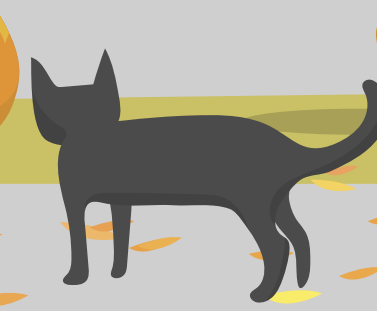# Home range size and habitat selection of owned outdoor domestic cats (*Felis catus*) in urban southwestern Ontario

THE PROBLEM

Domestic cats play dual roles in society as both pets and predators. When outside and unsupervised, cats can hunt wildlife, pass on illnesses, and become sick, injured, or killed, meaning that understanding how cats use space when let outside is an important component of determining how they fit into the 'urban ecosystem'.

THE STUDY

To better understand where and how far domestic owned cats travelled while they were outside, we worked with their owners to monitor their movements using GPS tracking devices attached to collars.

WHAT WE FOUND

The total area used by cats varied 10-fold (range: 0.34–38 ha), with some cats staying close to their home and others travelling several city blocks away. Male and female cats used similarly sized areas, and individuals travelled similar distances during the day and the night. While personality and age did not seem to affect the total area they used, road density did have a positive effect on home range size. When travelling, they tended to avoid greenspaces and farmland, as well as directly walking on the road, instead preferring to move on roadsides, driveways, and backyards.

The Catcam device used to track individual movements of owned outdoor cats.

(A) one of the cats that participated in our study, with the Catcam resting just below his chin.

(B) the collar with the Catcam camera on the front and the GPS (indicated by an arrow) on the back.

Map credit: Canadian Imagery Hybrid, Esri Canada
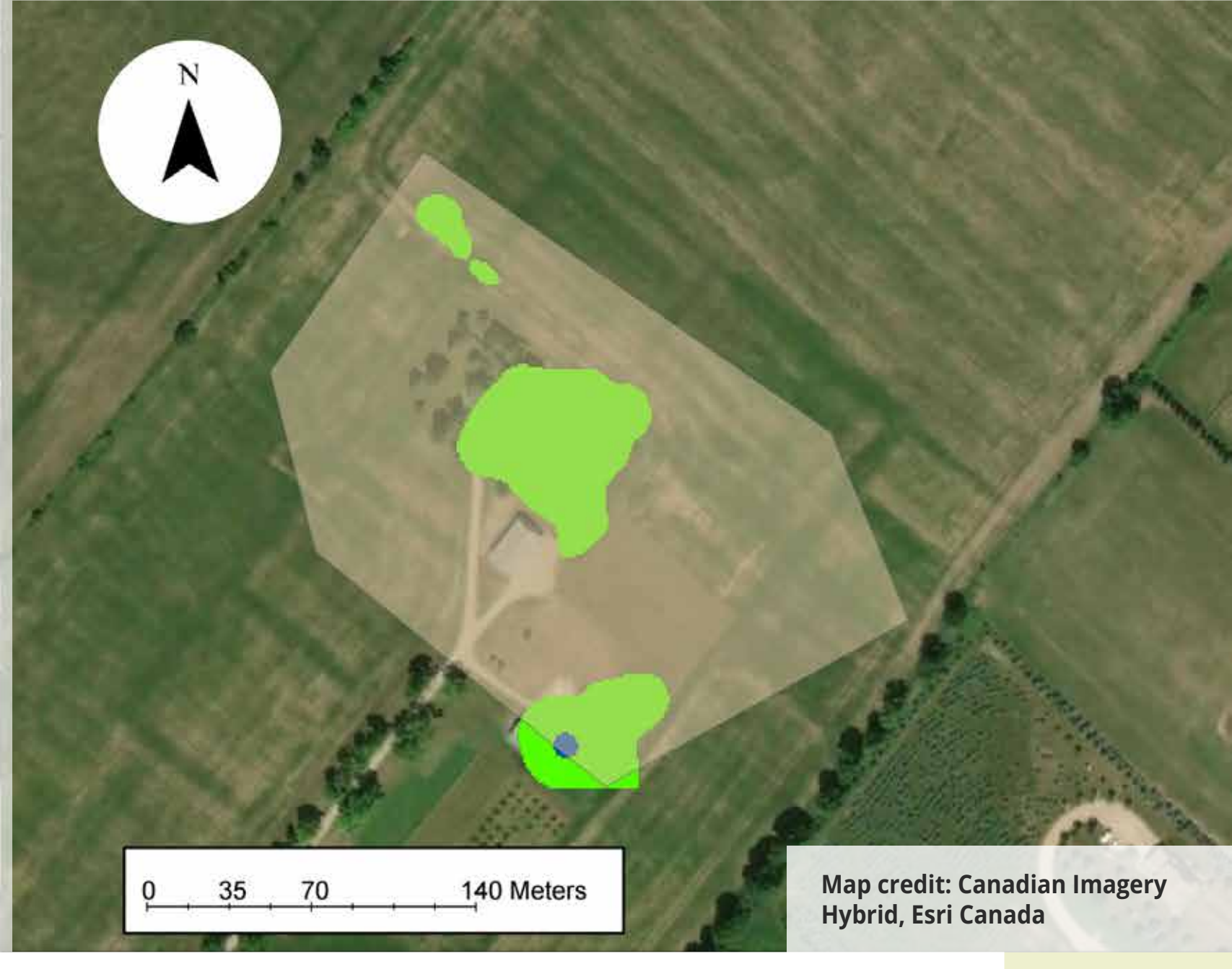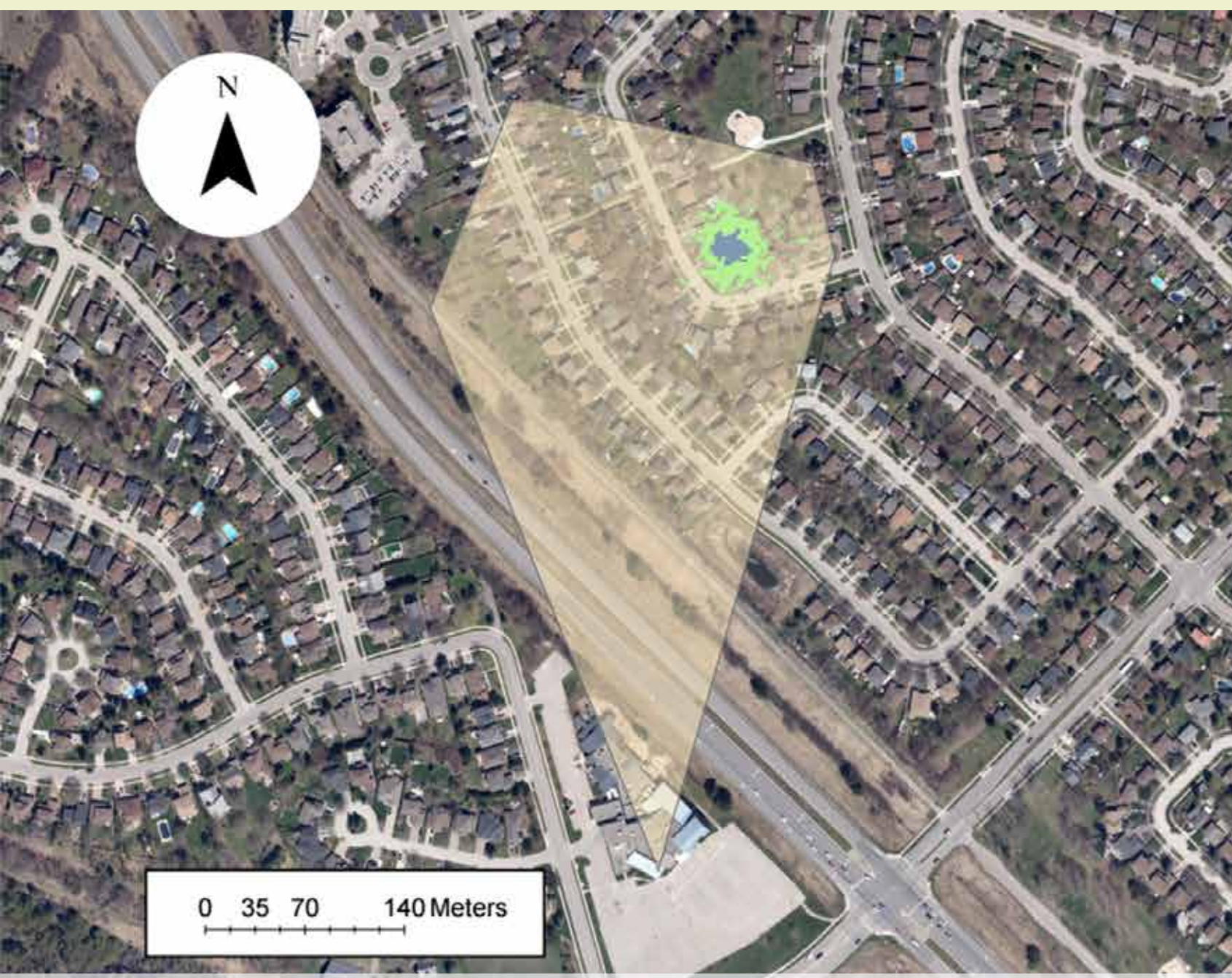
Examples of owned cat home ranges tracked via GPS (core areas in green and blue), which highlights the variation in the total area used by cats.

CONCLUSION

Given that cats travelled similar distances during the day and night, our results suggest that implementing cat curfews would not likely reduce the spread of diseases carried by cats. Avoidance of greenspaces could be related to the presence of coyotes, while the preference for urban and residential landcovers suggests that wildlife found close to buildings could be the most vulnerable to cat predation. Despite a general avoidance of roads, 90% of cats still crossed or walked alongside roads, exposing them to a high risk of injury or death from vehicle collisions, highlighting the inherent dangers of unsupervised and unrestricted outdoor access.