

URBAN WILDLIFE, ECOSYSTEMS, AND HUMAN HEALTH

The year 2003 was the first in which more people lived in urban areas than rural ones. By 2050 perhaps as many as three-fourths of the world's human population will live in cities and suburbs (Cohn 2005). As cities grow in areal extent and human occupation, parks in urban areas become increasingly important for the environmental values, such as wildlife, they preserve and for benefiting human populations where they live.

Cohn points out that urban parks harbor a variety of wildlife, including animals not normally thought of as "city critters." For example, flying squirrels, red-backed voles, and a rare moth found nowhere else inhabit Pelham Bay Park in the northeastern part of the Bronx in New York City. Though Cohn focuses on New York City, which includes parts of Gateway National Recreation Area, the recognition that wild places and wildlife can be found in urban settings throughout the National Park System is important for our expanding human population. The National Park System contains urban parklands such as Fire Island National Seashore, New York, Cuyahoga Valley National Park between Cleveland and Akron, Ohio, and Rock Creek Park in Washington, D.C. Cohn discusses how wildlife, ecosystems, and human health are related in urban settings. A few examples are highlighted here.

Seabirds, which are at the top of the food chain, are good indicators of pollutants. According to Cohn, the health of seabirds serves as an advance warning for people who eat fish and shellfish from the same waters as the birds. A significant human impact that affects seabird populations is plastic. Because many seabird species feed on fish and crustaceans at the ocean's surface, they are particularly prone to contact with floating plastic. Ingested plastic seems to be killing more seabirds than oil or other pollutants.

Carrion and dung beetles remove and recycle waste materials, which if left on the ground could become sources of disease. By eating dung, the beetles kill bacteria and protozoa that can cause disease in people. However, in order for beetles to remove and recycle waste, they need soft "functioning" soil. The hard surfaces (e.g., streets, parking lots, and sidewalks) and compacted soils of urban and suburban areas are not favorable for beetle habitats.

The diversity of bird and mammal populations is important for human health because diversity decreases disease. As a case in point, the number of white-footed mice is growing as the number of other mammals and birds decline in fragmented patches of urban forest. This species is the best reservoir for Lyme disease. More than

90% of ticks that feed on white-footed mice become infected with the pathogen that causes the disease, while at most 50% get the pathogen from feeding on other species. Hence, the simple conclusion is that the more diverse bird and mammal populations are, the fewer ticks will be infected and the less likely humans will be to get the disease.

As Cohn illustrates, an increasing number of university researchers, conservation groups, and wildlife biologists have begun to recognize the significance of wildlife in urban “wild places.” Urban wildlife species not only serve as indicators of ecosystem health, but provide health to the increasing number of people living in metropolitan areas.

Reference

Cohn, J. P. 2005. Urban wildlife. *BioScience* 55(3):201–205.