

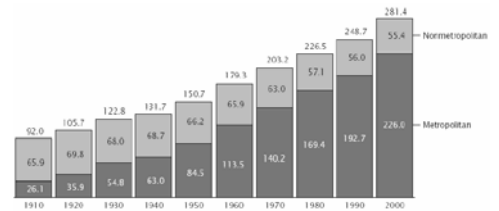
URBAN WILDLIFE

From the Pennsylvania DEP Falcon site www.dep.pa.state.us/dep/falcon

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The Urbanization of America

Figure 1a. U.S. Metropolitan and non-metropolitan population, 1910-2000 (in millions)

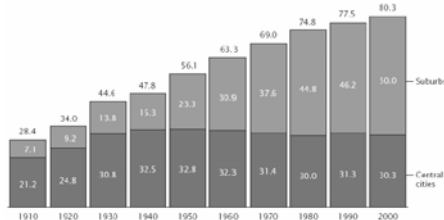


Source: Hobbs, Frank and Nicole Stoops, 2002. *Demographic Trends in the 20th Century*. U.S. Census Bureau, Census 2000 Special Reports, Series CENSR-4.

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The Urbanization of America

Figure 1b. Percent of total population living in metropolitan areas and in their central cities and suburbs, 1910-2000 (%)



Source: Hobbs, Frank and Nicole Stoops, 2002. *Demographic Trends in the 20th Century*. U.S. Census Bureau, Census 2000 Special Reports, Series CENSR-4.

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Why Manage Urban Wildlife

- Urban areas are expanding in area and influence
 - Most of the tax-paying, policy-influencing public live in cities
- Wildlife exist in all urban areas

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Current Issues in Urban Wildlife

- Habitat destruction, alteration, fragmentation and isolation due to urban sprawl & development
 - **geographic size** of urban areas has increased faster than **population size**
- Isolation of humans from the natural world
 - 89% of people get their wildlife information from TV
- Human wildlife conflicts
- Exotic species

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Exposing Urbanites to Wildlife

- BioBlitz: taxonomic experts descend on urban green spaces, identifying as many species as they can in 24 hrs
- Kenny Park (900 acres) Hartford, CT June 12, 1999
 - 1,369 species total
 - 75 species of birds, 20 mammals
 - surprises: bald eagle, pileated woodpecker, coyote, beaver, red bat

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Exposing Urbanites to Wildlife: BioBlitz

- 2002 Chicago, Calumet area
 - >2,200 species total
 - 110 species of birds, 19 mammals
 - surprises: long-tailed weasel, river otter

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Urban Areas as Habitat: “Pale Male”

In early 1990's, New Yorkers noticed a pale colored red-tailed hawk on a 5th Avenue building next to Central Park.

Since then, “Pale Male” has had 3 mates, and reared several broods of young.

New Yorkers have been fascinated, and will hang out for days hoping to see Pale Male mate, and waiting for his young to take their first flight.

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Urban Areas as Habitat

- Buildings: ledges mimic cliffs, roofs mimic bare ground
- Several cities are now home to peregrine falcons

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Urban Areas as Habitat

- Cemeteries
 - Boston Survey : 35% of open space
 - 95 species of birds and 20 species of mammals
- University Campuses, golf courses, and other public lands
- Rights of way
- Urban Parks
 - Central Park (NYC) has about 200 bird species that are resident or migrate through
- Shade trees along streets

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The Baltimore & Phoenix LTERs

- Funded by the National Science Foundation for long term ecological research (LTER)
- Examine urban areas as ecosystems, blending
 - sociology
 - ecology & wildlife biology
 - hydrology & geology
 - biogeochemistry
 - civil engineering & planning
 - education

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The Baltimore Ecosystem Study

- Wildlife:
 - >3000 forest patches identified
 - determine their origin, measure plant composition & structure
 - measure breeding bird abundance & diversity

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The Phoenix Ecosystem Study

- Wildlife:
 - measured diversity & abundance of birds in urban parks
 - found no effect of park size or vegetation
 - higher bird diversity in wealthier neighborhoods
 - higher bird abundance in poorer neighborhoods
 - primarily pigeons, starlings, and house sparrows
 - interaction of socioeconomics and wildlife biology
 - hypotheses

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Urban Human-Wildlife Conflicts

- Collisions
- Disease
 - rabies
 - West Nile virus
- Sanitation
- Predation on pets
 - coyotes in LA
- Power outages
 - Squirrels are 3rd leading cause (after weather & trees)
- Building damage

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Melbourne's Flying Foxes: A Case Study in Urban Wildlife Conflict

- In 1981, gray banded flying foxes colonized the Melbourne Botanic Garden "Fern Gully"

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Melbourne's Flying Foxes: A Case Study in Urban Wildlife Conflict

- Overall gray banded flying fox populations have generally been declining due to human activities
- the Melbourne "camp" increased to 8,000 20,000 bats by 2002
- highly mobile
- the bats roost in trees covering about 2 acres
- concerns:
 - lyssavirus (similar to rabies)
 - damage to historic trees (weight & movement)
 - noise & droppings

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Melbourne's Flying Foxes: A Case Study in Urban Wildlife Conflict

- 2001 – government began a culling program, aiming to kill ~1000 bats
 - public outcry halted the effort
- Tried noisemakers, smoke, hosing with water, fishing-line barriers
 - Ineffective

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Melbourne's Flying Foxes: A Case Study in Urban Wildlife Conflict

- March 2003 – attempt to translocate to new site
 - Used disturbance (loud noises) to make Botanical Garden unattractive
 - People set up an alternative "camp" in a site outside the city
 - Bat decoys, bat houses, free food (fruit), tape recordings of bat calls
 - Success!
 - By late 2003, no bats were roosting at Botanical Gardens
 - Sort of....
 - However, the bats didn't go to the camp that was set up for them
 - Instead, they started a new camp in a wooded park
 - Less conflict w/ humans & historic trees, so allowed to stay

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Things To Remember

- America and the world are becoming increasingly urban
- Two main issues: making cities into habitat, and bringing urbanites & wildlife into contact
- Types of habitats in urban wildlife
- Recent efforts to study urban ecosystems
- Sources of conflict between humans and wildlife in urban settings
- Case study: Melbourne's flying foxes