Analyzing potential coyote (*Canis latrans)* and red fox (*Vulpes vulpes)* presence at Brookhaven National Laboratory using camera traps

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Abstract

Coyotes are a canid species with a wide range, typically found all throughout North America. While they aren't native to Long Island, in the last ten years there have been new reports of sightings in Queens, Nassau County, and Suffolk County. Because of this, it is important to find out if any are present at Brookhaven National Laboratory (BNL) and how they may impact native wildlife. My project continues previous camera studies of native species with a focus on capturing evidence of canid presence, specifically red foxes and coyotes. Since foxes and coyotes share similar prey, foxes may be affected if coyotes move into the area. Foxes have already been facing issues such as mange and changing prey populations that make it important to keep track of their presence at BNL. This study used camera trapping, baiting, and photo identification software to collect results. Cameras were set up in a 0.5 km grid on site, with a total of 73 different locations. 20 cameras were placed at a time and moved to different locations on the grid every two weeks. The collected pictures were analyzed with Timelapse and Ecoassist AI software to make an excel file of the data and identify which species were present. Overall, there was no evidence of coyotes but there were red foxes observed at 5 locations on-site. In the future, cameras should continue to be set out to find how canid populations are changing and document any additional biodiversity changes at BNL. This project reflects Brookhaven's

commitment to protecting natural resources and was funded through the SULI internship

program. By learning about the arrival of new species early on, we can take steps to document

any changes they make to the current ecosystem. As a result of this summer, I learned how to set

up camera traps for the first time and obtained experience working in the field.