

## **Dump and pump: The impact of COVID-19 and income on septic system pumping patterns in Athens-Clarke County, Georgia**

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**ABSTRACT:** Municipal septic systems are used widely for wastewater treatment in the United States. Approximately 25% of households, and 33% of new housing and commercial developments use septic systems for wastewater treatment. As suburban development continues to radiate out from urban centers into more rural areas, watersheds are becoming dominated by complex networks of septic- and sewer-sheds. In many areas of the United States, septic systems are not monitored by local governments, so regular maintenance is usually the responsibility of individual landowners. Anecdotal evidence indicates that following COVID-19 stay at home orders in the spring of 2020 increased the need for septic system pumping, the process of removing sludge from a system before there is a build-up that can cause leakage and system failure.

Pumping can be prohibitively expensive for some people (~\$200 - \$500) and this high cost of system maintenance means that pumping often only occurs after system failure. The subsequent pollution from septic failure events increases community exposure to fecal waste and associated pathogens, which poses a serious threat to public health. Several studies have also shown a correlation between low-income communities and poorer local wastewater infrastructure functionality, which has concerning environmental justice implications. Therefore, this paper aims to: (1) quantify the COVID-19 stay at home orders influenced the frequency of septic pumping and (2) the relationship between septic system function and household income in Athens-Clarke County (ACC), Georgia. ACC has wastewater infrastructure representative of many jurisdictions, with a mixture of both septic systems and sewer lines.

### **CV:**

#### Education

Master of Science, Ecology Expected – May 2024

*University of Georgia*

**Bachelor of Science, Environmental Studies – May 2022**

*Gettysburg College*

*Minor: Chemistry*

#### **Select publications and presentations**

Sharapi, J. (2022). "Estimating Fish Diet in Lake Turkana, Kenya." Student Publications.

[https://cupola.gettysburg.edu/student\\_scholarship/1007](https://cupola.gettysburg.edu/student_scholarship/1007)

Sharapi, J. and N. Gownaris. August 2022. ESA & CSEE Joint Meeting 2022, Contributed Talk, Montreal, Canada.

Sharapi, J., S. Malkin, G. Silsbe, E. Brownlee, and J. O'Neil. May 2022. Joint Aquatic Sciences Meeting 2022, Virtual Presentation.

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