b>Section 5a:</b> Pesticide Practices <i>(max score 40)</i>		
<b>Section 5b:</b> Management Practices <i>(max score 40)</i>		
<b>OVERALL SCORE</b>		



## Section 1: Regional and Landscape Features

The characteristics of regional and landscape features have a significant impact on the rusty patched bumble bee and its ability to successfully find a mate and reproduce. The landscape characteristics at this scale may not be changeable, but will help determine the scale at which local habitat management matters.

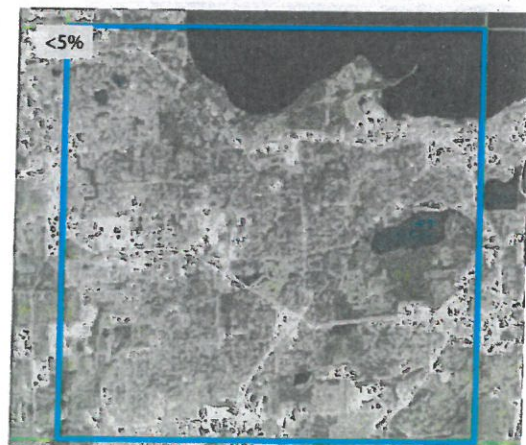
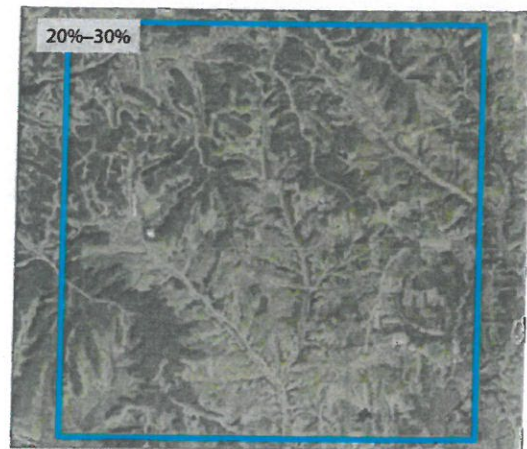
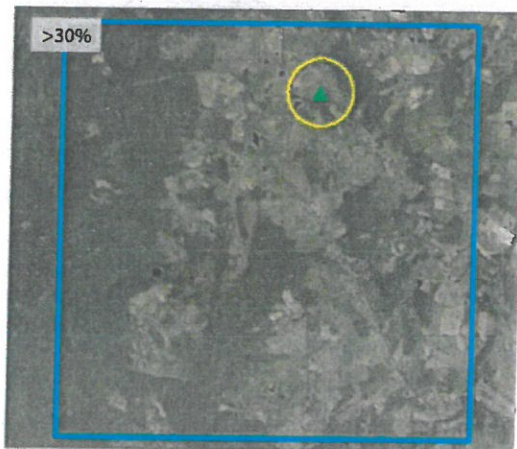
1a. Percentage of the grid cell that is natural habitat. This land use cover includes prairie, shrub lands, woodlands, grasslands, riparian habitat, wetlands, and non-invasive weedy areas. It does NOT include lawn grass, cropland, or overgrazed pasture. Using the 10 x 10 km grid cells provided by the USFWS, or area within a 5 km radius of your location, analyze the proportion of the habitat that is natural. See photos below for guidance (blue area is at the scale of 10 x 10 km).

Max score of 10.

SELECT ONLY ONE	Score	Existing Condition
>30%	10	
20%–30%	7	
5%–20%	3	
<5%	0	
Subtotal (1a)		

(1a)

The photos below illustrate the different percent covers.



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## Section 1: Regional and Landscape Features *continued*

1b. The assessment area is defined by the unit of land on which management can be implemented to improve habitat for the rusty patched bumble bee. With that in mind, what is the dominant vegetation within ½ mile of assessment area including the assessment area itself. *Max score of 10.*

SELECT ONLY ONE	Score	Before	After	Treatment to increase score (no treatment if off-site)
Native plants	10			
Mix of native and naturalized (non-invasive) plants	7			
Naturalized flowering species (e.g., alfalfa)	5			
Mix of native, naturalized, and weedy/invasive species	3			
Invasive flowering weeds, crops and/or sod-forming grasses	0			
Subtotal (1b)				

Regional and Landscape Features Total

(1b)

(1a + 1b)

(1a)

## Section 2: Site Features

On-site natural areas and other features have a significant influence on bumble bee abundance and diversity.

2a. Percentage of site that is in natural or semi-natural habitat.

*Max score of 10.*

SELECT ONLY ONE	Score	Before	After	Treatment to increase score
>75%	10			
50%–75%	7			
25%–49%	5			
10%–24%	3			
<10%	0			
Subtotal (2a)				

(2a)

2b. Additional site features that are present.

*Max score of 25.*

SCORE ALL OPTIONS THAT APPLY	Score	Before	After	Treatment to increase score
Permanent meadows or open areas with diverse native wildflowers allowed to bloom	10			
Pasture or hayed land with >30% non-invasive, bee-friendly forage legumes (e.g., red clover, alfalfa, etc.) allowed to bloom	5			
Wooded or wetland areas with diverse flowering trees, shrubs, and/or wildflowers (e.g., maples, basswood, willows, wild plum, spring blooming woodland ephemerals)	5			
Buffers: 2 points for every 20% of area within 25' of water features that is flowered, 1 point for every 20% of area that is grass, 0 points for no buffers	0–5			
Subtotal (2b)				

(2b)

Site Features Total

(2a + 2b)

Section 2: Site Features



## Section 3: Foraging Habitat

High flower abundance and season long bloom positively influence bee abundance and diversity.

**3a. Percentage of vegetative cover that is comprised of forbs, flowering shrubs, or pollinator-friendly trees on site. This does not include invasive or noxious species (e.g., Canada thistle, spotted knapweed, purple loosestrife, crown vetch, buckthorn, etc.). Max score of 10.**

SELECT ONLY ONE	Score	Before	After	Treatment to increase score
>50% cover	10			
30%–50% cover	7			
20%–30% cover	5			
10%–20% cover	3			
<10% cover	1			
Subtotal (3a)				(3a)

The photos below illustrate some categories. See page 12 for lists of preferred pollinator plants and other information.



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(3a)

### Section 3: Foraging Habitat *continued*

**3b. Number of species of forbs, flowering shrubs, or pollinator-friendly trees on site that bloom in spring and support bees. This includes fruit trees and some flowering weeds like dandelions, but does not include invasive or noxious species (see <https://plants.usda.gov/java/noxiousDriver> for examples).**

Max score of 10.

SELECT ONLY ONE	Score	Before	After	Treatment to increase score
10+ species	10			
5-9 species	5			
1-4 species	3			
0 species	0			
Subtotal (3b)				(3b)

**3c. Number of species of forbs, flowering shrubs, or pollinator-friendly trees on site that bloom in summer and support bees. This includes some flowering non-native plants, such as red clover, but does not include invasive or noxious species (see <https://plants.usda.gov/java/noxiousDriver> for examples).**

Max score of 10.

SELECT ONLY ONE	Score	Before	After	Treatment to increase score
18+ species	10			
10-17 species	7			
1-9 species	3			
0 species	0			
Subtotal (3c)				(3c)

**3d. Number of species of forbs, flowering shrubs, or pollinator-friendly trees on site that bloom in fall and support bees. This includes some flowering non-native plants, such as red clover, but does not include invasive or noxious species (see <https://plants.usda.gov/java/noxiousDriver> for examples).**

Max score of 10.

SELECT ONLY ONE	Score	Before	After	Treatment to increase score
10+ species	10			
5-9 species	7			
1-4 species	5			
0 species	0			
Subtotal (3d)				(3d)

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### Section 3: Foraging Habitat *continued*

3e. Rusty patched bumble bee superfoods. The rusty patched bumble bee has been observed most commonly on the following plants. How many of these plants are present on site? Note that some of these species may not be appropriate for every region/site.

Wild bergamot (*Monarda fistulosa*), prairie clover (*Dalea* spp.), hyssop (*Agastache* spp.), goldenrod (*Solidago* spp.), joe pye weed (*Eutrochium* spp.), coneflowers (*Echinacea* spp.), native thistles (*Cirsium* spp.), asters (*Symphyotrichum* spp.), leadplant (*Amorpha canescens*), jewelweed (*Impatiens capensis*), mountain mint (*Pycnanthemum* spp.), native spiraea (*Spiraea* spp.), and wild cranberry (*Vaccinium* spp.).

Max score of 7.

SELECT ONLY ONE (how many species of bumble bee superfoods are present on site?)	Score	Before	After	Treatment
9-13 species	7			
5-8 species	5			
1-4 species	2			
0 species	0			
Subtotal (3e)				(3e)

3f. In addition to plants that are known to be attractive to the rusty patched bumble bee, the following plants are known to help build bumble bee immune systems. How many of these plants are present on site? Note that some of these species may not be appropriate for every region/site.

Wild bergamot (*Monarda fistulosa*), sunflowers (*Helianthus* spp.), white turtlehead (*Chelone glabra*), penstemon (*Penstemon* spp.), and wild blueberry/cranberry (*Vaccinium* sp.).

Max score of 3.

SCORE THIS OPTION	Score	Before	After	Treatment
Score 1 point, up to 3 for each species present	0-3			
Subtotal (3f)				(3f)

**Foraging Habitat Total**

(3a + 3b + 3c + 3d + 3e + 3f)



The rusty patched bumble bee (*Bombus affinis*) nectars on monarda.



## Section 4: Nesting and Overwintering Habitat

Bumble bee colony success is often limited by the availability of suitable nesting and overwintering sites. Diverse habitat features will increase the likelihood of nesting and overwintering success.

4. Bumble bee nesting preferences vary by species and local habitat conditions. Generally, bumble bees nest under ground, often in abandoned rodent nests. They are also known to nest in dry cavities above ground, such as in rock walls or under clump-forming bunch grasses. The nests are often found under woody plants, tall grasses, or hidden among vegetation or plant materials, and can be difficult to detect. Bumble bees often overwinter underneath leaf litter, in the duff layer of forests, or under loose soils.

Max score of 30.

SCORE ALL OPTIONS THAT APPLY	Score	Before	After	Treatment to increase score
Areas of undisturbed (for example, ungrazed) native bunch grasses (clump-forming)	>20% = 5 ~20% = 3 <5% = 1			
Areas with loose soil with evidence of rodent activity (holes, surface tunnels, etc.) (compacted or hard packed bare ground does not count toward the total)	>20% = 5 ~20% = 3 <5% = 1			
1 point for every 10% of area that is unmowed, ungrazed, and not subject to controlled burning	0-10			
Areas of site with woody cover, or other sheltered areas where bumble bees could build their nest or overwinter (downed wood, rock walls, brush piles, forest duff layer, etc.)	>20% = 5 ~20% = 3 <5% = 1			
Leaf litter left on site in the fall and through the spring (for overwintering queens)	5			

Nesting and Overwintering Habitat Total

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The photos below illustrate some typical nesting and overwintering habitat.





## Section 5: Management and Pesticide Practices

Management practices in and adjacent to habitat areas have a significant influence on bumble bee populations.

### 5a. Pesticide use, including pollinator-toxic insecticides. *Max score of 40.*

SCORE ALL OPTIONS THAT APPLY	Score	Before	After	Treatment to increase score
Invasive weed control, if any, carried out with targeted herbicide applications, rather than broadcast (also score 5 if herbicides are not used)	5			
No use of insecticides on site and no suspected use on adjacent lands (If yes, score points and continue to 5b)	5			
No use of fungicides on site (5 pts). The only fungicides used on site are part of an IPM program that specifically addresses pollinator protection, and each use has a documented need to manage an economic or public health pest (2 pts)	0-5			
If any insecticides are used on site they are part of an IPM program that specifically addresses pollinator protection, and are for the management of economic or public health pests (e.g., emerald ash borer or disease transmitting mosquitoes). Also score points if no insecticides are used on site.	8			
Pollinator habitat on site is adequately buffered from insecticide applications including: <ul style="list-style-type: none"> <li>Min. 125' buffer from any neonicotinoid use on and/or adjacent to site (including seed treatment) (2 pts)</li> <li>No aerial (helicopter/airplane) applications on and/or adjacent to site (2 pts)</li> <li>Min. 60' spatial buffer from any airblast applications of other (non-neonicotinoid) insecticides on and/or adjacent to site (1 pt)</li> <li>Min. 40' spatial buffer from any non-airblast ground applications of insecticides on and/or adjacent to site (1 pt)</li> <li>Vegetative buffers, even if they do not meet the distance minimums listed above, include the use of larger-stature non-pollinator attractive vegetation (e.g., coniferous hedge rather than mowed grass) (2 pts)</li> </ul>	Score points for each bullet point met			
If insecticides are used spray drift is carefully controlled and spray equipment is calibrated annually, as per state regulations. Also score points if no insecticides are used on site.	2			
<b>Pesticide Practices Total</b>				

### 5b. Land management techniques used on the site or in adjacent area. *These questions pertain to ongoing site management as opposed to site preparation. Note 'n/a' if option is not applicable to the site.*

*Max score of 40.*

SCORE ALL OPTIONS THAT APPLY (M = Management Matches Description, S = Somewhat Matches, N = No Match, N/A = Doesn't apply)	Score	Before	After	Treatment to increase score
If mowing or haying occurs, then entire disturbed area is limited to 1/3 of habitat per year. Haying or mowing is done patchily, at reduced speeds (<8 mph), with high mower height (12-16"), and in late summer (after peak bloom).	M = 10 S = 5 N = 0 N/A			
If site is grazed, then conservation grazing plan is in place and includes prescribed grazing practices that encourage wildflower diversity/abundance, such as low intensity grazing, or short duration grazing with long recovery periods.	M = 10 S = 5 N = 0 N/A			
If burning occurs, then entire disturbed area is limited to 1/3 of habitat per year, and a patchy burn approach is used leaving numerous skips and unburned patches. A 3-10 year burn rotation period is used, and the time of year when burning occurs is varied. Rare invertebrate species and their specific needs are considered.	M = 10 S = 5 N = 0 N/A			
Managed bees (both honey bees, and commercial bumble bees) are known to both compete with native bumble bees, and have been shown to transmit diseases to wild bumble bees. When the rusty patched bumble bee is near, it is best to avoid the use of managed bees, and honey bees. If honey bees are used they should be kept at low densities. (no managed bees = M, <0.5 Honey bee hive/acre = S, >0.5 Honey bee hive/acre and/or commercial bumble bees present = N).	M = 10 S = 5 N = 0			
<b>Management Practices Total</b>				



# Habitat Assessment Reference Materials

## General Pollinator Conservation

### *Protecting Habitat From Pesticide Contamination*

This guidance document was designed to help land managers safeguard pollinator habitat from harmful pesticide contamination. It includes information on selecting habitat sites, as well as ways to maintain clean habitat by limiting and carefully managing pesticide use.

[http://www.xerces.org/wp-content/uploads/2016/10/ProtectingHabitatFromPesticideContamination\\_oct2016-02.pdf](http://www.xerces.org/wp-content/uploads/2016/10/ProtectingHabitatFromPesticideContamination_oct2016-02.pdf)

### *Pollinator Conservation Resource Center*

The Pollinator Conservation Resource Center includes regional information on plants for pollinator habitat enhancement, habitat conservation guides, nest management instructions, bee identification and monitoring resources, and directories of native pollinator plant nurseries.

[www.xerces.org/pollinator-resource-center/](http://www.xerces.org/pollinator-resource-center/)

### *Attracting Native Pollinators*

A complete guide to the fascinating lives of these vital creatures. The book includes detailed profiles of over 30 commonly encountered bee genera and more than 50 pages of fully-illustrated plant lists that enable you to choose the best plants for your region.

<http://xerces.org/announcing-the-publication-of-attracting-native-pollinators/>

### *Upper Midwest Citizen Science Monitoring Guide: Native Bees*

Developed by the Xerces Society, this guide provides instructions for assessing pollinator habitat quality and diversity in the Upper Midwest by monitoring native bees. It was developed for conservationists, farmers, land managers, and restoration professionals to document how native bee communities change over time in pollinator habitats.

[http://xerces.org/wp-content/uploads/2016/05/UpperMidwestBeeCSMG\\_May2016\\_web.pdf](http://xerces.org/wp-content/uploads/2016/05/UpperMidwestBeeCSMG_May2016_web.pdf)

### *Pollinator Habitat Installation Guides*

These regional guidelines provide in-depth practical guidance on how to install and maintain foraging and nesting habitat for pollinators in wildflower meadow plantings or linear rows of native flowering shrubs. Region-specific seed mixes and plant recommendations are included in the appendices of each guide.

<http://xerces.org/pollinator-conservation/agriculture/pollinator-habitat-installation-guides/>

### *Pollinators in Natural Areas: A Management Primer*

A fact sheet discussing the importance of pollinators in natural areas, as well as their habitat needs. An extensive list of references is also provided.

[http://www.xerces.org/wp-content/uploads/2008/11/pollinators\\_in\\_natural\\_areas\\_xerces\\_society.pdf](http://www.xerces.org/wp-content/uploads/2008/11/pollinators_in_natural_areas_xerces_society.pdf)

### *Inside Agroforestry—Windbreaks*

An article about using windbreaks to provide pollinator habitat or to capture pesticide drift.

<http://nac.unl.edu/documents/insideagroforestry/vol20issue1.pdf>

### *Introduced, Invasive, and Noxious Plants*

Federal and state noxious weed lists, invasive plant lists, and

introduced plant lists, with links to more information.

<https://plants.usda.gov/java/noxiousDriver>

*An overview of the potential impacts of honey bees to native bees, plant communities, and ecosystems in wild landscapes: Recommendations for land managers*

A review of the potential threats that managed bees may pose to native bees, including the rusty patched bumble bee.

[http://www.xerces.org/wp-content/uploads/2016/09/Xerces\\_policy\\_statement\\_HB\\_Final.pdf](http://www.xerces.org/wp-content/uploads/2016/09/Xerces_policy_statement_HB_Final.pdf)

## Bumble Bee Conservation

*Conserving Bumble Bees: Guidelines for Creating and Managing Habitat for America's Declining Pollinators*

A publication to help landowners and managers create, protect, and restore habitat for bumble bee populations.

[www.xerces.org/wp-content/uploads/2012/06/conserving\\_bb.pdf](http://www.xerces.org/wp-content/uploads/2012/06/conserving_bb.pdf)

### *Bumble Bee Watch*

A collaborative citizen science effort to track and conserve North America's bumble bees.

[www.bumblebeewatch.org](http://www.bumblebeewatch.org)

### *Bumble Bee Pocket Identification Guides*

Pocket identification guides are available for the following species: the rusty patched bumble bee (*Bombus affinis*), the western bumble bee (*Bombus occidentalis*), and the yellowbanded bumble bee (*Bombus terricola*).

<http://xerces.org/identification-guides/bumble-bee-pocket-id/>

### *Lady Bird Johnson and Xerces Society Plant Database for Bumble Bees*

The Xerces Society partnered with the Lady Bird Johnson Wildflower Center to generate a list of plants that are of special value to bumble bees.

[www.xerces.org/lbj](http://www.xerces.org/lbj)



This mesic prairie provides both forage and nesting habitat with a mix of native wildflowers and bunch grasses.



To: Kendall County Forest Preserve District Operations Committee

From: David Guritz, Director

RE: 2019 Pilot Bowhunt Program Updates

Date: February 5, 2020

2019 Pilot Bowhunt Program Updates

Here are highlights from the 2019 Season:

Harvest total: 18

15 Doe; 1 Antlerless; 2 Buck

Fox River Bluffs	2
Millbrook North	5
Hollenback	1
Henneberry	5 (2-CWD Positive Reports)
Pickerill-Pigott	5

The District has received extremely positive reports from permit holders. This will be captured and reported from the follow-up survey.

Neighboring Property Owner / Encroachment Issues Reported / Addressed

1. Henneberry Forest Preserve
2. Millbrook North Forest Preserve

Preliminary Recommendations for Program Changes for the 20-21 Bowhunt Season

1. Complete a satisfaction survey of permit holders for support of recommended 20-21 changes
2. Reschedule the start date to October 1 to coincide with the start of the season
3. Set a standard to allow platform stands (height limit and fall-restraint system)
4. Expand zone areas – continue to allow a max occupancy of 2-hunters per zone
  - a. Retain 50-yd. buffers between zones / 75-yd. buffers to preserve boundaries (see attached)
5. Expand non-accessible preserve areas to include:
  - a. Little Rock Creek / Maramech (5-zones)
  - b. Millington (TBD) (1- to 2 zones)
6. Consider expanding hunting zone areas within remote areas following publically accessible preserves:
  - a. Jay Woods (1-zone)
  - b. Baker Woods (1-zone)
  - c. Subat (1-zone)
  - d. Richard-Young (2-3 zones)
  - e. Pickerill-Pigott (4-zones)
  - f. Millbrook North (2-3 zones)
7. Suspend the doe-first rule after November 1 or November 15
  - a. Set a minimum logged-hours threshold for permit holders
8. Set limits and extend opportunities for permit holders to purchase an in-county or out-of-county guest pass

## Sample Zone Reconfiguration





To: Kendall County Board of Commissioners- Operations Committee

From: Emily Dombrowski, Environmental Education Programs Manager

RE: Education Department Program Updates

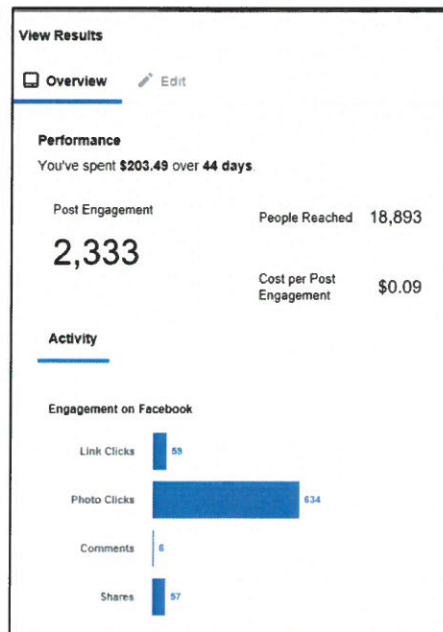
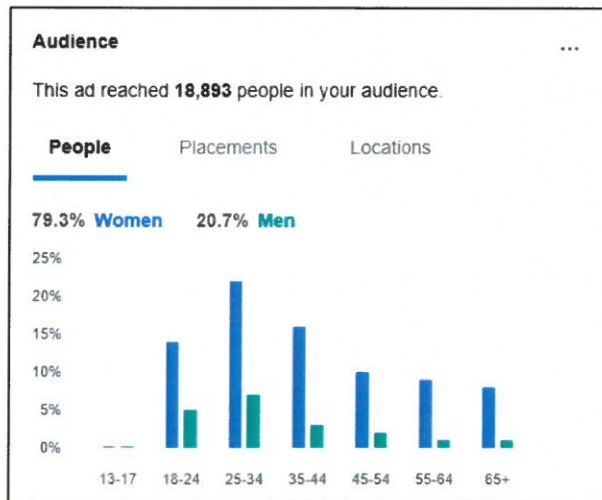
Date: February 4, 2020

### Summer Camp Updates:

Our spring break and summer camp registration opened on January 23! 26 children are registered for camps so far! So far all marketing that has been done for summer camps has been organic (without cost.) We sent emails to families that signed up the previous year, posted the booklet and forms on our website, and made a Facebook post about camps that shared in local interest pages. We will begin marketing summer camps on Facebook through Facebook Ads to reach a targeted audience.

### Natural Beginnings Enrollment Updates:

Natural Beginnings will host an open house on February 22<sup>nd</sup>. There are currently 10 spots open in the program (there are a total of 60 spots in the program.) We have a Facebook ad running for our Natural Beginnings open house. Here are the current results of that ad.



**Kendall County Forest Preserve District Education Department**

Published by Emily Dombrowski | 7 | December 23, 2019

**Save the date!!**

Natural Beginnings Early Learning Program is hosting open houses on January 11th and February 22nd from 11 am-1:30 pm at Hoover Forest Preserve in the Rookery Building.

Please bring your child and find out how our program stimulates intellectual, social, emotional, and physical development while fostering curiosity through hands-on projects and authentic, real world learning opportunities.

For more information, visit our webpage at [kendallforest.com](http://kendallforest.com)

## Ellis House 2020 Events Schedule

Date	Hours	Type of Event	Event Name		Event Coordinator	Facility Attendant	Event Attendant	Number of Guests
January 25, 2020	1pm to 5pm	Baby Shower	Ikner	\$240.00	Desiree White	X	X	40
February 16, 2020	Noon to 4pm	Baby Shower	Klien	\$240.00	Desiree White	X	X	50
May 23, 2020	Noon to 4pm	Baby Shower	Lundsford	\$240.00	Desiree White	X	X	60
August 8, 2020	1pm to 6pm	Family Reunion	Bajda	\$325.00				100
August 22, 2020	3pm to 11pm	Reception	Kolher/LaPash	\$1,000.00				150
September 5, 2020	3pm to 11pm	Quinceañera	Barrios	\$1,000.00				250
September 12, 2020	3pm to 11pm	Wedding / Reception	Allen	\$1,000.00				150
				<b>\$4,045.00</b>				

Updated 1/17/20



**Weddings / Receptions - 2020**

Event Date	Type of Event	Anticipated Rental Payment	Rental Payment Due	Rental Amount Paid	Security Deposit	Security Dep. Paid/Ret'd	Facility Attendant
Davidson, J	1-Feb-20 Ceremony & Reception	\$1,600.00	2-Dec-19		\$800.00	Pd 4/22	cancelled 8/15 - 50% retained
Bauer, K	24-Apr-20 Ceremony & Reception	\$1,300.00	24-Feb-20		\$650.00	Pd. 8/8	

**Other Rentals - 2020**

Maertzig	7-Dec-19 Baby Shower	\$230.00	14-Oct-19	\$230.00	\$115.00	Pd. 10/7	
Gondar (KC Dem)	15-Dec-19 Holiday Brunch	\$215.00	15-Nov-20	\$215.00	\$107.50	Pd. 11/15	
Fisher	21-Dec-19 Family Christmas	\$430.00	21-Oct-19	\$430.00	\$215.00	Pd. 9/13	
Kick	12-Jan-20 Baby Shower	\$270.00	12-Nov-19	\$270.00	\$135.00	Pd. 10/7	
Jackson, L	1-Feb-20 Family Holiday	\$285.00	31-Dec-19	\$285.00	\$142.50	Pd. 12/18	
Zimmerman	15-Feb-20 Renewal Vows	\$350.00	16-Dec-19	\$350.00	\$175.00	Pd. 10/11	
Nelson	22-Feb-20 Church Dinner	\$190.00	22-Jan-20	\$190.00	\$95.00	Pd. 1/22	
Collofello	29-Feb-20 Family Reunion	\$585.00	27-Dec-19	\$585.00	\$292.50	Pd. 10/18	
Apodaca	14-Mar-20 Birthday Party	\$270.00	14-Feb-20		\$135.00	e-mailed 2/4	
Freeland	22-Mar-20 Birthday Party	\$345.00	22-Feb-20		\$172.50	e-mailed 1/27	
Ward	3-May-20 Baby Shower	\$330.00	3-Mar-20	\$330.00	\$165.00	Pd. 2/3	
Karales	May 8-9 5K Run	-	-		-	-	Board approved
Goodspeed	16-May-20 Baby Shower	\$465.00	16-Mar-20		\$232.50	e-mailed 2/4	
KC Sheriff (Phillips)	20-May-20 Academy Orientation	--	--		--		Board approved
Torok	30-May-20 Graduation Open House	\$365.00	30-Mar-20		\$182.50	Pd. 1/22	
Buck	6-Jun-20 Graduation Open House	\$585.00	3-Apr-20		\$292.50	e-mailed 2/4	
Chacon	7-Jun-20 Graduation Ceremony	\$355.00	3-Apr-20		\$177.50	e-mailed 2/4	
Holm	13-Jun-20 Family Reunion	\$510.00	13-Apr-20		\$255.00	Pd. 12/9	
Kermeen	14-Jun-20 Bridal Shower	\$285.00	14-Mar-20		\$142.50	Pd. 1/22	
Lee, J	27-Jun-20 Family Reunion	\$460.00	27-Apr-20		\$232.50	Pd 6/5	
Conklin	10-Jul-20 Rehearsal Dinner	\$345.00	10-May-20		\$172.50	e-mailed 10/10	Tentative

Other Rentals - 2020

Buran	11-Jul-20	Baby Shower	\$190.00	11-May-20	\$95.00	e-mailed 2/4	
Patel	July 17-26	Retreat	\$2,500.00	18-May-20	\$1,250.00	Pd. 12/1	
Engelhardt	8-Aug-20	50th Anniversary	\$610.00	8-Jun-20	\$305.00	Pd. 8/19	
			\$11,470.00	\$2,885.00	\$5,737.50		



To: Kendall County Forest Preserve District Operations Committee

From: David Gurtiz, Director

RE: February 2020 Operations Focus

Date: February 5, 2020

District staff will be working to address the following priorities in February:

1. Prepare for the USF&WS ESA-Section 7 Consultation
2. Complete bidding for the Pickertill-Pigott Phase I OSLAD
3. Award contract and begin discussions on changes the Millbrook Bridge in-stream workplan
4. Begin the Millbrook Bridge historic documentation study
5. Transition to the EquiLesson software and payment platform
6. Prepare for the Granicus website launch
7. Complete prescribed burning and broadcast seeding at Fox River Bluffs and Hoover Forest Preserves
8. Complete 2020 farm license agreements – complete the bid package for a 3-year Baker Woods hay contract
9. Complete 2019 Bowhunt Pilot Program surveys
10. Complete repairs to the drain tile at Subat
11. Complete an inspection and repair to the Hoover lift station pump