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Rachel Louise Bayless* (rbayless@agnesscott.edu), 141 E. College Ave, Decatur, GA 30030.

Modeling Feral Cat Control.

Many communities in the United States have experienced a rapid growth in feral cat populations, and there is much debate among experts about the best methods for controlling these populations. The two most commonly used methods are trap-euthanize and trap-neuter-return. In this talk, we present a modeling project comparing the efficacy of these two control methods, and show that under certain assumptions the minimum number of traps needed to produce a decline in the population is the same for both models. All models presented are modifications of a standard exponential growth model, and thus this project is appropriate for the beginning of a differential equations course or an advanced assignment in calculus II. (Received August 15, 2016)