

East Somerville Rat Population Survey

EXECUTIVE SUMMARY

As in most major cities across the United States, the City of Somerville, Massachusetts has been receiving increasing numbers of reports about rat activity during the past few years. In an effort to improve our Integrated Pest Management (IPM) program to target the resources rats use to survive, the Health and Human Services Department performed a rodent population survey in an area with consistently high reports of rodent activity. With signed permission from the owners of 134 privately-owned properties, a total of 295 rat traps were placed on these properties during the week of April 29th and removed between May 16th and 17th. They were checked every other weekday, re-baited as needed, and any captured rats were counted at each location and then disposed of. A total of 90 rats were caught at 31 of the properties. Rat activity was measured on each property using relative trap success and then compared to a variety of environmental features in the area to determine how these features may be related to local rat activity.

We found notable patterns of rat activity around food availability, city-issued building permits, and the city's residential property baiting program. Specifically, trash storage locations were most strongly associated with higher rat activity, namely dumpsters, sidewalk trash receptacles, and residential properties that had received two or more trash tickets since the beginning of the year, suggesting that these features provide a consistent food source to rats across this area. Higher rat activity was only found around building permits issued by the city in March, which may be because only active construction has an impact on rodent activity. Permits issued in March likely represent active work that occurred during trapping in late April – mid May because enough time had elapsed since receiving the permit for the construction to have begun, but not too much time that the

▶ **134 Sites**
Privately Owned Properties

▶ **295 Traps**

▶ **90 Rats**
Caught at 31 Properties

Survey Dates:

April 29-May 17, 2019

Notable Environmental Findings:

Food availability

Dumpsters, sidewalk trash receptacles, and residential properties with multiple trash tickets strongly associated with higher rat activity.

Building permits/ Active construction sites

City's residential property baiting program

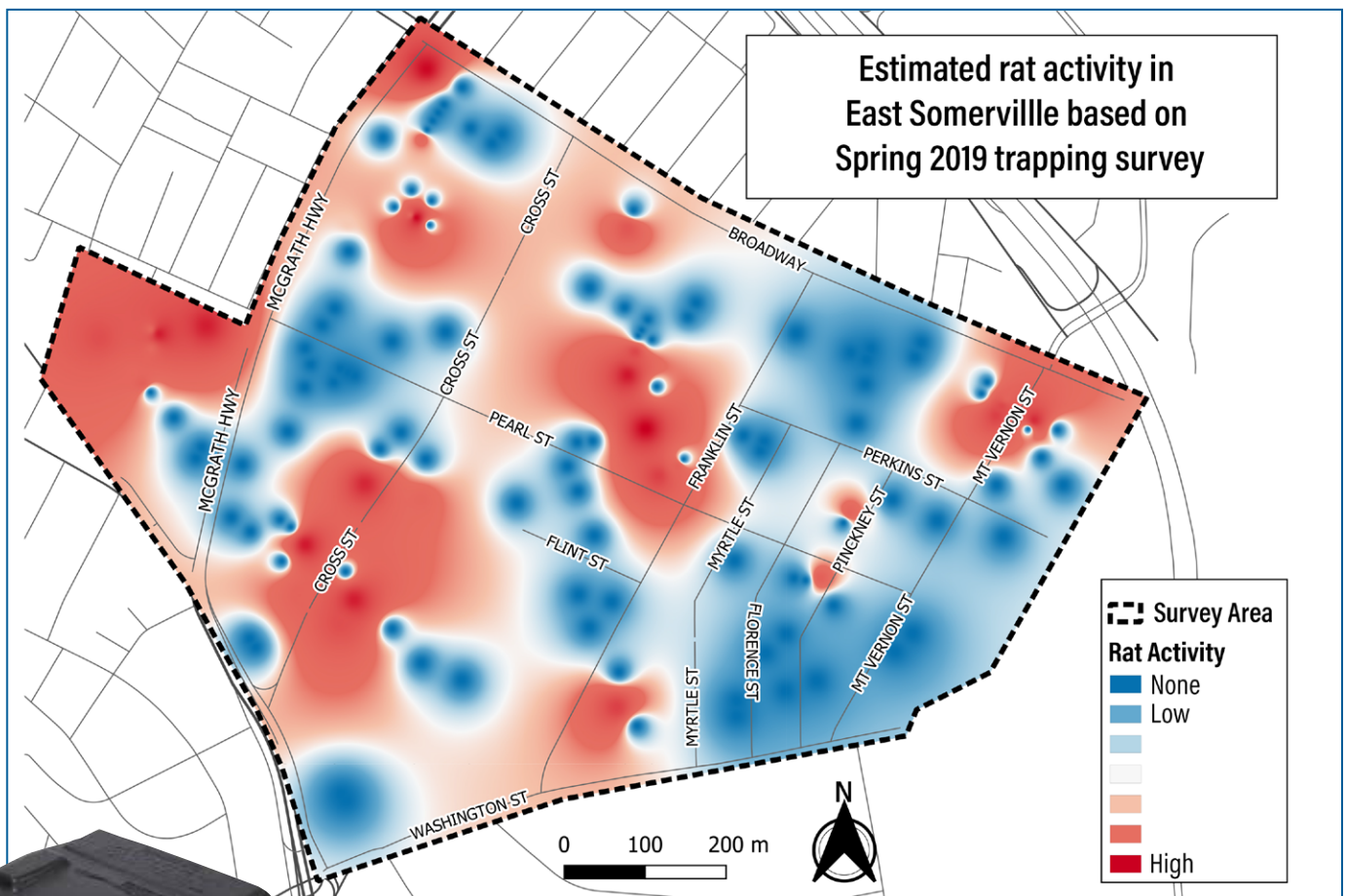


project was completed. There were also a few pockets of rat activity that we measured that had not received any assistance from the city's residential property baiting program in 2018 or 2019, which means that the program isn't currently effectively addressing all areas of rat activity.

Other, similar surveys are being planned to include different areas of the city and to answer specific questions such as measuring the relationship between construction and rodent activity, and the relationship between owner-occupancy and rat presence.

Next-steps based on this pilot survey:

- New education strategies about best-practices for trash storage and dumpster use specifically aimed at renters
- Continued development of more effective and nuanced rodent eradication requirements for construction projects in the city
- Increase participation in the residential baiting program through new outreach campaigns, with a focus on baiting many properties in the same area



Further Reading:

Feng, A. Y. T., & Himsworth, C. G. (2014). The secret life of the city rat: a review of the ecology of urban Norway and black rats (*Rattus norvegicus* and *Rattus rattus*). *Urban Ecosystems*, 17, 149-162.

Byers, K. A., Lee, M. J., Patrick, D. M., & Himsworth, C. G. (2019). Rats About Town: A Systematic Review of Rat Movement in Urban Ecosystems. *Frontiers in Ecology and Evolution*, 7, 1-12.



For more information about rodent control in the City of Somerville:

somervillema.gov/rodentcontrol