

Ch. 2.5 Anthropogenic Ecosystems: The influence of people on urban wildlife populations.

1. In 2.5.1, the authors note:

“We tend to agree with Paul Rees (1997): ‘One of the more fascinating dimensions of ecology is the adaptive co-evolution of species, particularly those that have hitched their wagons to the human train’. In fact, creation of anthropogenic ecosystems... argues for consideration of *Homo sapiens* as an urban ‘keystone’ species.”

How do you feel about humans as keystone species? Were you convinced by the case that the authors made in favor of this idea throughout multiple sections of this chapter (e.g., Chernobyl)? Why or why not?

2. In chapter 2.5.2, the authors note that there is a “It would be reasonable to expect the factors that promote or preclude the existence of various species of wildlife in urban areas will be similar in [North America, South America, Australia, and European countries].” They also note in 2.5.5, “Other than taxonomic differences, the published literature suggests there are more similarities than differences between urban vertebrate assemblages worldwide.”

Let’s remind ourselves of all of the factors that we have been talking about for the past several weeks... What are some selective factors that you would expect to be similar in cities worldwide? What selective factors might you expect to vary from city to city? Do you agree with the authors’ expectations of urban faunal assemblages?

3. In 2.5.4, authors note, “Our review of the global literature on urban species suggests that for many species, if human urban settlements occur within the historic geographic range, the species will occupy the human settlement in numbers greater than was the case in their natural environment. Moreover, there is little humans can do to prevent the presence of some species in their urban settlements.”

City-dwellers often think of animals like raccoons and opossums as pests; if we consider only native species, should we have a problem with their proliferation? (But of course there are a lot of non-native “pests” in cities as well.)

4. In 2.5.6, the authors note a several reasons that managing wildlife in anthropogenic ecosystems can be very challenging. Which of the reasons on the list might be easiest to deal with? How? Which of these reasons do you think are the most problematic? Why?

5. (2.5.8) What are some of the major negative impacts of urban structures, roads, noise, pollutants, etc. on urban fauna? Was there anything that really stuck out or surprised you? What are some of the positive impacts? Does the good outweigh the bad?

6. (2.5.9 and 2.5.10) The authors argue that post-Chernobyl, the exclusion zone “quickly” became a non-urban area. Do you agree or disagree? Why? So going back to our first question, are you any more or less convinced that humans are keystone species?

Ch. 3.1 Coupled relationships between humans and other organisms in urban areas.

7. In section 3.1.2, the authors cite over-exploitation of natural resources as a clear example of a positive feedback loop; and self-regulation a clear example of a negative feedback loop. They then give an example from the Wolong Nature Reserve in China as a possible example of a “positive, mutually reinforcing, reciprocal feedback loop.” Did this example convince you that such a thing exists in an ecological setting? Can you think of better examples of this type of feedback in nature?

8. In section 3.1.4, the authors give several examples of co-evolution between humans & other animals through cooperation in getting food (honeyguides in East Africa, and bottlenose dolphins in Brazil); through arms races between humans and crows, and humans & rats; and mutually supportive interactions between humans and crows.

Can we come up with any other clear examples of co-evolution between humans and other animals within urban areas?

9. (3.1.5) Were you surprised at how many urbanites are feeding birds? What are the benefits of feeding wild animals? What are some drawbacks?

10. “...North American cities are relatively young and species compositions of birds may include species that are currently adapting to urban life or being driven to extinction...”

Does it matter if certain native species (or even communities) of birds go extinct within city limits?