

# RUSTY-PATCHED BUMBLE BEES ALONG THE BRUCE VENTO TRAIL

By Kathy Sidles, Saint Paul Parks Volunteer and U of Mn Extension Master Naturalist, [kesid@aol.com](mailto:kesid@aol.com)



## South Shore of Phalen

- In 2016 I heard that a bumble bee was headed for the US Fish and Wildlife Service Endangered Species List.
- I stopped at the south end of Lake Phalen where the Bruce Vento Trail comes off the berm.
- I saw a bumble bee and took a picture of it. Months later I looked at it to upload to [www.bumblebeewatch.org](http://www.bumblebeewatch.org). It was an endangered rusty-patched!



# Boardwalk Woods

- I pick up trash along the Vento Trail as a Saint Paul Parks Volunteer.
- While doing this I survey birds for eBird and take pictures of Bumble Bees for Bumblebeewatch.
- I saw another Rusty-Patched at what I call Boardwalk Woods at the SE corner of Lake Phalen near the trail.



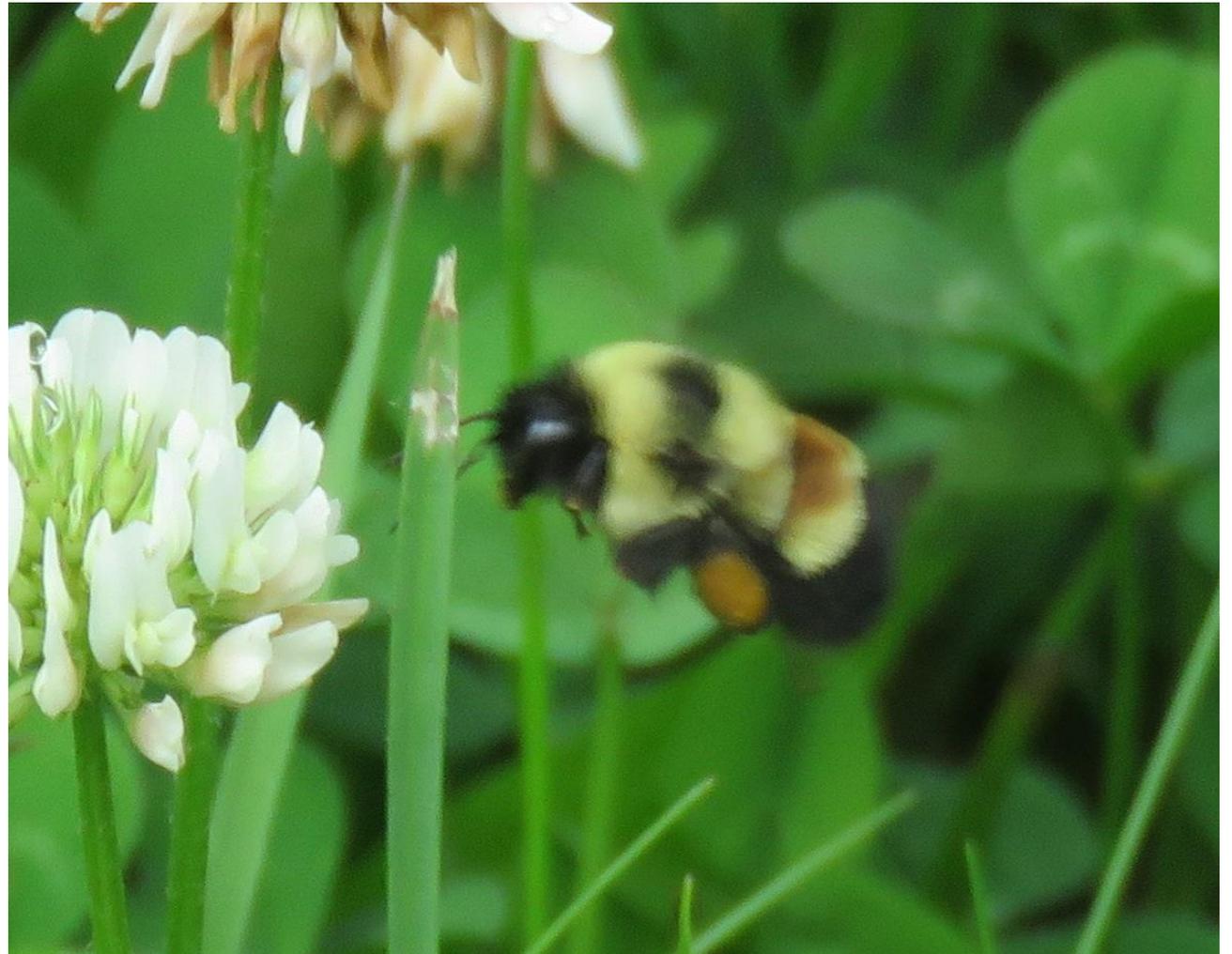
# Boardwalk Woods Wetland

- At the edge of the Vento RR berm Boardwalk Woods, in the native-planted wetland, I saw four more Rusty-Patched bumblebees during an iNaturalist.org Backyard Bumblebee Count Week.



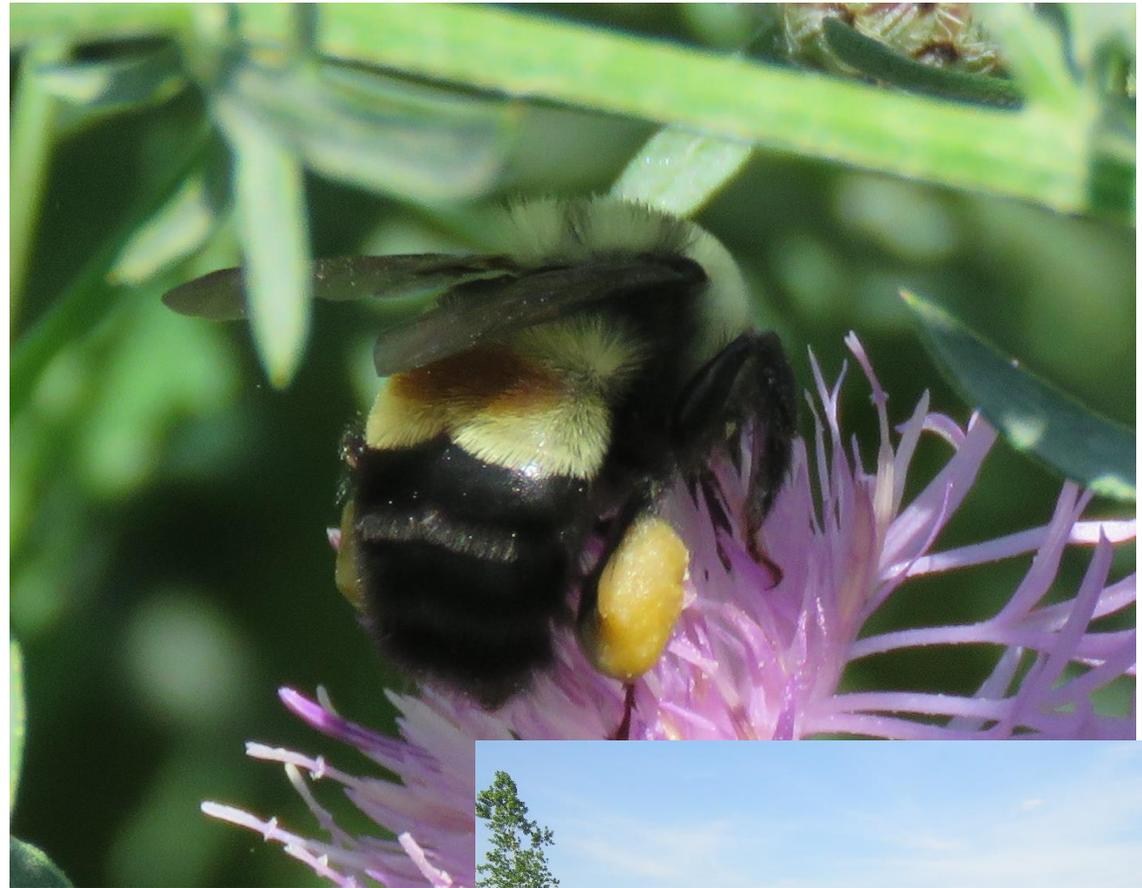
## SOUTH OF LAKE PHALEN

- The Bureau of Water and Soil Reclamation, BWSR, gives out \$350 for residential pollinator gardens. It's called the Lawns to Legumes program. Its goal is to save our State Bee, the endangered rusty-patched.
- "Legumes" means clover. Do bumble bees like clover? I surveyed bumblebees in the big "Bee Lawn" (mowed long and less often that summer, short and often now) in the former Phalen Creek bed south of Lake Phalen just off the Vento Trail. I saw one rusty-patched at clover! And many other bumble bees...fewer now that grass is mowed short.



# HERITAGE PARK

- Phalen Creek used to drain Lake Phalen to the Mississippi where the Vento Trail and Phalen Boulevard now are. When mowed 6" high dandelions and clover help make it a bumble bee corridor between Phalen, Big Urban Woods and Prairie, East Side Heritage Park and Swede Hollow. The Purple Line replaces this.
- I saw two rusty-patched at East Side Heritage Park one year. And one in the city storm pond there.
- I see LOTS of big Black and Gold bumblebees in the creek bed off Arcade. And one "likely" American which is headed for the Endangered Species list next year. In early spring they are at groves of Wild Plum where the Vento Trail goes to Swede Hollow.



# PURPLE LINE ROUTE

All of these areas will be bulldozed or significantly reduced in size by the Purple Line extra lanes.

This will reduce the Vento Trail as a wildlife corridor.

It will also make it harder for the Dakota-led Lower Phalen Creek Project's plans to daylight Phalen Creek south of Lake Phalen but especially off of Arcade, from what I saw at a District 5 workshop.

And the Vento Trail is part of the North Star Trail to Duluth that can bring tourism for job creation to our area, selected by bike riders for its green space trail.



Dakota life has always moved with the seasons and along the water.

Bde Maṭo Ska White Bear Lake

Lake Phalen

Swede Hollow

Imnīṭa Ska Saint Paul

Waḡaṇ Tīpi

Maḡa Paha Indian Mounds

Wakpa Tīpiṭa Mississippi River

Phalen Creek

HISTORIC CANOE ROUTE

"These places which are connected by the water have the power to sustain life...this entire area is Waḡaṇ (sacred)."

Maggie Lorenz, Waḡaṇ Tīpi Center Director

4 kilometers  
2.5 miles

NORTH

# SOUTH OF THE VENTO TRAIL

- For the last two years I have seen rusty-patched bumblebees in native flowers in Swede Hollow, for a total of four.
- Also a total of five over two years at Bee Balm in Mounds Park.
- The Vento Bike Trail/Phalen Creek bed and all the parks and storm ponds along there could be upgraded for pollinators. It would be a good urban trail and wildlife corridor for bumblebees from Keller Lake south through Bruce Vento Nature Sanctuary to Mounds Park, and from there to Battle Creek Park.



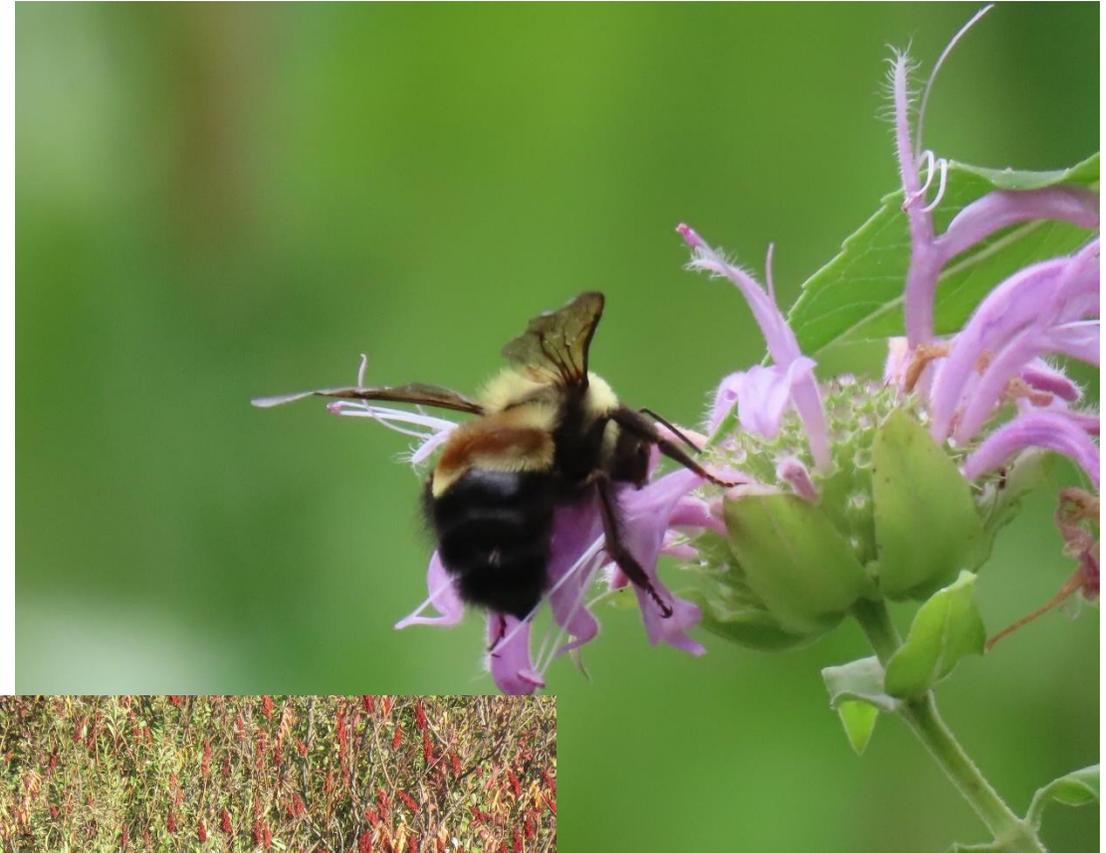
# AMES LAKE

- Native planted and restored Ames Lake has hosted rusty-patched bumblebees each year I have surveyed except in 2022. I have seen a total of 16 there.
- A bottomland forest to its south connects to RR tracks heading east. Train brakes set prairies on fire so there are lots of native plants and oaks along the RR tracks. I see bumble bees there – the RR acts as a neglected wildlife corridor.
- Otherwise Ames Lake has recently been surrounded by development in what were grass lots.



## EAST THIRD

- The underground pipe - the Beltline Interceptor - Phalen Creek now flows in, and our sewer pipes, go parallel to Birmingham to the Mississippi.
- There are neglected natural area woods, prairie and wetland above it.
- I have seen rusty-patched bumblebees three different years in the field north of East third above this pipe, and other bumble bees.
- I saw a coyote there once!



# Gladstone

- I took a picture of a rusty-patched at Gladstone Savannah, in Maplewood just west of the trail off Frost Ave, during the 2021 drought, in a damp area where storm water flows.



# KELLER CREEK NORTH OF LAKE PHALEN

I also have seen them along native-planted Keller Creek in Maplewood, once four in one place at thick Joe Pye Weed, and other times as individuals, for a total of nine.



# POOR FARM CEMETERY

- I have seen rusty-patched at the native-planted Poor Farm Cemetery off of White Bear in Maplewood for a total of eight.
- Once there was a Queen Rusty-patched there. And the U of Mn Bee Lab had us volunteers come look at all the rusty-patched bumble bees there last summer. Maybe there was a nest.
- The year before I saw eleven across the Gateway trail from the cemetery, in an area restored by Maplewood Nature Center – where the goats were put in last fall.



# RESERVOIR WOODS, TAMARACK NATURE CENTER

- Last summer I saw two rusty-patched bumble bees at Reservoir Woods, west off of Larpenteur.
- And for two summers I saw them north of us at Tamarack Nature Center.
- Other people have confirmed sightings in Maplewood near the trail and elsewhere in the east metro.



# HOME, EAST OF LAKE PHALEN/VENTO TRAIL

- We live six blocks east of Lake Phalen and the Vento Trail. Like others east of Lake Phalen our yard slopes toward the lake.
- So we worked with the Ramsey Washington Watershed District to put in a big rain garden.
- I restored our yard with native plants seen in local parks. This attracts rusty-patched and other bumble bees to our yard. “Rusty” – a male rusty-patched - lived in our rain garden for ten days in late summer while attracting a new queen. I sculpted him in butter for the State Fair contest when the fairgrounds closed for COVID.



# HOME - WATERLEAF

- Virginia Waterleaf moved into bare spots in our yard that were caused by the 2021 drought. One day last spring there were seven different species of queen bumblebees that somehow found our Waterleaf.
- One was a queen rusty-patched – they don't have a rusty patch! Three rusty-patched workers showed up on different days after that.
- I have seen a total of 16 endangered rusty-patched in our yard since 2016.



# PHALEN BUMBLE BEES DROUGHT SURVEYS

- Pre-COVID I volunteered with the University of Minnesota to capture bumblebees at the west shore of Lake Phalen and take them to an expert under a tree to ID them and let them go. (See Elaine Evans at the Bee Lab).
- Due to COVID they stopped that in 2020. Volunteers like me who had been through Bee Lab bumblebee ID training took pictures and counted them instead.
- I surveyed again in 2021 and 2022 to see what drought did to them. Numbers went down...except the lake edges turned into a wetland with more flowers bumble bees like. Over three years I saw a total of 18 rusty-patched bumblebees there.



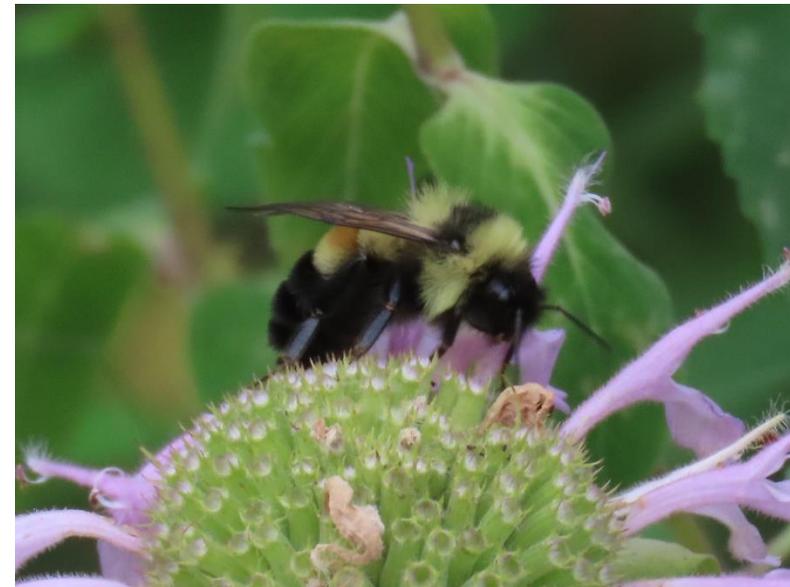
# ONE OUTSTATE RUSTY-PATCHED

- I survey outstate for the University Bee Lab in areas with no rusty-patched seen recently.
- 2021 – After many trips south of Albert Lea in rolling hills cow-calf farming there I found one rusty-patched bumblebee at Bee Balm.
- 2022 - I surveyed west of there, in natural areas surrounded by cropland. I saw few bumble bees, and no rusty-patched, even with flowers in restored tall grass prairies but will try again next year.



# TOTAL RUSTY-PATCHED SEEN

- I have seen 127 endangered rusty-patched bumblebees since 2016, mostly here on the east side off Saint Paul. But also at Trout Brook along the west side of 35E, at Monarch City in Frogtown, at my old work place near 494 and 35E and at Belwin's Stagecoach Prairie east on 94.
- I estimate I look at 200-300 bumblebees to see one rusty-patched!
- All have been verified on [www.bumblebeewatch.org](http://www.bumblebeewatch.org), or during Backyard Bumblebee Count Week by [www.iNaturalist.org](http://www.iNaturalist.org).



## USFWS MAP

- As you can see from the US Fish and Wildlife Service map green dots rusty-patched are now mostly being found in cities and not in their traditional wide habitat in black dots. WHY?
- Next are my guesses, as an amateur Citizen Scientist, based on what I see us doing that is in the US Fish and Wildlife rusty-patched Recovery Plan:

[https://www.fws.gov/sites/default/files/documents/Final%20Recovery%20Plan%20Rusty%20Patched%20Bumble%20Bee\\_2021.pdf](https://www.fws.gov/sites/default/files/documents/Final%20Recovery%20Plan%20Rusty%20Patched%20Bumble%20Bee_2021.pdf)

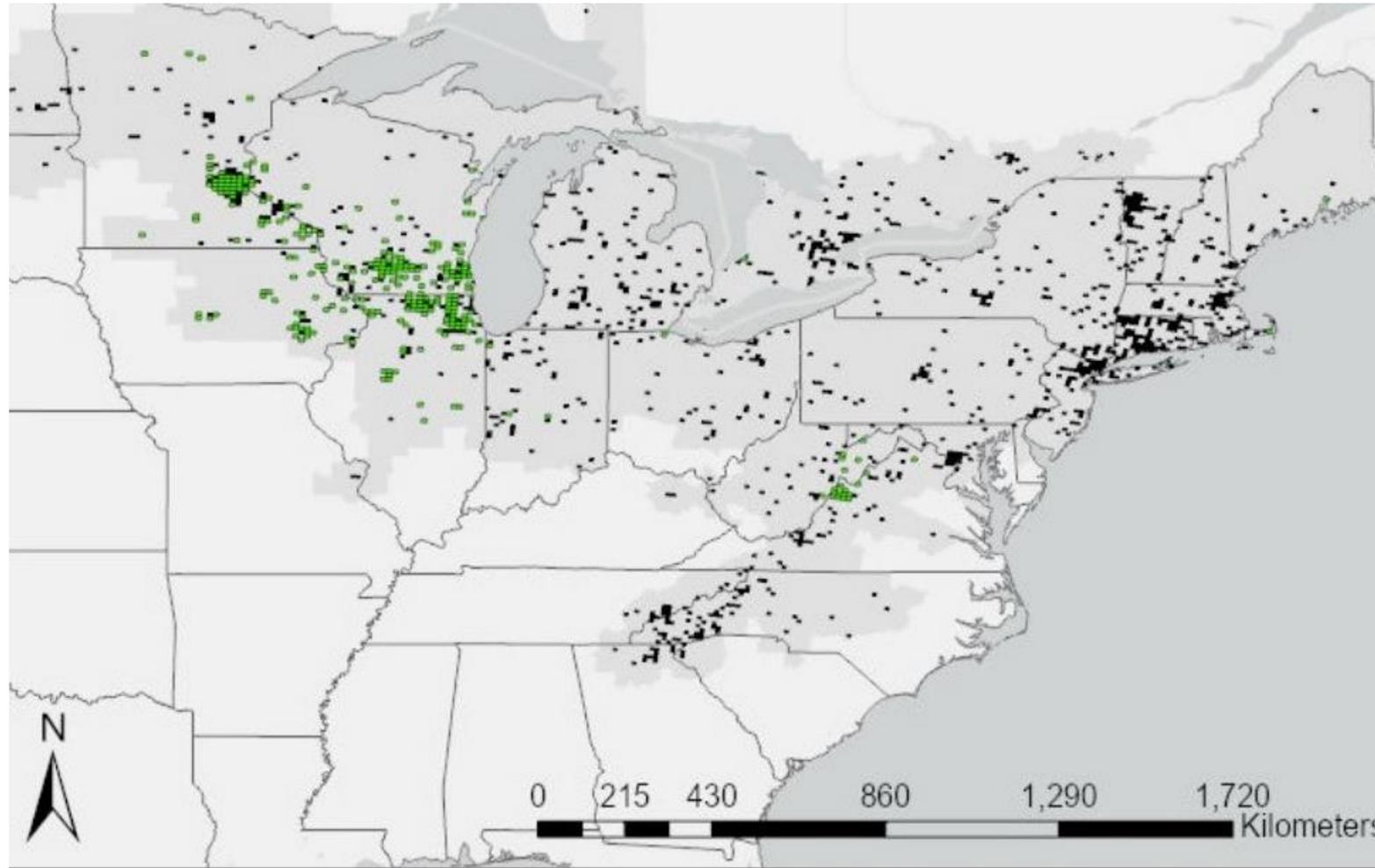


Figure 1: Historical distribution of the rusty patched bumble bee. The historical county range is shaded in gray; historical documented populations (verified record between 1900 and 2006) are marked in black and extant populations (verified record between 2007 and 2019) are shaded in green. Current maps can be found at <https://www.fws.gov/midwest/endangered/insects/rp/>



# 1. NO PESTICIDES

- CITY: When I moved here from Iowa 42 years ago pesticides were banned in cities. And we use hormones that target only mosquitos, not spraying that kills all insects.
- OUTSTATE: Soybean aphids overwinter on our buckthorn and fly south – farmers then have to spray millions of acres with pesticide that kills all insects.
- <https://extension.umn.edu/identify-invasive-species/common-buckthorn>



## 2. NATIVE PLANTS

- Ramsey Washington Metro Watershed District put native plants at the Poor Farm Cemetery, Ames Lake, Lake Phalen and wetlands, Keller Creek, and Keller Lake.
- And they help residents put in native plant rain gardens.
- There is some buckthorn removal so spring flowers get sun and grow for the bees.



### 3. CONNECTED NATURAL AREAS

- Native planted areas are connected by Keller Creek, the Vento Bike Trail forests and wet areas, railroad tracks, and neglected natural areas above utility lines.



# 4. SOFT SOIL AND EARLY SPRING FLOWERS IN WOODS

- Only the new queen bumblebees overwinter. They need deep leaf litter and soft soil to bury themselves. As a hilly river city we still have a few undeveloped forested steep hills and bottomland forests. I see some original early blooming wild plums, gooseberries, violets and raspberries.
- The earliest bumblebees I see are in late April in woods along the Vento trail at large patches of violets. I see big queens zooming around looking for flowers, a hole or leaf litter to spend the night, and a nest hole. Maybe they like the RR berm soft soil.



	Two-spotted bumble bee	Home, 44.982871, -93.038913, Minnesota	2020-04-30		<a href="#">Kathy Sidles</a>
<a href="#">Bee-60033</a> 	Two-spotted bumble bee	Boardwalk Woods, 44.978940, -93.046668, Minnesota	2020-04-30	?	<a href="#">Kathy Sidles</a>
<a href="#">Bee-59875</a> 	Two-spotted bumble bee	Boardwalk Woods, 44.978940, -93.046668, Minnesota	2020-04-26	?	<a href="#">Kathy Sidles</a>
<a href="#">Bee-17164</a> 	Two-spotted bumble bee	Vento Trail North of Arlington, 44.985444, -93.045466, Minnesota	2017-04-22	✓	<a href="#">Kathy Sidles</a>



## 5. HEALTHIER GENETICS WITH THESE CORRIDORS

- 127 rusty-patched seen since 2016 sounds like a lot. But if there aren't multiple nests in an area the population can go down fast.
- This is because the males only have their mother's genes. Future nest health goes down unless they mate with queens from other nests.
- More study of this is needed, the US Fish and Wildlife Service Restoration Plan says, to know what a healthy number of rusty-patched nests is.



## 6. PUBLIC SUPPORT

One example of public support to save the Rusty-patched bumble bee are the bi-partisan bills funding the Lawns to Legumes program for four years in a row to add pollinator habitat in residential areas.

It is very popular!

<https://bwsr.state.mn.us/l2l>



your yard  
**CAN BEE**  
the **CHANGE**  
#Lawns2Legumes





## 7. THE VENTO TRAIL IS A HEALTHY ECOSYSTEM

- While picking up trash along the Vento Trail I see LOTS of migrating warblers, sparrows, and other birds in the spring.
- And I see LOTS of spring flowers and shrubs listed by the DNR in healthy wetter hardwood forests.



# VENTO TRAIL IS A HEALTHY ECO-SYSTEM, CONT'D

- In spring I hear frogs in wetlands at the bottom of the Vento Trail RR berm behind people's yards.
- I have seen toads hopping between wetlands, lots of hawks, a Barred Owl, Sharp-shinned Hawks, painted turtles, a big Snapping Turtle, opossums, and deer.
- All of these things we are doing along the Vento Trail and elsewhere are listed in the US Fish and Wildlife Service Recovery Plan for the endangered rusty-patched bumble bee.



## 8. THE TRAIL IS USER-FRIENDLY, BUT CO-EXISTS WITH NATURE

- On the trail I have seen people of all abilities. Dirt paths come from homes and apartments up to the trail.
- It is warm and wind-free in the winter and cool with shade in the summer. Humans, plants and animals like this.



# THE FUTURE

- While waiting for the outstate problems of chemicals and habitat loss to be solved, I think we should do more, not less, for healthy gene flow in our rusty-patched bumble bee neighbors.
- I am for choosing the second Purple Line option of BRT on 35E, with the addition that it goes to jobs both north and south. No east side buses go south to 494 and 35E where I worked in as a production engineer for 37 years!

## BRT Operating Environment

The Rush Line BRT would operate in:

- Dedicated guideway (BRT-only lanes).
- Business access and transit (BAT) lanes (bus lanes that allow private vehicles to make right turns).
- Mixed traffic (regular traffic lanes).



Larpeur Avenue station concept showing separated transit guideway



County Road E station concept showing BAT lanes



**Legend**

- Proposed Route
- Proposed Station
- Proposed Station and Park-and-Ride
- Separated Transit Guideway
- BAT Lanes
- Transit-Only Lanes
- Mixed Traffic
- Proposed Bridge Structure

New dedicated guideway bridges at the following locations:

- Connecting Arcade Street station to Phalen Boulevard.
- Over Johnson Parkway.
- Over the Gateway State Trail/Bruce Vento Regional Trail.
- Over the Weaver Elementary School/English Street.
- Over Highway 36.
- Over the Fitch Road/Barclay Street trail connection.
- Over I-694.

Sign up for email updates. Provide comments. Ask questions. Learn more.

[rushline.org](http://rushline.org) | [info@rushline.org](mailto:info@rushline.org) | 651-266-2780 | [facebook.com/rushline](https://www.facebook.com/rushline) | [@rushlinetransit](https://twitter.com/rushlinetransit)



# THE FUTURE

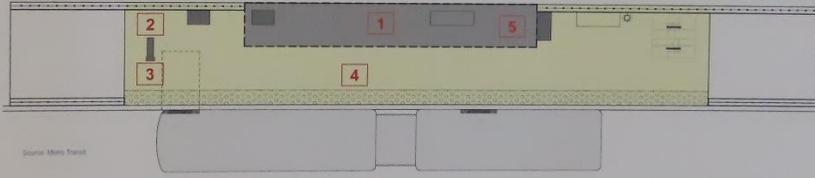
- With the Vento Trail saved, my alternative plan would enhance the trail as a Regional Park. Like the Gateway it would have educational events for urban families, funded by keeping more of our sales tax outdoor money that now goes outstate at least 5 to 1 I bet.
- And the local 64 bus would have fancy and accessible BRT-like stations added, like the popular Snelling bus, with fast buses on existing streets that go past apartments, like east on Maryland - that aren't served by BRT on the Vento Trail - and past our many local business areas.

**What is BRT?**



**HIGH-QUALITY BUS TRANSIT THAT:**

- Provides frequent service seven days a week from early in the morning to late at night.
- Operates primarily in dedicated bus lanes.
- Connects people to jobs, education, healthcare and recreation.
- Provides fast and reliable service.
- Has stations with amenities like shelter, light and heat.
- Supports economic development.



Source: Metro Transit

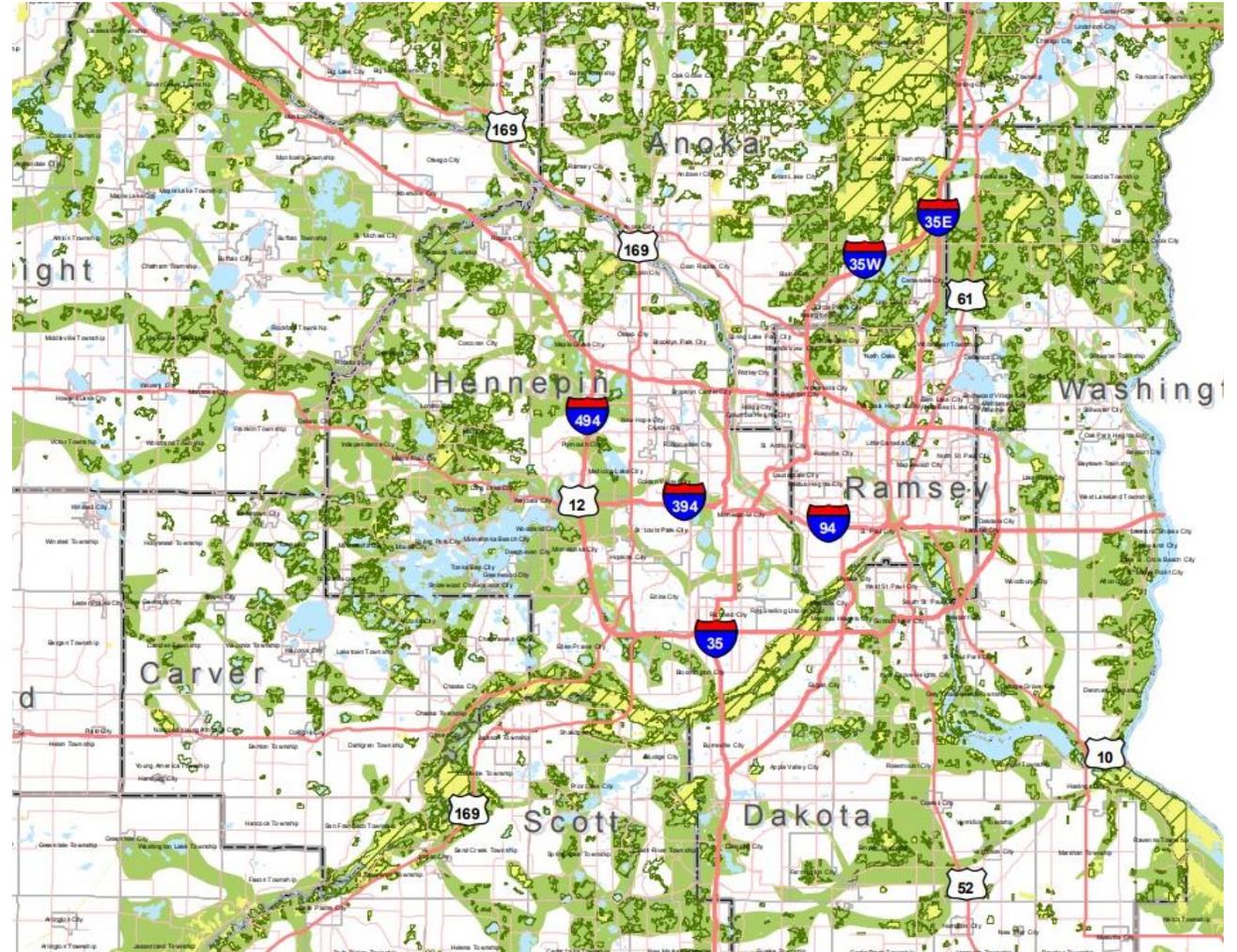
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# THE FUTURE

- And we could first do a wildlife corridor plan. In 2010 Portland did such a study before it started its LRT projects.
- Minnesota has a wildlife corridor plan but it doesn't go into the east metro, except for Swede Hollow.
- <https://www.oregonmetro.gov/sites/default/files/2019/08/22/wildlife-corridors-and-permeability-report-April-2010.pdf>
- <https://fmr.org/metro-conservation-corridors>



# THE FUTURE

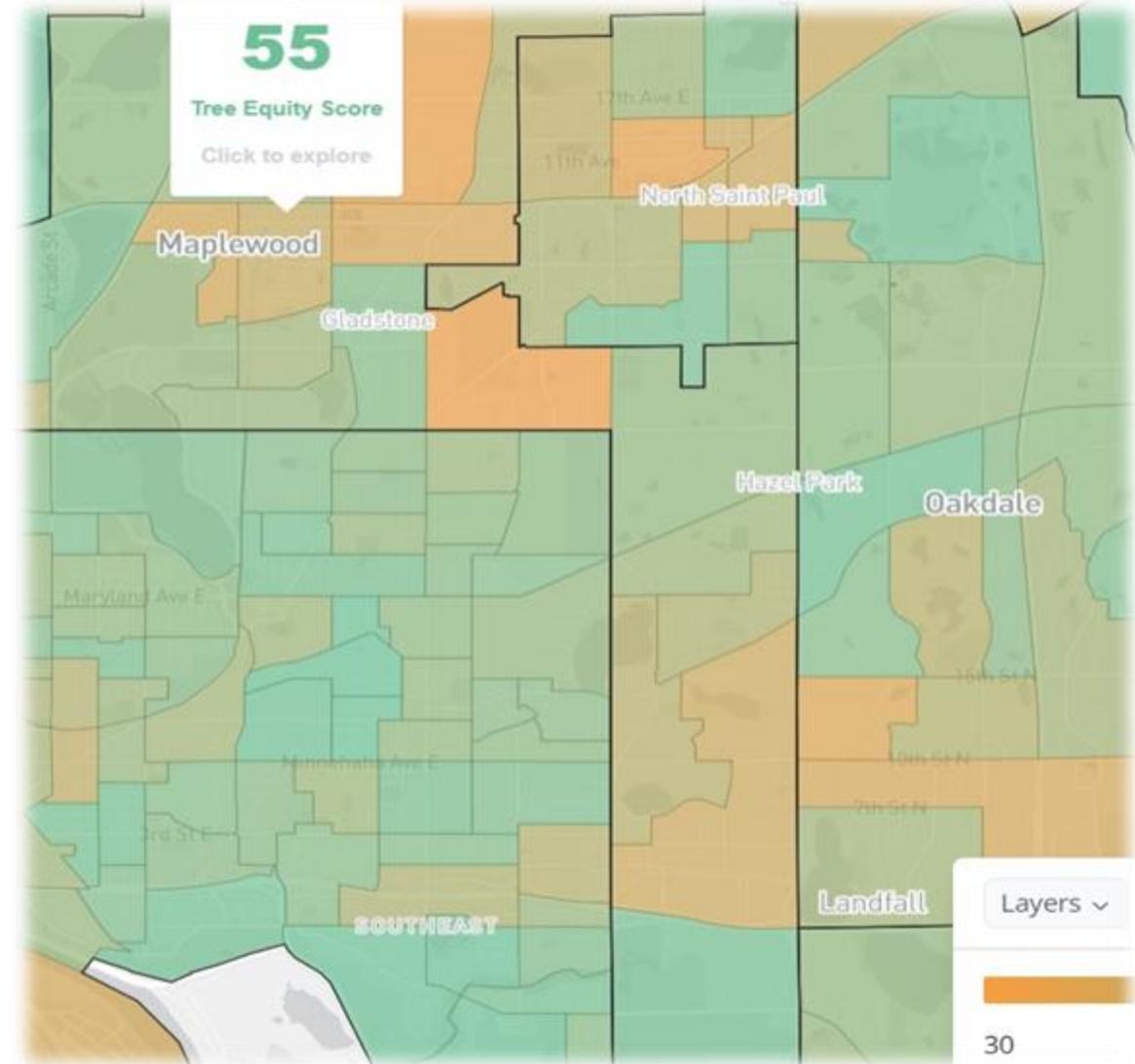
TREE EQUITY - Any trees being removed should be studied for tree equity. Bulldozing thousands of trees on the Vento Trail lowers tree equity.

This could lead to heat, crime, shorter life spans, less income and property tax variety, and less old house recycling without green space to compete with suburbs who have both transit and green space.

<https://treeequityscore.org/>

NO NEW SALT - And we should have a No New Salt goal - that is achieved using 35E lanes and existing roads. The Purple line plan with two new roads adds salt into the bottomland forests, Lake Phalen and its old creek bed.

Road salt builds up, doesn't degrade, and kills wetland and lake plants. It is a main pollutant in water from our cities into lakes and rivers Minnesota Pollution Control maps say.



# THE FUTURE

**FROG FRIENDLY** - I have seen Painted and Snapping Turtles and every spring hear frogs right off the trail. They don't do well with a road bigger than a trail, the Portland corridor study says. Its good for kids to hear and see frogs and turtles.

**DARK SKIES** - Plus we should have a No New Light Pollution goal. The Vento Trail is right behind 80 dwellings, and people, birds and amphibians don't do well with light and noise. We have too much light pollution already for migrating birds and insects, and to see the stars.

**LOTS OF JOBS** - And add in our new post-COVID / no BRT to White Bear reality. The Purple line route was sold to us based on getting to new jobs to the north (though most are downtown) but it's not going to those jobs now, and never went to south metro jobs.



# FUTURE

- GREEN SPACE - Between Arlington and Frost LOTS of people will have a quiet accessible trail replaced with a road with buses much of the night. Their houses will be squeezed between the BRT road and bike lane and English or McAfee. East side houses are getting older and don't recycle well without green space like the trail like suburbs have. I saw this in my old near north Des Moines and South Minneapolis neighborhoods – boarded houses were the result. In Minneapolis I started an Empty House Committee just to keep track of them so the city paid attention.
- STORE CO2- Concrete needs high temps to be made which has to be from carbon fuel – that should be factored in as a cost of the Purple Line replacing the Vento Trail. But the Audubon plan says with restoration we save 23% of carbon and save birds:

[https://www.audubon.org/conservation/climate/natural\\_solutions](https://www.audubon.org/conservation/climate/natural_solutions)



## USFWS SAYS (2019) MOW FLOWERS BEFORE BULLDOZING!

- The 2019 advice from the Fish and Wildlife Service for bulldozing the Vento Trail adds insult to injury. They should be helping to save this endangered bumble bee, not making it easy to remove remaining prime habitat.
- From Frank Alarcon, Ramsey County, email, June 18, 2019 passing on the USFWS construction recommendations - .....A few ways to minimize seasonal disturbance of the bees is to **avoid construction in areas of preferred habitat within the high potential zone of the bees (or areas of known bee occurrences) during the summer months when flowering plant species are present. Other ways that may be implemented to avoid impacting the bees is to mow vegetation in the spring and continue to mow until construction occurs to minimize bee foraging** in those areas.”



## ...OR DON'T BULLDOZE IN SUMMER

And also from Frank Alarcon, email, May 31, 2019 -  
“.....Here is the exact language from the Fish and  
Wildlife Service's determination, dated April 25,  
2019: "We concur that this project may affect, but  
is not likely to adversely affect the rusty patched  
bumble bee (*Bombus affinis*; RPBB). **Based on the  
information provided, the action area is unlikely to  
have high value floral resources for much of the  
proposed route and where potential RPBB habitat  
inside the action area insects with the High  
Potential Zones, seasonal avoidance will limit  
impacts to RPBB.** If this species was present in the  
area, we do not anticipated the temporary loss of  
this sub-optimal habitat to have a significant impact  
to the species. You have proposed a conservation  
measure to revegetate disturbed natural areas with  
a pollinator friendly seed mix that would benefit  
the species in the area.””



# MY RESPONSE

- I THINK THE uSFWS doesn't take its own Restoration Plan advice! Their Plan says not enough is known about genetic flow and how many nests are healthy. Their emails that say just mow all the flowers first doesn't take into account our recent apartment and business construction in green spaces in the area like a full Wildlife Corridor plan could.
- And new research shows FOREST TREES AND SHRUBS PLAY A BIGGER ROLE THAN THOUGHT IN PROVIDING NECTAR AND POLLEN FOR BEES INCLUDING BUMBLE BEES. The trees mentioned in the Bee City/Xerces Webinar on this are trees found along the trail (Oak, Black Cherry, Black Walnut, Willow, etc).
- <https://beecityusa.org/event/pollinators-in-the-woods-the-place-of-wild-bees-in-a-changing-forested-landscape/> Search for a YouTube recording of the Pollinators in the Woods webinar.



# SUMMARY, and thanks for your interest! Kathy Sidles

- The Vento Trail has a prairie, woodland and wetland mix that endangered rusty-patched bumble bees need. And it connects green spaces for good genetics. That's why we still see them, and many other bumble bees, along and near the Vento Trail!
- We should enhance the trail, RRs and utility land, and have an Urban Wildlife Corridor Plan. And pick fast local bus routes near present high density areas that get people of all abilities to jobs north and south on new 35E lanes, and to downtown and east metro businesses, while leaving our great trail.
- NOTE- Other people have confirmed rusty-patched sightings in these areas.

