

B&C PROFESSOR'S CORNER

Increasing Urbanization, Decreasing Wildlife Habitat



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Challenges seem to be a constant that society has to overcome to conserve and manage wildlife. At Boone and Crockett Club's annual meeting in Houston, Texas, in December 2008, members heard of the challenges Americans face in removing the gray wolf from

the endangered species list. It has certainly been a challenge, but wolf habitat is available and wolves will eventually be removed from the list providing another successful chapter of wildlife management to be recorded. However, what if the habitat was not adequate for wolves? That could be a possibility in the future.

Rural, suburban, and exurban development in the U.S. consumes more than 2,450,000 acres of land each year and contributes to increased mortality of wildlife from collisions with vehicles and windows, dog and cat predations, malicious gunshots, monofilament line injuries, tar, oil, pesticide toxicities, and diseases. Cities, towns, and villages in the U.S. make up approximately five percent of the land mass but nearly 80 percent of the population lives in them and the surrounding suburbs. This anthropogenic development results in the modification of landscapes so severe that native habitat for wildlife is altered and eliminated. Most alteration occurs around cities and the influences of development decrease as human activity decreases from city centers through suburban and into rural landscapes. Urbanization is the primary cause of species endangerment and a leading threat to biodiversity in the contiguous U.S. as native landscapes are modified into cemeteries, parks, gardens,

golf courses, man-made lakes, and tons of asphalt and concrete.

Some species can adapt to urban sprawl (e.g., some small mammals, birds) but most are negatively impacted due to abrupt habitat boundaries, road construction, introduction of exotic flora and fauna, and degradation of landscapes by humans. These influences cause long-term habitat loss and increased extinction rates leading to international biotic homogenization. The same species that can adapt to urbanization as cities spread across the planet. These adaptable species and some native species that adapt well to suburban environments can provide some developed areas a rich assemblage of flora and fauna even though many native species decline in the process. This is indeed a challenge because the demise of native species is often ignored. Humans that live in suburban and exurban habitats (of all income levels) become increasingly disconnected from local indigenous species and their roles in the natural ecosystem.

Similar effects occur as rural landscapes are altered with livestock and agriculture. In both situations the concentration of anthropogenic influences is not generally beneficial to wildlife. Wildlife that are able to tolerate humans within their habitat are often undesirable to many citizens leading to human-wildlife conflicts; these conflicts range from minor annoyances (e.g., consumption of gardens) to property damage (e.g., deer-vehicle accidents) and the loss of life.

There is a disproportional influence of humans on the Western landscape that creates a challenge to wildlife biologists and managers. Until planners consider wildlife at the development stage of any type of habitat alteration, habitats will continue to be altered, populations will be reduced—and eliminated in some cases—and the

overall quality of life for society will be reduced. Unfortunately, urban sprawl has only recently been addressed as a serious issue. Even states like Montana that have few people (less than 1 million) will not be immune to the negative issues that are facing wildlife throughout North America. Exurban development will likely persist in the Rocky Mountains as people search for scenic and secluded lifestyles.

Urban ecology may have been on the fringes of mainstream ecology because many considered anthropogenic alterations to areas as biological degradation and suggested that studies in undisturbed areas were more interesting. However, since the 1980s interest in urban ecology surged with growing interest from management agencies, universities, working groups, and professional societies. In the 1990s it was apparent that suburban and exurban landscapes were critical to the conservation of biodiversity; conservation that focused primarily on wildlands was not adequate to maintain a full range of biodiversity. Furthermore, urbanization was fragmenting habitats and urban ecology quickly shifted from the fringes of ecology to a central core as open space was altered.

The conflicts created for wildlife along the rural-urban gradient are human caused and will only be addressed properly by collaborative cooperation. The first step in any program is to establish objectives. What is it society wants: what species, how many, where, and when? Urbanization clearly has negative consequences to most wildlife and only with careful planning and monitoring will the full effects be known or successful programs documented. This is a challenge that has to be met or the chaotic and planned consumption of habitat for wildlife will continue decreasing the quality of life for all organisms. ■

anthropogenic
[an-thruh-puh-jen-ik] –adjective
caused or produced by humans