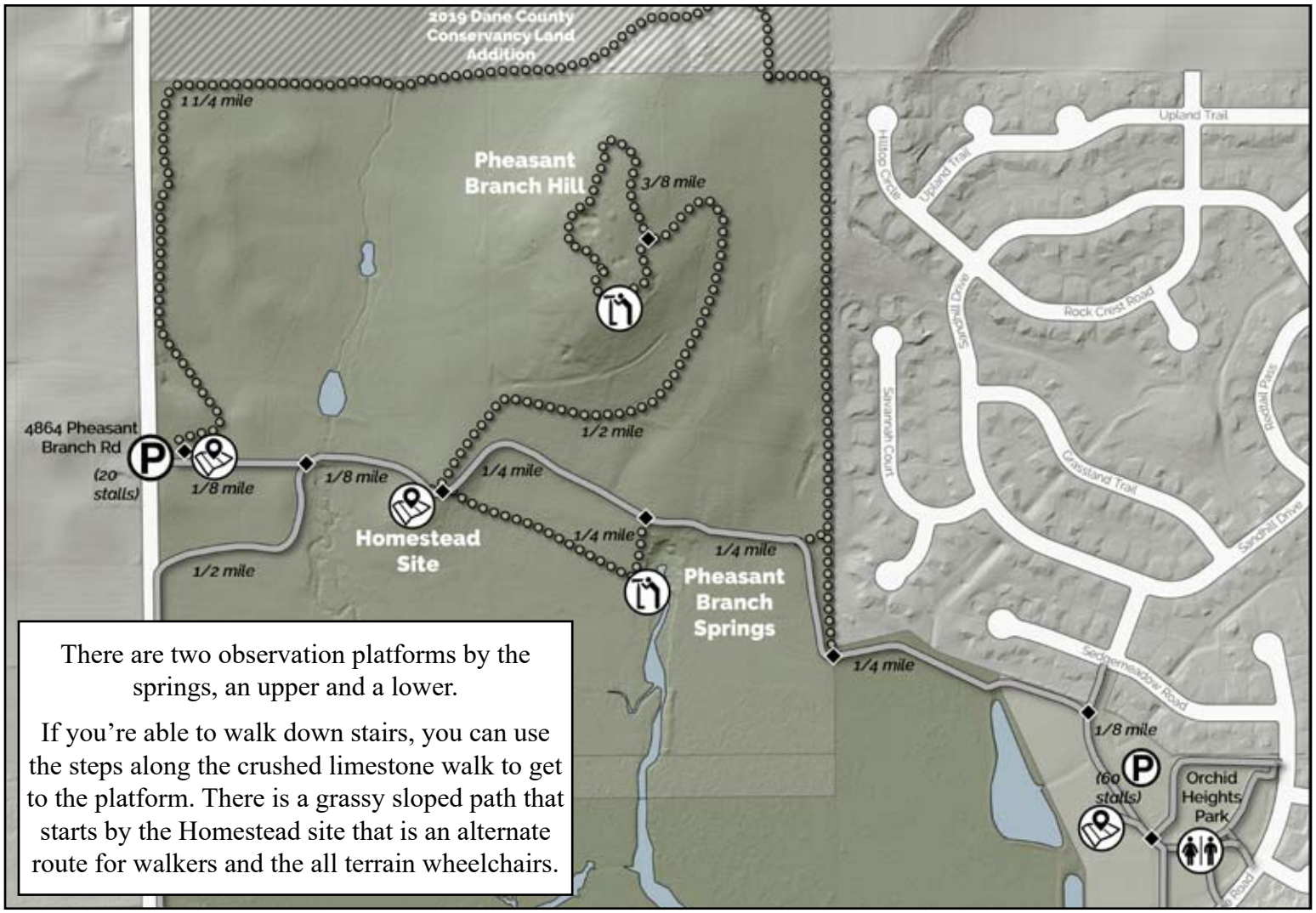
The Friends of Pheasant Branch Conservancy

The Springs Exploration Guide



When you get to the upper viewing platform, take a moment and look at the springs. Notice the movement of the sand in the water. Sit on the bench and close your eyes to experience the sensations of this location.

- **What did you see?**
- **What did you hear?**
- **What did you feel?**
- **What did you smell?**
- **What are some things that made an impression on you?**

There is a second observation platform next to the springs. If you are able to, carefully walk down to the platform.

- **Touch the water, and notice the refreshing coolness in the summer.**
- **Feel the fine grained sand.**
- **What animals do you notice swimming in the water? Wonder why they are there, and why there may not be more?**
- **Notice the plants growing in the springs.**
- **Are there any that you wonder about?**

If you're unable to navigate the steps, ask your companion to bring you a cup of water to feel.

As you explore the springs, use your senses (sound, sight, smell and touch) to enjoy the area. If you have a camera, take a few photos of your favorite experiences.

Use the silent time and your walk to inspire your pictures.

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What Do You Notice?

Here are a few of the things you may notice as you explore. Take your time noticing little details as well as the big ones. There are spaces for you to add a few of your own observations.

Weather Conditions: Air Temperature: Precipitation: Humidity:	My feeling being here:	
Pheasants lurking		Bird calls
Birds swimming	Plants blooming near the springs	Mammals
Water Clarity		Water Temperature
Plants blooming	Smells	Wetland Grasses
View of the wetlands toward Lake Mendota		View of Pheasant Branch Hill towards the north
	Shade from the nearby burr oak	
Cloud Formations		Sand texture
	Insects	
Sandhill Cranes		Red tailed Hawk

IMPORTANT NOTE: Although the water looks clear enough to drink, it isn't safe for humans to do so. The water may contain organic matter and chemicals that don't meet our purification standards.

The Wonder Walk project was the original idea of the Friends of Pheasant Branch Conservancy Senior Advisory Council. Wonder Walk mini-lessons can be downloaded from the Friends website (pheasantbranch.org) and will be in backpacks for check-out at various community locations.

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The Springs Background Info

We are fortunate to have the spring complex here in the Pheasant Branch Conservancy. The springs are an important part of the water cycle.

The springs are an important part of the groundwater system, which is water that soaked into the ground (infiltrated) and traveled underground before returning to the surface. Groundwater travels through the soil, cracks in the limestone (dolomite), and sandstone aquifer before returning to the surface. An underground layer of porous rock, sand or sediments that absorb and holds water is called an aquifer.

Our ***Cambrian Period*** sandstone aquifer is about 500 million years old and is made of a fine, well rounded, pure quartz sandstone. The sandstone is capped by ***Ordovician Period*** limestone bedrock on Pheasant Branch Hill, and there is a little ground soil and stones left by the glacier. The ground water here is under pressure, and travels up quickly through fractures (cracks) in the sandstone, creating the beautiful circular patterns of moving sand.

The springs recharge area is located to our northwest, and the new Acker Parcel addition to the Conservancy is located in this recharge area. We're fortunate that Dane County recently purchased the 160 acre property on May 16, 2019, because of the importance of that land to our water quality.

Water that falls on the recharge area will continue to seep into the ground, recharging the groundwater. Plants growing on the land will also absorb and transpire the water, also reduce flooding and pollution from storm water run-off. It will be interesting to watch the development of the new acquisition as part of the Pheasant Branch Conservancy. After the great flood of August 20, 2018, we're very aware of the problem of large storms and the need for storm water management.

Let's get back to the springs. The water that flows beneath the surface will gradually change temperature to be the same as the ground it flows through, around 50 degrees Fahrenheit. The water temperature stays nearly the same year round. That's the reason why the springs feels cold in the summer, and warm in the winter. The soil and rocks will filter out some but probably not all of the debris and pollutants absorbed from the surface.

Lake Mendota needs the spring complex, too. The springs deliver over 2.6 million gallons of water a day, about 1,800 gallons a minute, to the Lake Mendota watershed. Here is an analogy to help you understand. Football field comparison: If you were able to take one football field surrounded by a 10-foot wall and filled with water = 1 million gallons of water. The west springs plus the springs where the wood deck is located merge together to provide 2.6 million gallons of water/day to the Conservancy. This water then flows and empties in Lake Mendota. Imagine you had 2.5 football fields side by side by side.

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The Springs Background Info

Value of the Underground Springs
To many, the springs bring us a sense of peace and renewal. To others it is a sacred spot. We try to recognize the significance of the springs to the First People, the Ho Chunk Tribe, as well as other groups that may consider and use the springs as a sacred location.

In many Native American cultures, springs are considered to be passages to the afterlife, and portals to the underworld. And they may be home to powerful spirits. Because of this the springs are to be treated with great precaution and respect.

Why are we concerned about the quality of our local water?
We depend upon the water quality for clean wetlands and lakes, and get our drinking water from wells located around the City of Middleton.

Local wildlife depends upon the spring complex for water, as well as the wetlands for habitat. Many macro invertebrates, fish, birds and mammals depend upon the wetlands for food, shelter and nesting.

The water from the springs is around 50°F. Cold water can store more dissolved oxygen, although groundwater may be initially low in the dissolved oxygen. The water temperature in our streams and lakes varies seasonally. In the summer storm water tends to increase water temperatures, leading to a decrease in dissolved oxygen, and changing the aquatic environments.

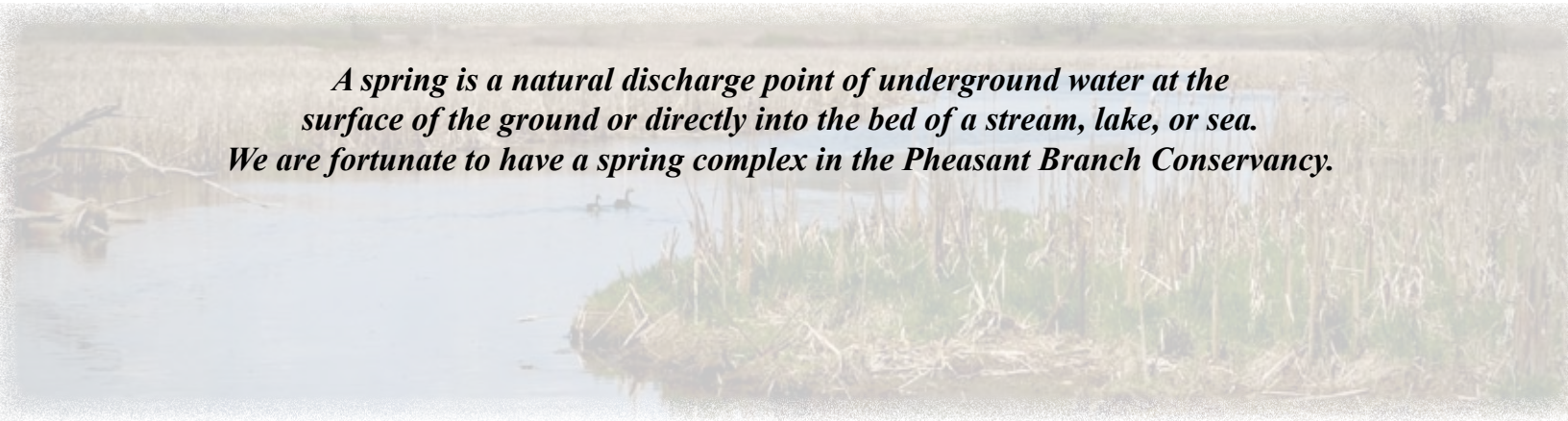
Water Education and Water Monitoring
For over a decade Third grade students from Middleton and the surrounding areas have visited the Conservancy on a special field trip to learn more about our local water and the water cycle. Students study the springs, the pond, and test and compare water sources.

Students test for:
- Temperature
- Dissolved Oxygen
- Stream Flow
- Transparency (Turbidity)
- Animals living in the water

How can YOU test the quality of our local water?
- Purchase a test kit
- Borrow equipment from local public office
- Join a group that monitors water quality

What can YOU as a citizen do to improve the quality of the water?
- Monitor your water use
- Monitor your product use
- Influence your family members and friends on water healthy choices
- Join Citizen Monitoring Group like the Friends of Pheasant Branch Conservancy
- Support water quality initiatives and legislation.

How can communities help improve the quality of the local water?
- Reduce use of fertilizers, herbicides, and pesticides
- Use native plants for habitats, buffers, erosion control, weed control
- Use water wisely
- Plan for wise development of the land



A spring is a natural discharge point of underground water at the surface of the ground or directly into the bed of a stream, lake, or sea. We are fortunate to have a spring complex in the Pheasant Branch Conservancy.

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