



**PennState**  
Mont Alto

# TESTING WATER QUALITY AND SAFETY IN LOCAL SPRINGS

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# SPRING WATER



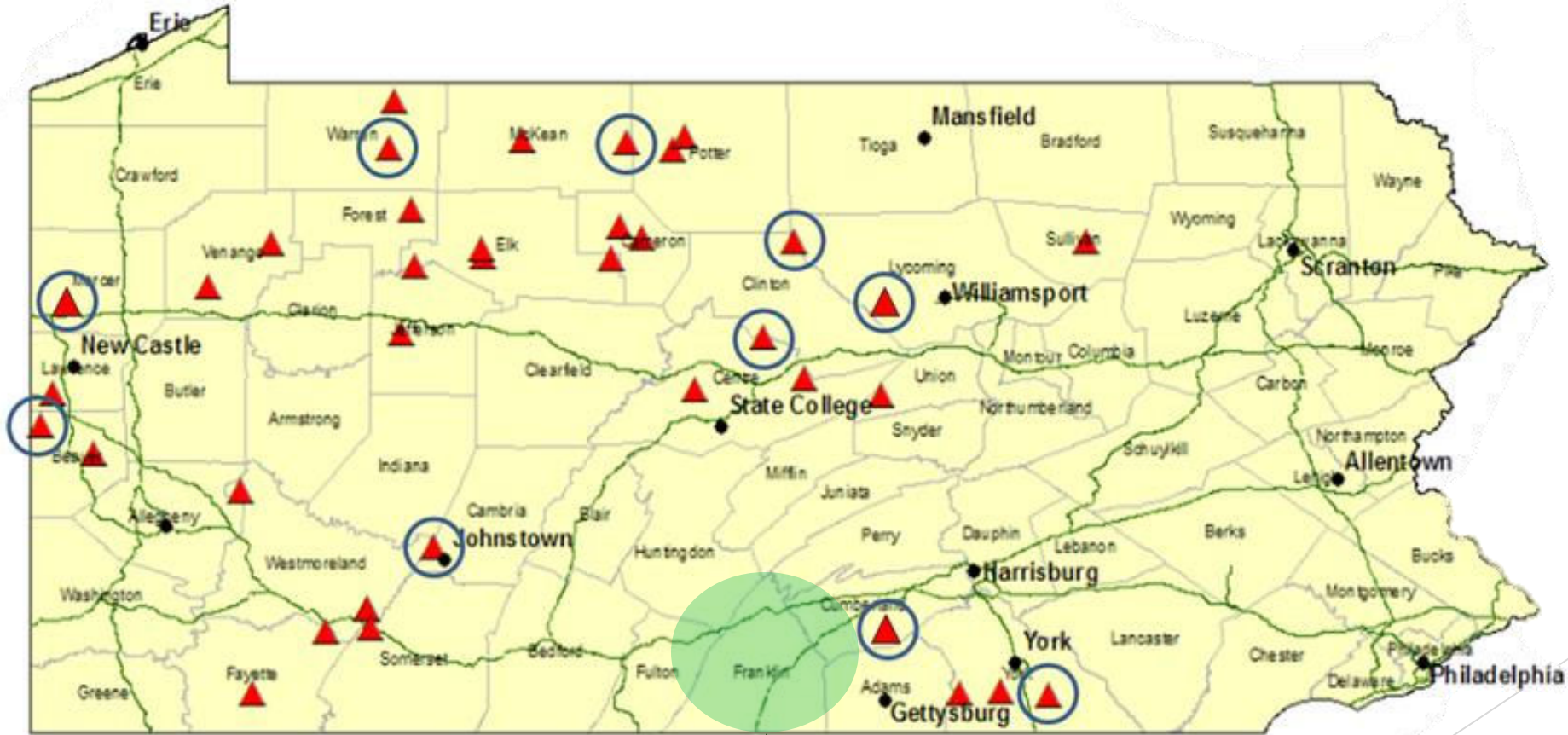
## PROS

- Natural
- Better taste
- High mineral content

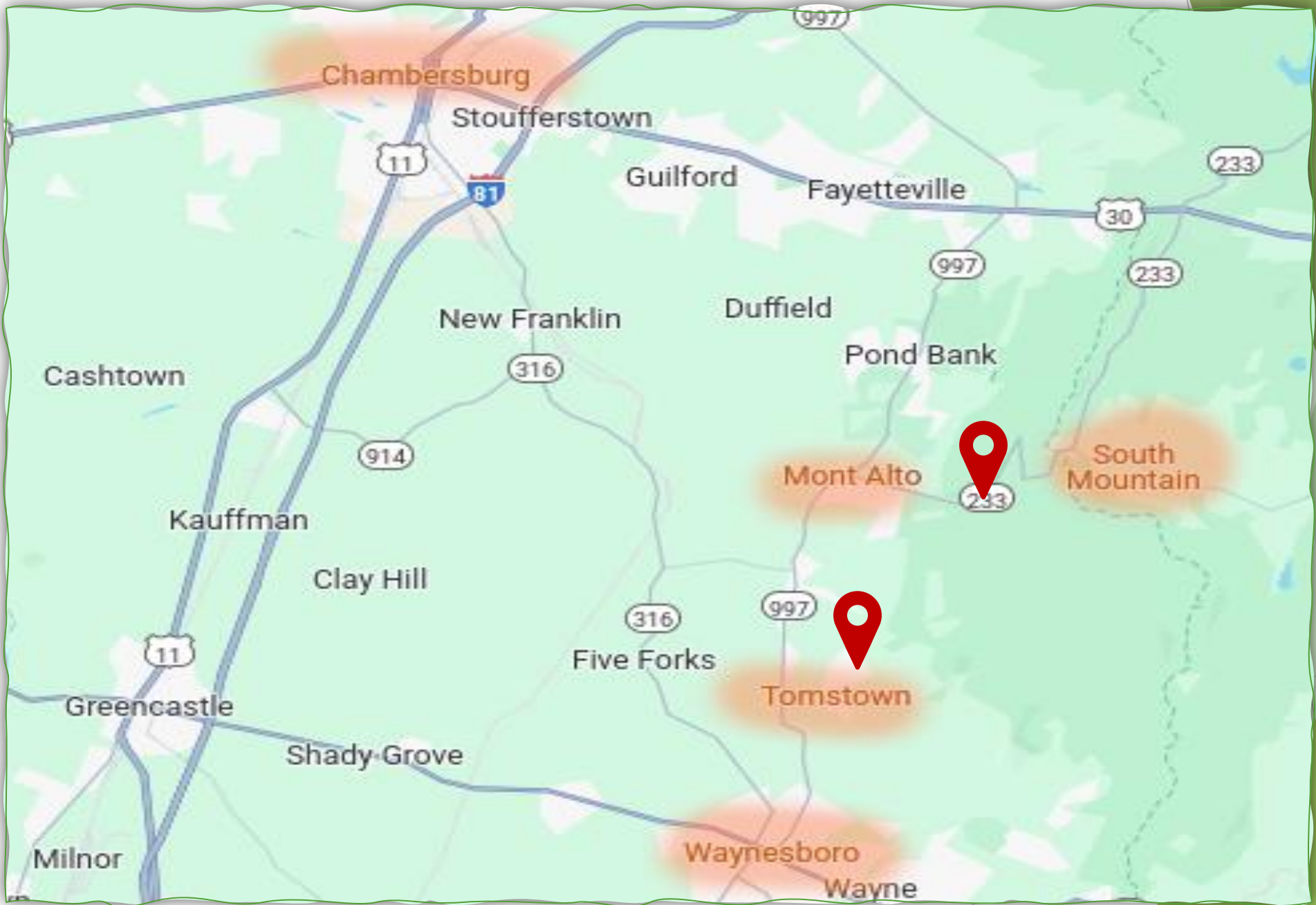
## CONS

- Susceptible to contamination
- Potential for diseases

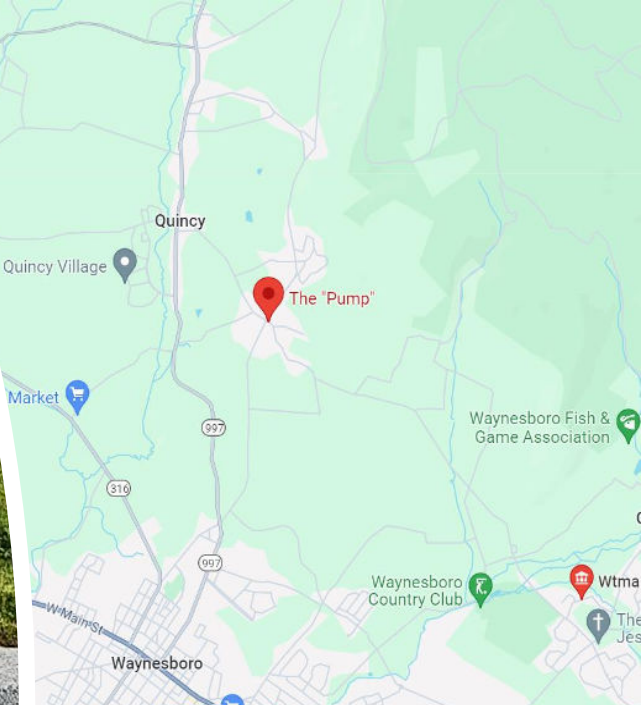
# Existing Literature



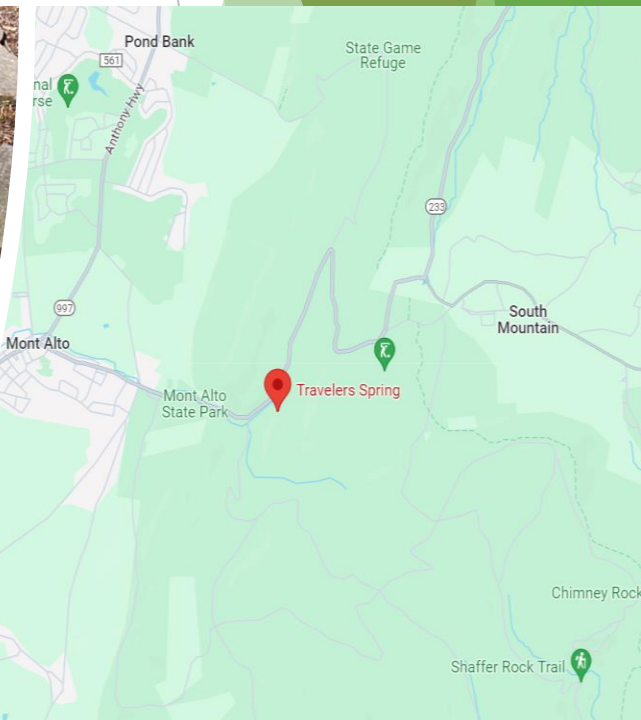
We are here



# TOMSTOWN PUMP

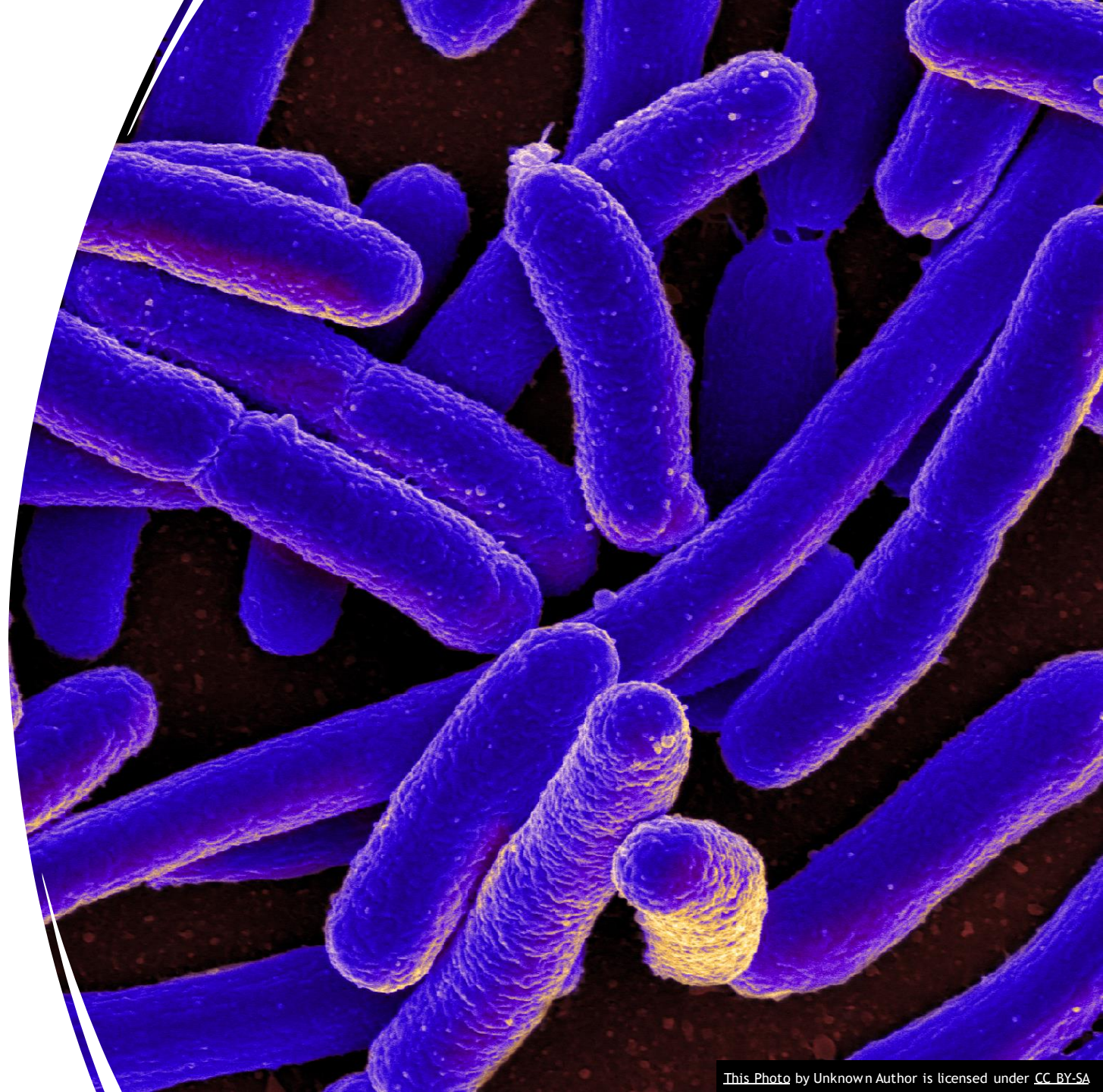


# TRAVELER'S SPRING



# *Escherichia coli*

- ▶ Coliform
- ▶ Indicator organism
- ▶ Pathogenic strains



# HYPOTHESIS

Warmer weather correlates to higher amounts of *Escherichia coli*, and thus fecal contamination.

# Methods



Collection



Presumptive testing



Confirmation testing





## Collection



**CONTAINER**



**FREQUENCY**



**LABELING**

# Methods



Collection



Presumptive testing



Confirmation testing



## Presumptive testing

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# LAURYL TRYPTOSE

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# INOCULATION

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# INCUBATION



# Methods



Collection



Presumptive testing



Confirmation testing



## Confirmation testing



**OBSERVATION**



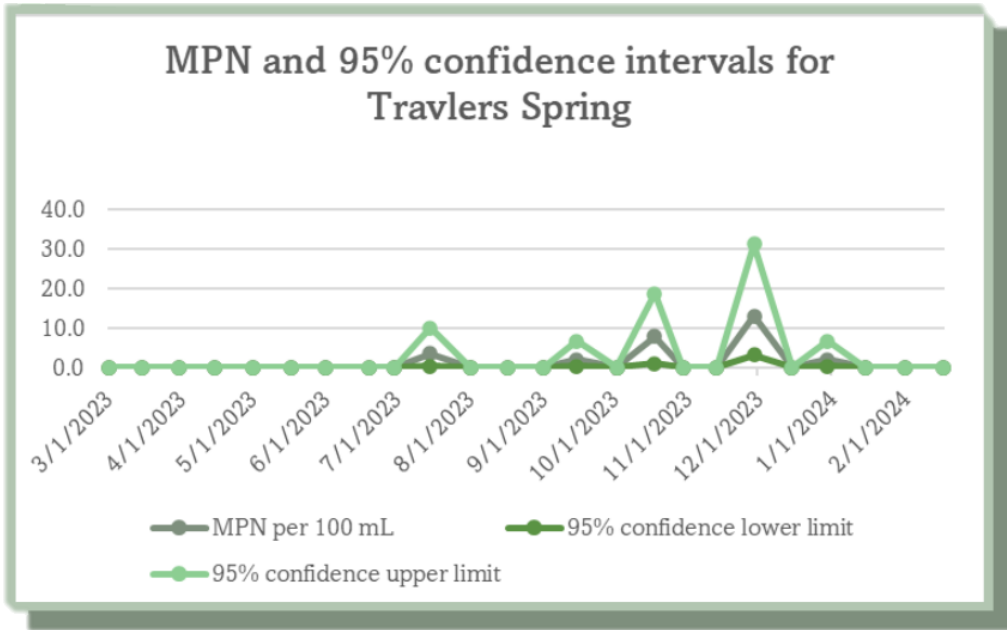
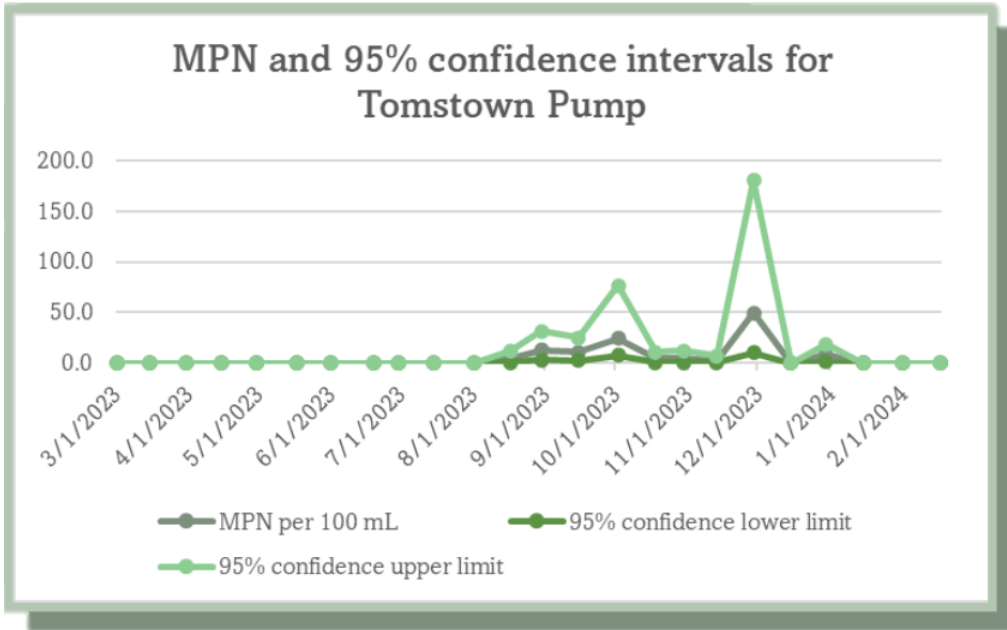
**INOCULATION/  
INCUBATION**



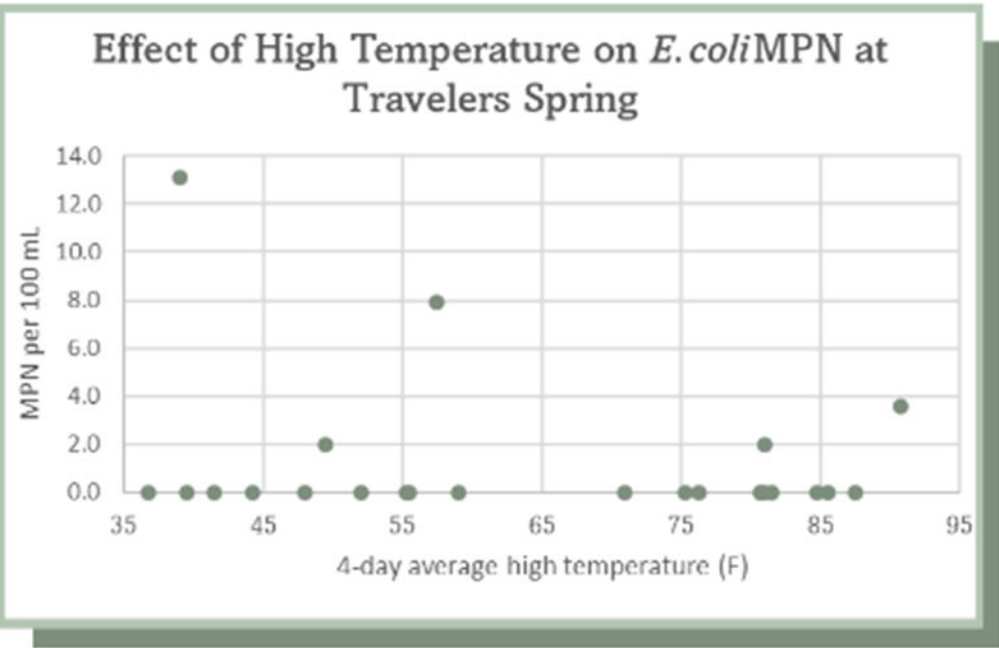
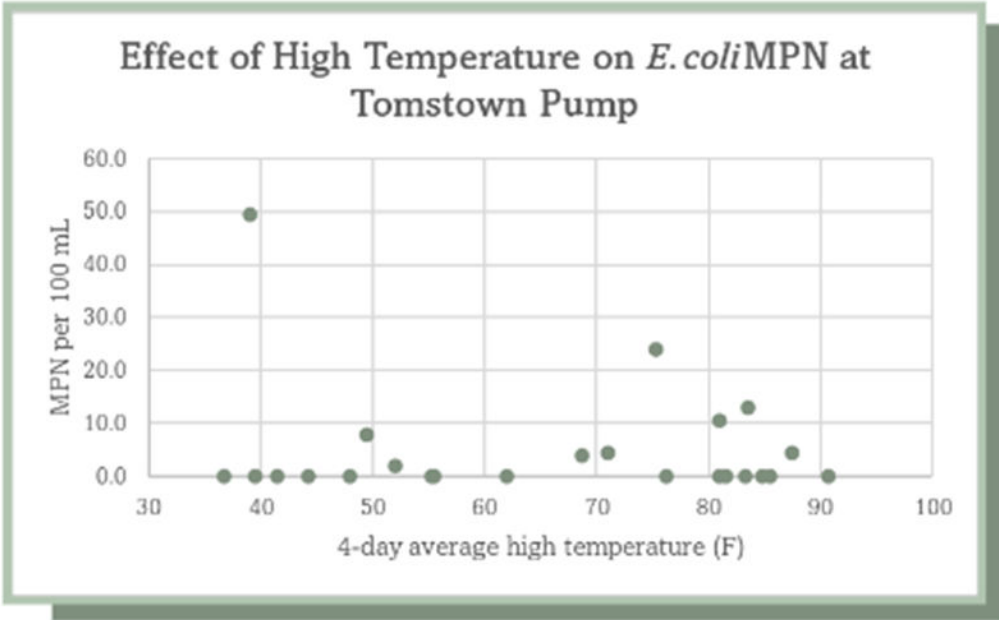
**CONFIRMATION**

# Results

The background features a solid green area on the right side, transitioning into a series of overlapping, semi-transparent green geometric shapes (triangles and polygons) that extend towards the left. A thin white line is visible in the lower-left quadrant, intersecting the green shapes.



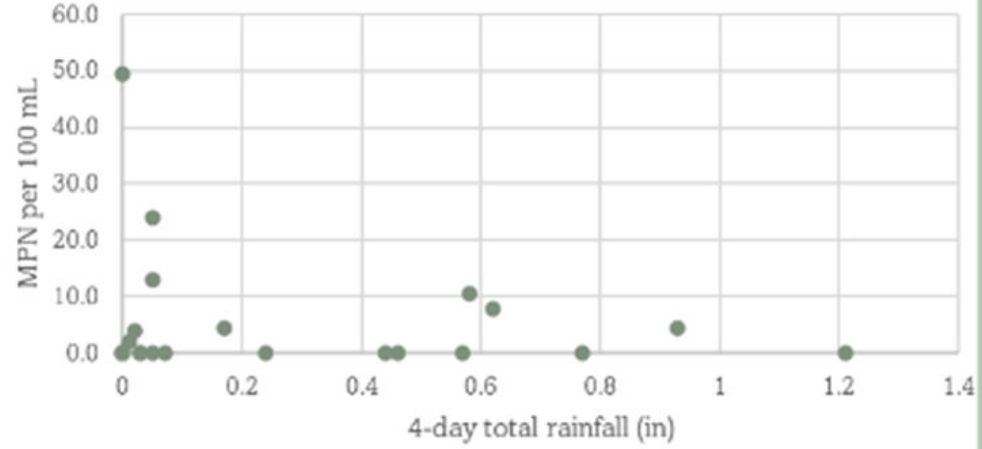
# Results



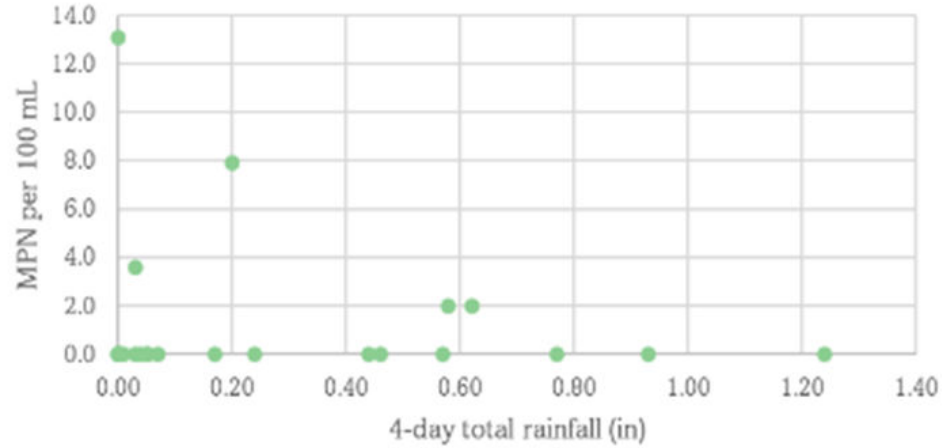
# Results



Effect of Rainfall on *E. coli*MPN at Tomstown Pump



Effect of Rainfall on *E. coli*MPN at Travelers Spring



# Results



# Discussion

- ▶ Hypothesis rejected
- ▶ Spikes present
- ▶ Recommendations
- ▶ Relevance

# Future Directions



Expanding



More patterns



Further testing

# Acknowledgements



**SOUTH MOUNTAIN  
PARTNERSHIP**



**PENN STATE  
MONT ALTO**

# References

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- ▶ CDC. c2022. Making Water Safe in an Emergency. Centers for Disease Control and Prevention. [Internet][cited 2024 Apr 10]. <https://www.cdc.gov/healthywater/emergency/making-water-safe.html>.
- ▶ Chanel D. 2024. Why spring water? Find a spring. [Internet][cited 2024 Apr 6]. <https://findaspring.org/why-spring-water/>
- ▶ The Record Herald

**Questions?**

