

# Watersheds & Waterways

## Newsletter

Summer/Fall 2019

### A Note From the Program Coordinator



I would like to take this opportunity to say hello and introduce myself to our readers. My name is David Stein, and I am the new watershed coordinator at Prairie Rivers of Iowa. I come into this role with a unique background in ecology and conservation, particularly with prairies and pollinators. Luckily, the project that I will be heading is closely intertwined with my experience. We have been awarded a generous grant from the National Fish and Wildlife Foundation to continue our work with increasing conservation practices, while also adding a new emphasis on creating pollinator habitat to support several pollinating species of greatest conservation need. I'm excited to begin working with the community to continue

a focus on pollinators and late-blooming flowers. I encourage everyone to attend both this field day, and future field days to learn how you can help improve the quality of our water, soil and wildlife here in your local watersheds. The best way to stay informed on field days and events is to follow and keep in touch with Prairie Rivers of Iowa on social media. Our Facebook, Twitter, and Instagram are always updated with great information about events and important topics. Thank you all again, and I look forward to meeting with as many of you as I can throughout my time working here!

with some important conservation programs and introduce landowners to more ways of preserving Central Iowa's natural resources.

The Prairie Rivers Watersheds and Waterways team has been doing an excellent job with community outreach this summer. We've introduced the idea of conservation practices for nutrient reduction and pollinator habitat through events like seminars, county fairs, field days, and booth presentations. Our next field day will take place on September 7 and will be a tour of native plantings throughout story county with

Sincerely,

**David Stein,**

Watersheds & Waterways Program Coordinator

### Wetlands, Wet Times, Conservation Practices and Programs



#### Wetlands, Wet Times, Conservation Practices and Programs

On June 26 Prairie Rivers of Iowa held a conservation field day event at the Hamilton County Kamrar Wildlife Area. This event was a chance for property owners to learn more about the solutions and assistance needed in regards to the effects that wet weather can have on their land. Representatives from Prairie Rivers of Iowa, the Natural Resources Conservation Service (NRCS), the Iowa Department of Agriculture and Land Stewardship (IDALS), the Hamilton County Conservation Board, the Iowa Agricultural Mitigation Bank, Legacy Learning Boone River Valley and Pheasants Forever presented and answered questions from attendees.



# The Endangered Species in your Backyard

**David Stein**  
Watershed Coordinator

When someone thinks of an endangered species, their mind often wanders away from home, imagining big, exotic animals like lions, elephants and pandas. However, those of us in Iowa usually don't think of an endangered animal calling our neighborhood home,



U.S. Fish and Wildlife Service; Kim Mitchell

but this couldn't be further from the truth. In 2017, we got an endangered species to call our own (for better or worse). This was the rusty patched bumblebee, also known as *Bombus affinis*. This bee is an interesting pollinator. Like honeybees, rusty patched bumblebees make relatively large hives with a queen, workers, drones and even a honey-like substance. Being pollinators, we depend on them for food production. In fact, bumblebees,

like the rusty patched, are the best pollinators we have for tomatoes, peppers, eggplant, blueberries and cranberries.

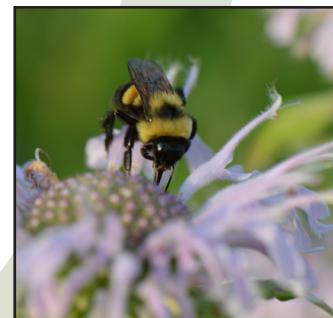
Several decades ago, hardly anyone would believe you if you said this was going to be an endangered species. With a range that stretched as far as Maine to the east, Quebec to the north, Nebraska to the west, and Georgia to the south, it was among the most widespread insects in North America. However now, you'd be lucky to find one in your lifetime. Now you may be asking yourself how can an animal that was so widespread just a few decades ago could fall so hard and so fast? To respond, like so many other species of animal that have gone endangered or extinct it all boils down to us; our bad.

There are quite a few reasons why the population of rusty patched bumblebees is falling so quickly. In the pollinator conservation field, we like to call these the "3 P's" pesticides, pathogens and poor forage. Pesticide is a bit of an all-purpose term, it's something that kills what we would consider pests, including weeds, fungi, bugs, etc. A problem with pesticides is that some aren't very picky in what they kill. Meaning that someone spraying for one bad pest might take some good animals and plants out with it. On top of that, even when pesticides don't kill bees, they can still make them sick. A 2012 study showed that when exposed to normal levels of common pesticides bumblebees start to lose their minds. They cause worker bees to gather less resources, leading to less food for the hive, and eventually leading to the collapse

of the hive. Pathogens or diseases are spread from commercial bumblebees used for greenhouse pollination to the surrounding native bumblebees, including the rusty patched bumblebee, and for a species with as small of a population as the rusty patched Bumblebee, this could be devastating. Pesticides and pathogens may be bad, but by far the biggest danger to rusty patched bumblebees is poor forage and the loss of habitat. Rusty patched bumblebees are native to the tallgrass prairies and grassland that was once widespread across Central and Eastern North America. Here they had an abundance of flowering plants to feed on which could provide plenty of nectar and pollen to grow their colonies. However, as the prairie was cleared for farmland, the wildflowers, pollen and nectar disappeared and the bees responded in turn, leaving them in the sorry state we have today. Pretty bleak right?



U.S. Fish and Wildlife Service; Kim Mitchell





You might now be asking yourself what can be done about this now? All hope is not lost in the Ames-Boone area. Last year, citizen scientists found two rusty-patched bumblebees in the heart of Ames, and two more in Boone County, meaning we still have a few bees to save. Research has also shown that cities and towns like Ames and Boone might be a refuge for endangered bumblebees due to a lack of predators and being far away from pesticide exposure. The saving grace for the bumblebees might just be responsible citizens like you and me. Planting large gardens full of native plants and flowering fruits and vegetables can provide rusty patched bumblebees and plenty of other pollinators with the pollen and nectar they need to survive. Cities, counties, businesses and landowners also have their role to play. Having more natural areas in parks and green spaces, introducing flowering turf alternatives, reducing pesticide use and planting native landscapes are all great ways for responsible landowners to contribute. With a little bit of effort on our part, the rusty patched bumblebee may change from being the endangered species in your backyard, to just another bumblebee in your backyard.

For more information about rusty patched bumblebees, threatened pollinators, land visits or habitat consultation contact David at [dstein@prrcd.org](mailto:dstein@prrcd.org) or 515-232-0048.



# Water Quality Monitoring

Dan Haug  
Watershed Educator

<b>Clear Creek</b>	<b>Clear Creek</b>
	
<b>Clear Creek @Hyland on May 18</b>	<b>Clear Creek@ Hyland on May 24</b>
Transparency > 60 cm	Transparency of 1 cm
Orthophosphate 0.1 mg/L	Orthophosphate 5 mg/L



Volunteer water quality monitoring has a lot of value for education, both for the people getting in the stream and those who look at their data. Prairie Rivers of Iowa has been highlighting volunteer data with a series of blog posts we're calling "Watershed Matchups".

Water quality can change quickly over a short time. We saw this with Clear Creek, which went from as clear as you can measure to as cloudy as you can measure after a heavy rainstorm in May. Even in this relatively flat part of Iowa, we can't forget about soil erosion. Cover crops and no-till can protect the soil surface in spring. Prairie strips, grassed waterways, and sediment basins can slow down and intercept runoff. Riparian buffers can protect streambanks.

<b>College Creek</b>	<b>Bluestem Creek</b>		
			
<b>May 2019 Snapshot</b>	<b>College Creek</b>	<b>Bluestem Creek</b>	<b>Squaw Creek</b>
Cropland in Watershed	19%	90%	81%
Nitrate	2 mg/L	5 mg/L	5 mg/L
Phosphorus	0.2 mg/L	0.8 mg/L	0.2 mg/L
Chloride	73 mg/L	<31 mg/L	<31 mg/L

Because of that variability, volunteer snapshots where multiple streams are tested on the same day are especially useful. Prairie Rivers of Iowa helped the Squaw Creek Watershed Coalition organize their spring water quality snapshot. On May 18, sixteen volunteers tested 25 sites on Squaw Creek and its tributaries. By comparing streams with urban and rural watersheds, or with and without riparian buffers, we can begin to see the influence of land use and management on water quality.

The day after the snapshot, some volunteers took a break to do some paddling on Squaw Creek while others collected some water samples to test for E. coli, an indicator of fecal contamination. Squaw Creek at 130th Street measured 2,390 CFU (Colony Forming Units)/100mL. That's 10 times the primary contact standard for a single sample (235 CFU/100mL). E. coli levels at Brookside Park in Ames measured 12,800 CFU/100mL, well above the secondary contact standard! This is not atypical. E. coli is a difficult problem to solve, so we want to remind people to sanitize their hands and avoid getting water in their mouth or an open cut when recreating on Squaw Creek.

<b>Upper Squaw Creek</b>	<b>Lower Squaw Creek</b>
	

Prairie Rivers of Iowa will continue to support volunteer stream monitoring and wants to make better use of the data that we have to educate the public about water quality and conservation practices, as well as to inform decision-making. We have had many discussions this year with other groups who are interested in stream monitoring and expect a lot more activity in the coming year.

# Pollinators, Prairies, and Best Practices in Ames

September 7th, 2019 9:30 a.m. - 3:00p.m.

**Field Day!**

As part of our grant from the National Fish and Wildlife Foundation, we will be continuing with field days as part of our public outreach campaign. Our next field day will focus on how implementing and maintaining natural habitat for pollinators benefits both the plants and animals in that habitat, but also how soil health and water quality are improved as well.

This field day will be split into two independent sections each taking place at a different location to reach as many people as possible. Our first stop will be in the City of Gilbert at Upstill Park and will include a prairie tour and bumblebee hunt. At this session guests will take a tour of the native prairie planting to learn about which flowers are blooming in the early fall season and why those flowers are so important. Guests will also be able to explore the prairie to look for and take pictures of native bumblebees while learning about their feeding habits and local species identification. This session will begin at 9:30 a.m. and run until 10:00 a.m.

The next stop will be a native pollinator planting/CRP owned by Squaw Creek Management Authority Board member Linda Murken. Participants will be able to explore this large area of natural habitat at their leisure while learning all about these types of plantings from Prairie Rivers staff on topics ranging from wildlife to soil and water benefits. Guests will then be able to learn about native planting maintenance including end of season requirements and how to harvest native seed. This session will begin at 10:15 run until 11:30 am at 17185 George Washington Carver Ave. just west of Gilbert, IA.

The final session of the day will be in the City of Ames at Moore Memorial Park. This session will be an afternoon repeat of the morning's prairie tour and bumblebee hunt with Prairie Rivers staff, Xerces Society Pollinator Biologist Sarah Nizzi and Iowa Department of Natural Resources Environmental Specialist Seth Moore. Being set at a different location in the afternoon will change the species of plants and bees found in the area. The Big Bluestem shelter has been reserved by Prairie Rivers and will include informational booths from local environmental groups and businesses. Free parking is available at Moore Memorial Park. This session will begin at 1:00 pm and run until 3:00 pm. Feel free to bring lunch and enjoy the scenery.

Thank you to Linda Murken, the City of Gilbert, the City of Ames, Prairie Moon Nursery and the Xerces Society for their assistance. We look forward to seeing you on September 7.



## Watershed and Waterways Program Team



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