

Who Pooped In Wequetequock Cove?

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Introduction

- Water samples were collected by CUSH in summer and fall 2025 at the locations shown in Figure 1 to determine the sources of fecal contamination in and around Wequetequock Cove.
- Samples were sent to Jonah Ventures, who performed quantitative Polymerase Chain Reaction (qPCR) to amplify genes associated with gut epithelial tissue specific to different organisms, including humans, domestic animals, and waterfowl.
- qPCR is a procedure in which targeted DNA fragments are replicated in large quantities and tagged with a fluorescent marker that is measured.

Sampling Sites Around Wequetequock Cove

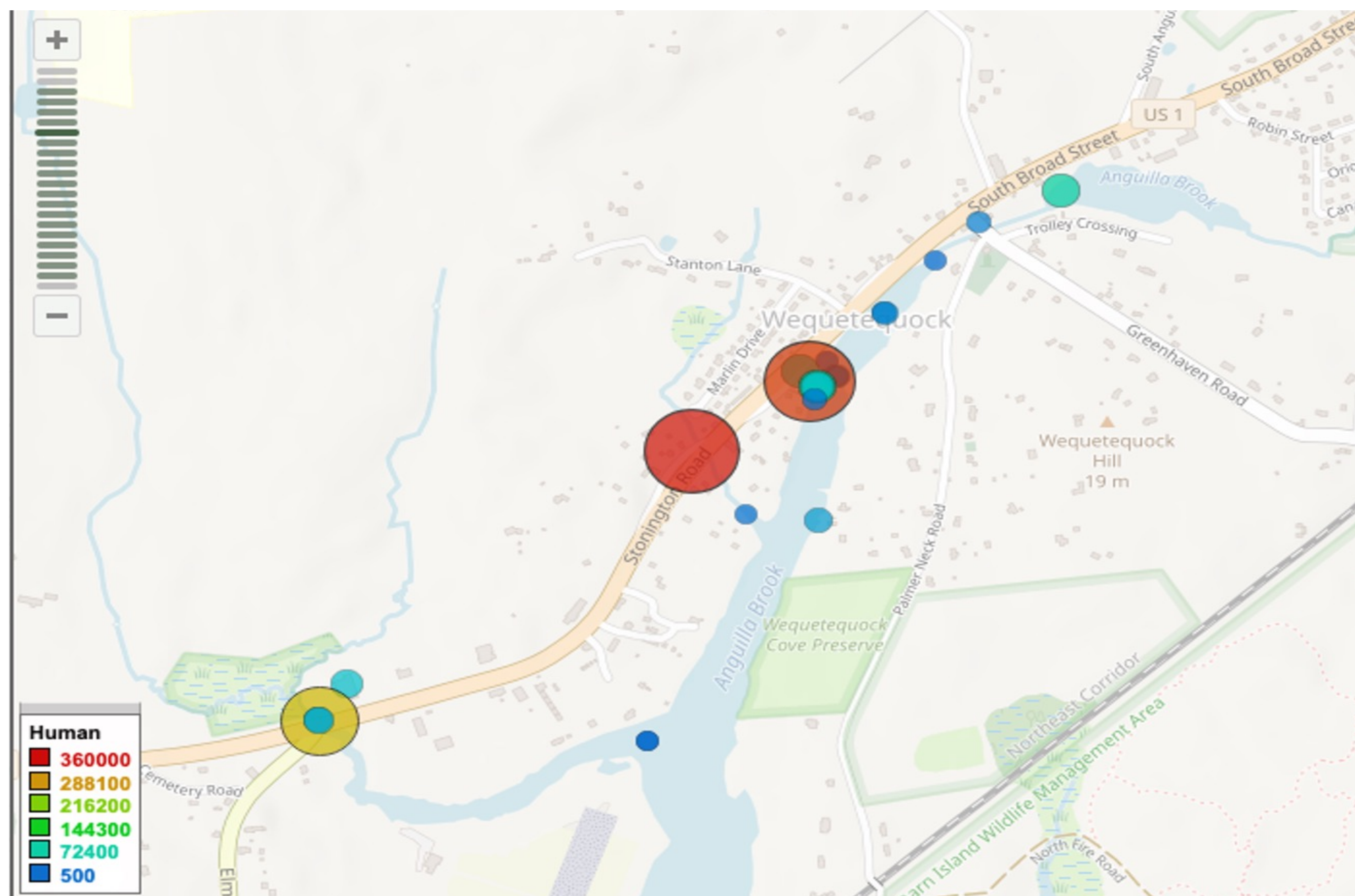


Figure 1. A map of sites around Wequetequock Cove where water samples were taken to identify fecal contaminants. Map created using a GPS visualizer. The size and color of the markers corresponds to the amount of human gene copies measured using qPCR from respective samples.

Acknowledgements:

GPS Visualizer. <https://www.gpsvisualizer.com/>

CUSH. eDNA. 2025.

Explanatory chapter: quantitative PCR. NIH. 2013. <https://pubmed.ncbi.nlm.nih.gov/24011054/>

Results and Discussion

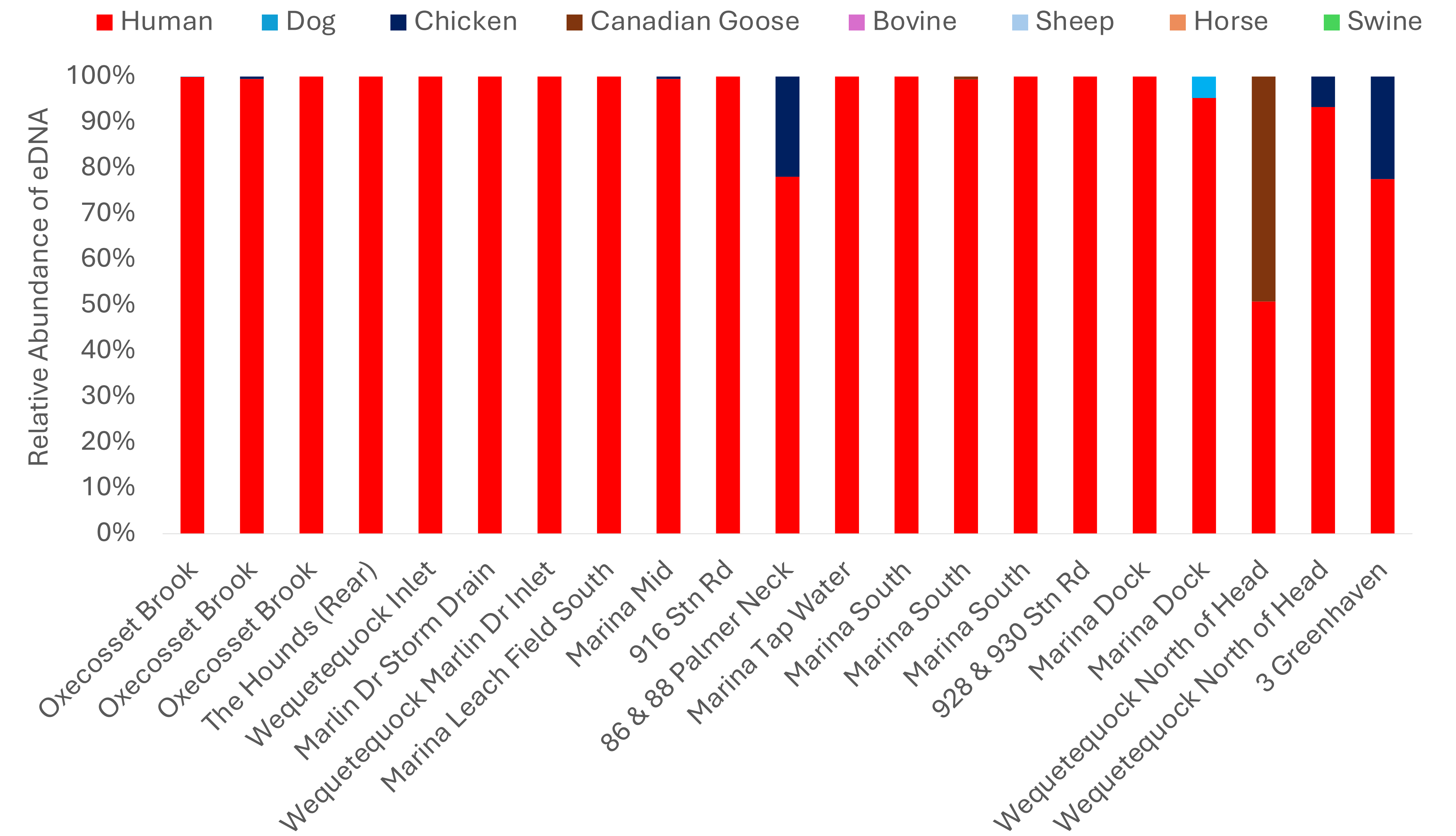


Figure 2. Relative abundance of gene copies of fecal contaminants from different species in or around Wequetequock Cove. Human eDNA was the most frequently occurring and abundant eDNA.

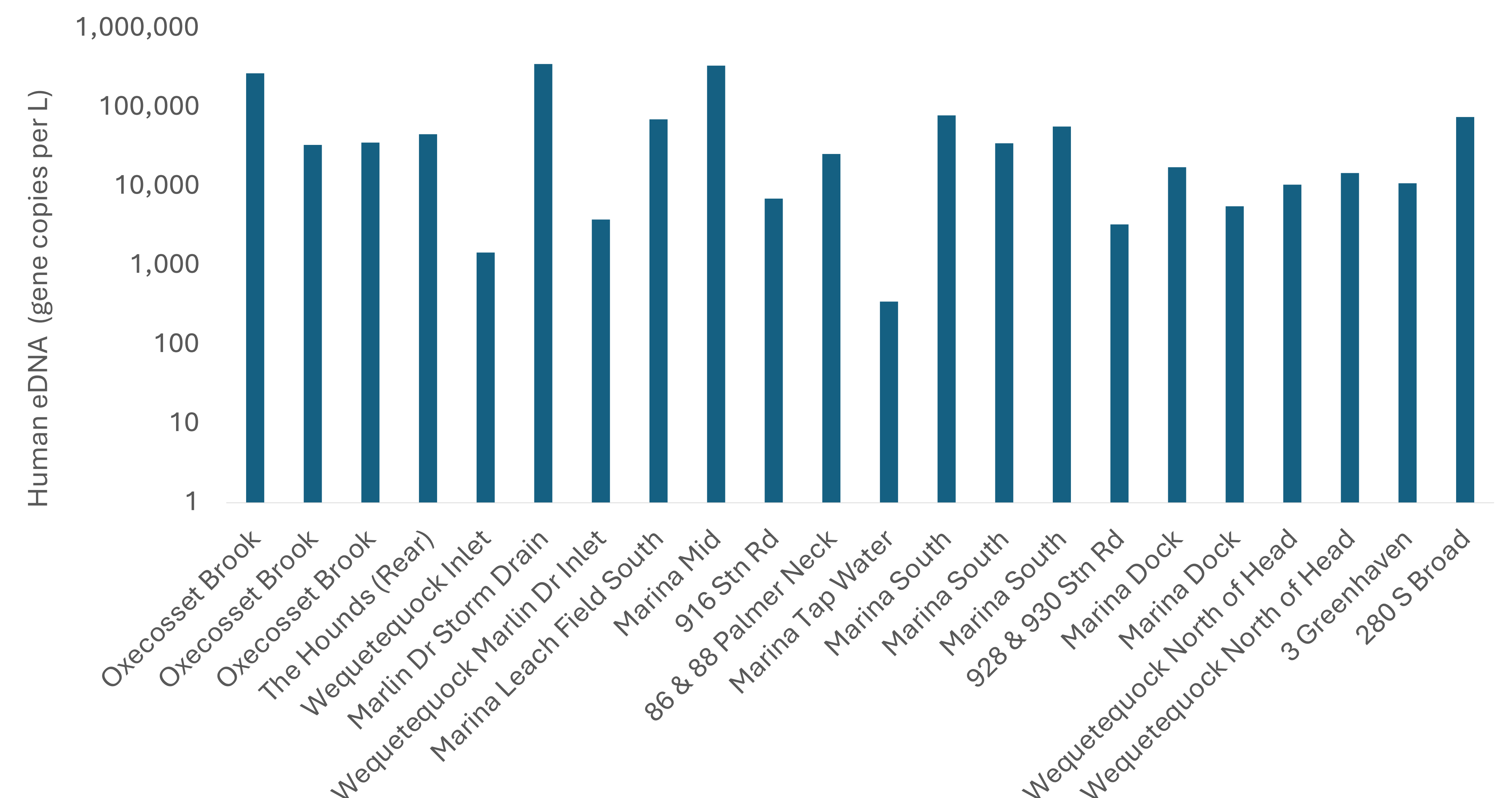


Figure 3. Abundance of human eDNA fecal markers in water samples taken in and around Wequetequock Cove.