

Adequate or Not: Acid Mine Drainage in Pennsylvania

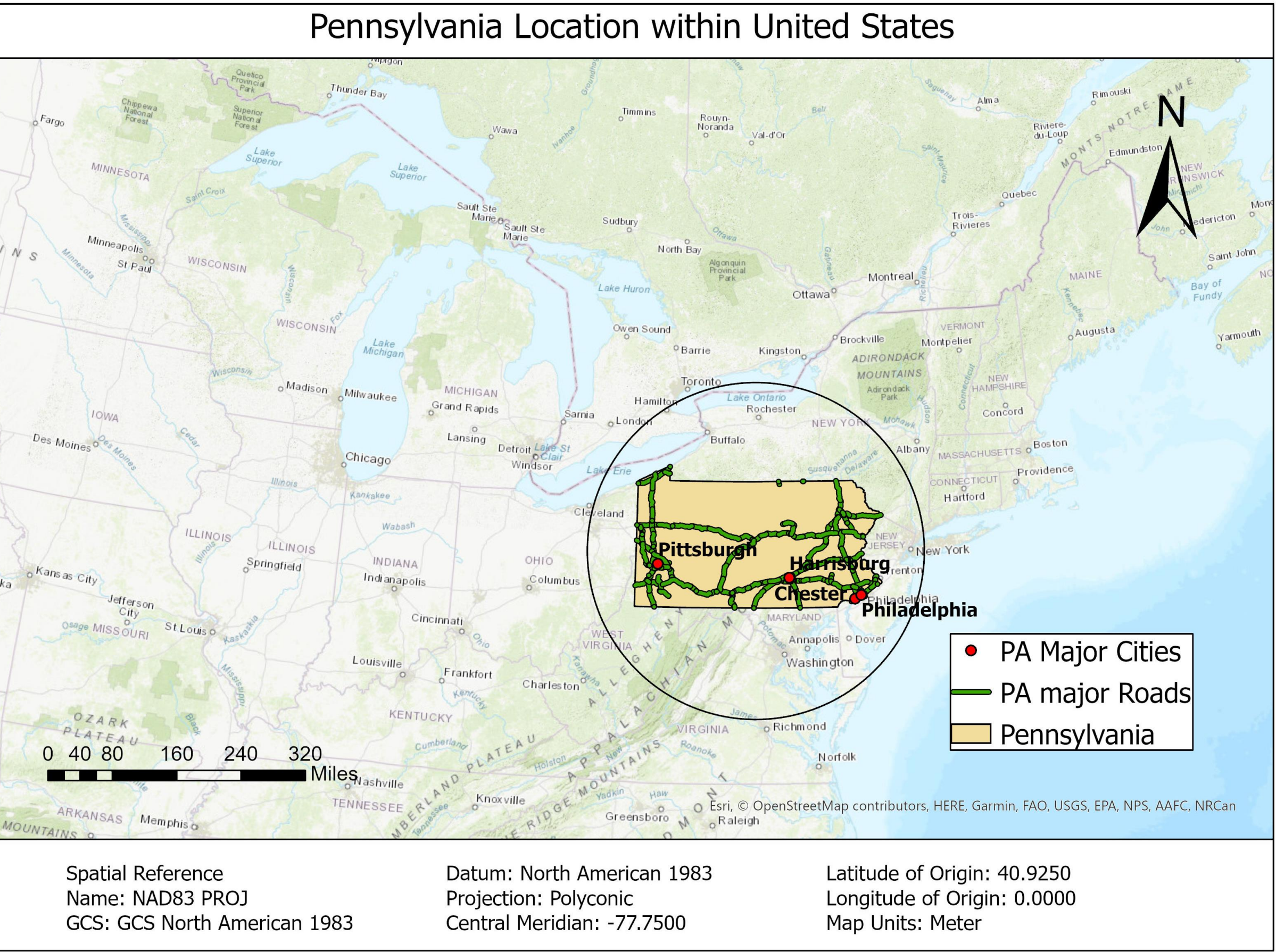
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Introduction

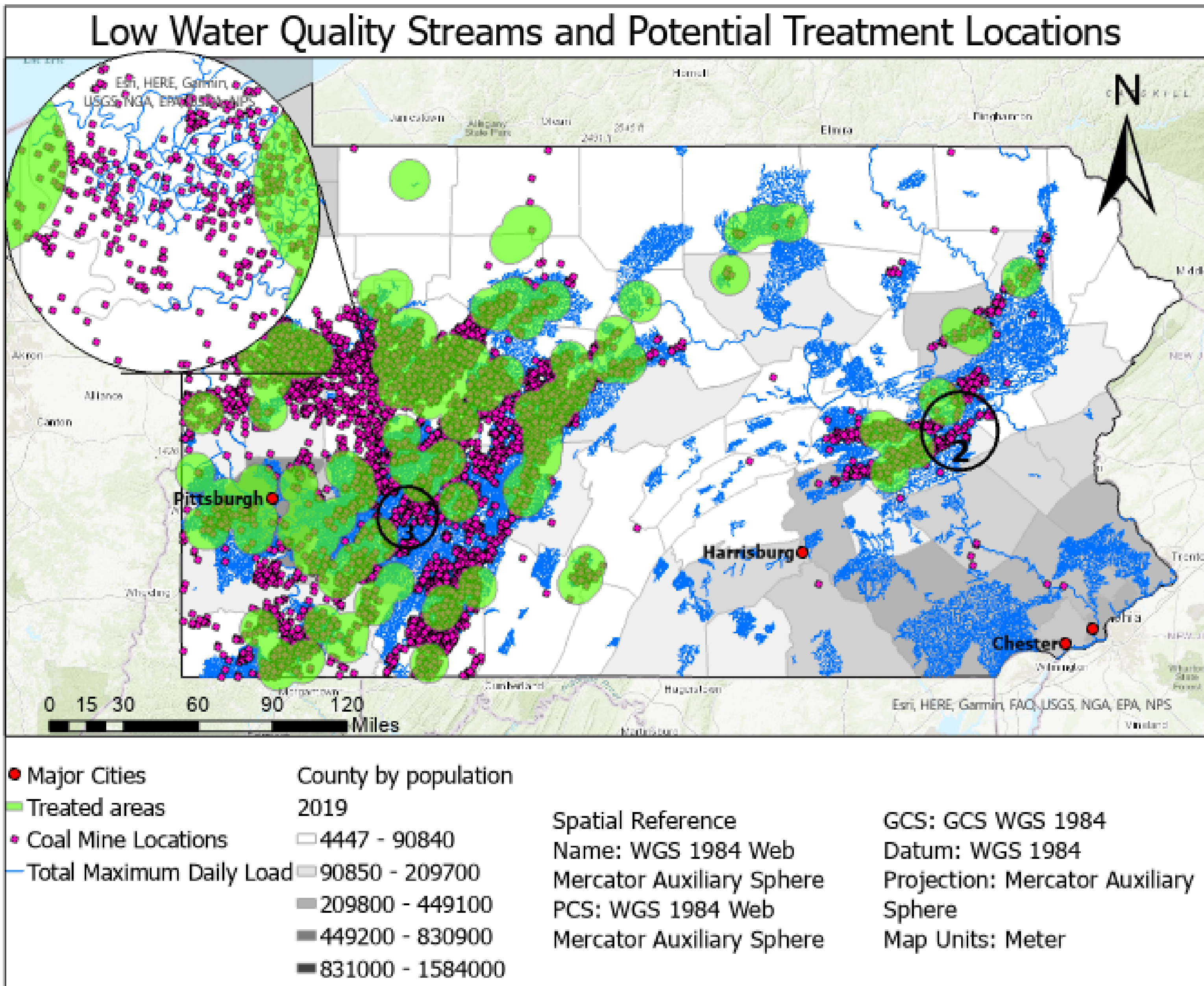
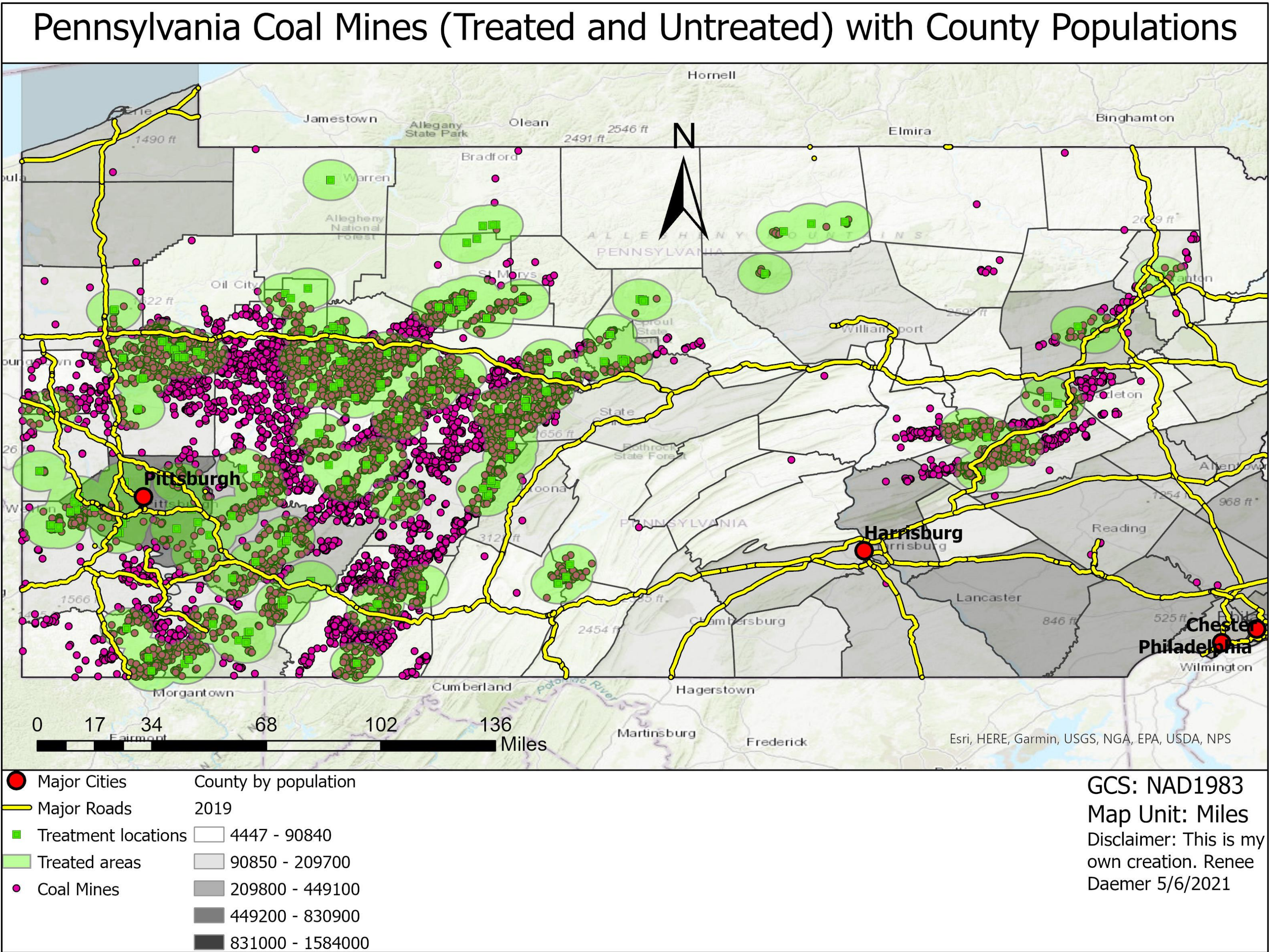
Acid Mine Drainage is pollution resulting from abandoned coal mines. This pollution creates extremely toxic environments, and when introduced into water channels kills the plant and marine life. Results from the breakdown of Pyrite, also known as Fools’ Gold. Are the existing H2O treatment plants adequately located at where acidic water detected at is the question of this project.

Methodology and Data

Datasets were obtained containing the locations of coal mines, treatment areas, and streams that do not meet water quality standards. Buffers were created around the treatment areas. Select by location was used to locate the mines outside the buffer zones, as well as to determine the streams inside the treatment areas. Calculations were used to determine the ratio of coal mines to the population per county.



The study area of this project is Pennsylvania.



Works Cited

- www.pasda.psu.edu
- AcrGIS Online Datasets
- Dr. Jennifer Pomeroy

Stream TMDL Analysis

Total Count	Count within treatment locations	Percentage in Treatment Areas
64,853	23585	36.37

Coal Mines

Total Count	Count within treatment locations	Percentage In Treatment Areas
13462	8123	60.34

Analysis

There are 36.4% of PA streams that are below standards within treatment areas. This indicates that the treatment areas are not efficiently processing the water. Additionally, only 60% of coal mines are in treatment areas, leaving approximately 5,000 mines that still need to be addressed.

Conclusion

There are three areas identified on the third map as ideal areas for future treatment locations. These are based on the populations in the affected areas, and the concentration of the mines in the area. The area in the inset map is of highest priority, due to the high population and mine concentration. This project also revealed an underlying issue of seemingly inefficient treatment locations. More information needs to be collected on this topic, specifically what type of pollution is present in these streams.