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LAND USE ASSOCIATIONS AND CHANGES IN POPULATION INDICES OF URBAN RACCOONS DURING A RABIES EPIZOOTIC

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Land use associations and changes in population indices were assessed for an urban population of raccoons (*Procyon lotor*) in Baltimore, Maryland (USA), from January 1984 to December 1987. Records were examined for 1,458 raccoons trapped alive and removed dead from city streets during, and after, the peak of a rabies epizootic. The distribution of raccoons was associated with single-unit residential areas primarily along the northern and western perimeter of the city. Beginning in March 1985 and ending in May 1987, an epizootic of raccoon rabies spread through Baltimore, ultimately resulting in the identification of 95 rabid raccoons. Within the study interval, annual numbers of trapped raccoons remained stable from 1984 to 1986, before showing a marked decline in 1987. The number of raccoons removed as vehicle mortalities (road-kills) varied little from 1984–1985 but declined in the last 2 yr of study. Numbers of other road-killed species did not decrease concurrently, suggesting a specific decrease in the urban raccoon population. The rabies epizootic, in conjunction with the increased city and private control, appears to have contributed to a decline in the number of raccoons in Baltimore.

Keywords: [Raccoon](#), [Procyon lotor](#), [urban population](#), [rabies](#), [rabies epizootic](#), [population dynamics](#), [land use association](#), [zoonotic disease](#)

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Epizootic rabies among raccoons (*Procyon lotor*) in the United States was first identified in Florida in the 1940s (6), and the area affected gradually expanded into other southeastern states. In the late 1970s, a second focus of rabies among raccoons emerged on the West Virginia/Virginia border (Fig. 1a). We compared our results with the predictions from a model of raccoon rabies that determines changes in the densities of susceptible, exposed, infectious, and recovered (SEIR) individuals (13). We analyze the numerical solutions of the model in the same way as the data, so as to ensure a robust test of the predictions. Land use associations and changes in population indices of urban raccoons during a rabies epizootic. *J Wildl Dis* 1990;26:170-9. Rupprecht CE, Smith JS. Raccoon rabies: the re-emergence of an epizootic in a densely populated area. *Seminars in Virology* 1994;5: 155-264. CDC. Rabies postexposure prophylaxis -- Connecticut, 1990-1994. *MMWR* 1996;45:232-4. Uhaa IJ, Dato VM, Sorhage FE, et al. Benefits and costs of using an orally absorbed vaccine to control rabies in raccoons. *J Am Vet Med Assoc* 1992;201:1873-82.