Backgrounder

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Nature in the Suburbs

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A decade ago, who would have thought that New Jersey would host a black bear hunt—the first in 33 years? Or that Virginia, whose population of bald eagles was once down to 32 breeding pairs, would have 329 known active bald eagle nests? Who would have expected *Metropolitan Home* magazine to be advising its readers about ornamental grasses to keep away white-tailed deer, now found in the millions around the country?

Such incidents illustrate a transformed America. This nation, often condemned for being crowded, paved over, and studded with nature-strangling shopping malls, is proving to be a haven for wild animals.

It is difficult to ignore this upsurge of wildlife, because stories about bears raiding trashcans and mountain lions sighted in subdivisions frequently turn up in the press or on television. Featured in these stories are animals as large as moose, as well as once-threatened birds such as eagles and falcons and smaller animals like wolverines and coyotes.

One interpretation of these events is that people are moving closer to wilderness and invading the territory of wild animals. But this is only a small part of the story. As this essay will show, wild animals increasingly find suburban life in the United States to be attractive.

The stories, while fascinating, are not all upbeat. Americans are grappling with new problems—the growing hazard of automobile collisions with deer, debates over the role of hunting, the disappearance of fragile wild plants gobbled up by hungry ruminants,

Talking Points

- Two phenomena are fueling the dramatic increase in wild animals across the United States. One is natural reforestation, especially in the eastern United States. The other is suburbanization, which provides a variety of landscapes and vegetation that attract animals.
- When people move onto what once was rural land, they modify the landscape. They may create ponds and gardens, plant trees, or set up bird nesting-boxes. The new ecology is different, but often friendly to animals.
- Suburbs have grown in large measure because people have the wealth and the mobility to move into less-dense environments, and economic studies show that as income rises, people show greater interest in protecting their environment.
- The greening of the suburbs is not a substitute for big stretches of land—both public and private—that allow large mammals such as grizzly bears, elk, antelope, and caribou to roam.

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and even occasional human deaths caused by these animals.

At the same time, the proliferation of wildlife should assure Americans that the claim that urban sprawl is wiping out wildlife is simply poppycock. Human settlement in the early 21st century may be sprawling and suburban—about half the people in this country live in suburbs—but it is more compatible with wildlife than most people think. There may be reasons to decry urban sprawl or the suburbanization of America, but the loss of wildlife is not one of them.

Why So Many Wild Animals?

Two phenomena are fueling this increase in wild animals. One is natural reforestation, especially in the eastern United States. This is largely a result of the steady decline in farming, including cotton farming, a decline that allows forests to retake territory they lost centuries ago. The other is suburbanization, the expansion of low-density development outside cities, which provides a variety of landscapes and vegetation that attract animals. Both trends undermine the claim that wild open spaces are being strangled and that habitat for wild animals is shrinking.

The trend toward regrowth of forest has been well-documented. The percent of forested land in New Hampshire increased from 50 percent in the 1880s to 86 percent 100 years later. Forested land in Connecticut, Massachusetts, and Rhode Island increased from 35 percent to 59 percent over that same period. "The same story has been repeated in other places in the East, the South, and the Lake States," writes forestry expert Roger Sedjo.[1]

Environmentalist Bill McKibben exulted in this "unintentional and mostly unnoticed renewal of the rural and mountainous East" in a 1995 article in the *Atlantic Monthly.* Calling the change "the great environmental story of the United States, and in some ways of the whole world," he added, "Here, where 'suburb' and 'megalopolis' were added to the world's vocabulary, an explosion of green is under way."[2] Along with the reforestation come the animals; McKibben cites a moose "ten miles from Boston," as well as an eastern United States full of black bears, deer, alligators, and perhaps even mountain lions.

This re-greening of the eastern United States explains why some large wild animals are thriving, but much of the wildlife Americans are seeing today is a direct result of the suburbs. Clearly, suburban habitat is not sterile.

Habitat for Wildlife

When people move onto what once was rural land, they modify the landscape. Yes, they build more streets, more parking lots, and more buildings. Wetlands may be drained, hayfields may disappear, trees may be cut down, and pets may proliferate. At the same time, however, the new residents will create habitat for wildlife. They will create ponds, establish gardens, plant trees, and set up bird nesting-boxes. Ornamental nurseries and truck farms may replace cropland, and parks may replace hedgerows.

This new ecology is different, but it is often friendly to animals, especially those that University of Florida biologist Larry Harris calls "meso-mammals," or mammals of medium size.[3] They do not need broad territory for roaming to find food, as moose and grizzly bears do. They can find places in the suburbs to feed, nest, and thrive, especially where gardens flourish.

One example of the positive impact of growth is the rebound of the endangered Key deer, a small white-tailed deer found only in Florida and named for the Florida Keys. According to *Audubon* magazine, the Key deer is experiencing a "remarkable recovery."[4] The news report continues: "Paradoxically, part of the reason for the deer's comeback may lie in the increasing development of the area." Paraphrasing the remarks of a university researcher, the reporter says that human development "tends to open up overgrown forested areas and provide vegetation at deer level—the same factors fueling deer population booms in suburbs all over the country."

1. Roger A. Sedjo, "Forest Resources," in Kenneth D. Frederick and Roger A. Sedjo, eds., *America's Renewable Resources: Historical Trends and Current Challenges* (Washington, D.C.: Resources for the Future, 1991), p. 109.
2. Bill McKibben, "An Explosion of Green," *Atlantic Monthly,* April 1995, p. 64.
3. Larry D. Harris, in e-mail communication with the author, January 16, 2000.
4. Nancy Klingener, "Doe, Re, Key Deer," *Audubon,* January–February 2000, p. 17.

Indeed, white-tailed deer of normal size are the most prominent species proliferating in the suburbs. In *The New York Times*, reporter Andrew C. Revkin has commented that "suburbanization created a browser's paradise: a vast patchwork of well-watered, fertilizer-fattened plantings to feed on and vest-pocket forests to hide in, with hunters banished to more distant woods."[5]

The increase in the number of deer in the United States is so great that many people, especially wildlife professionals, are trying to figure out what to do about them. In 1997, the Wildlife Society, a professional association of wildlife biologists, devoted a special 600-page issue of its *Bulletin* to "deer overabundance." The lead article noted, "We hear more each year about the high costs of crop and tree-seedling damage, deer-vehicle collisions, and nuisance deer in suburban locales."[6] Insurance companies are worried about the increase in damage from automobile collisions with deer and similar-sized animals. And there are fears that the increase in deer in populated areas means that the deer tick could be causing the increased number of reported cases of Lyme disease.

Yes, the proliferation of deer poses problems, as do geese, whose flocks can foul ponds and lawns and are notorious nuisances on golf courses, and beaver, which can cut down groves of trees. Yet the proliferation of deer is also a wildlife success story. At least that is the view of Robert J. Warren, editor of the *Bulletin*, who calls the resurgence of deer "one of the premier examples of successful wildlife management."[7] Today's deer population in the United States may be as high as 25 million, says Richard Nelson, writing in *Sports Afield*.[8]

People have mixed feelings about deer. In the *Wildlife Society Bulletin*, Dale R. McCullough and his colleagues reported on a survey of households in El Cerrito and Kensington, two communities near Berkeley, California. Twenty-eight percent of those who responded reported severe damage to vegetation by the deer, and 25 percent reported moderate damage. Forty-two percent liked having the deer around, while 35 percent disliked them and 24 percent were indifferent. The authors summarized the findings by saying: "As expected, some residents loved deer, whereas others considered them 'hoofed rats.'"[9]

James Dunn, a geologist who has studied wildlife in New York State, believes that suburban habitat fosters deer more than forests do. Dunn cites statistics on the harvest of buck deer reported by the New York State government. Since 1970 the deer population has multiplied 7.1 times in suburban areas (an increase of 610 percent), but only 3.4 times (an increase of 240 percent) in the state overall.[10]

Dunn explains that the forests have been allowed to regrow without logging or burning, so they lack the "edge" that allows sunlight in and encourages vegetation suitable for deer. In his view, that explains why counties with big cities (and therefore with suburbs) have seen a greater increase in deer populations than have the isolated, forested rural counties. Supporting this point, Andrew Revkin quotes a wildlife biologist at the National Zoo in Washington, D.C. "Deer are an edge species," he says, "and the world is one big edge now."[11]

Deer are not the only wild animals that turn up on lawns and doorsteps, however. James Dunn lists

5. Andrew C. Revkin, "Out of Control: Deer Send Ecosystem into Chaos," *The New York Times*, November 12, 2002.
6. Donald M. Waller and William S. Alverson, "The White-Tailed Deer: A Keystone Herbivore," *Wildlife Society Bulletin*, Vol. 25, No. 2 (Summer 1997), p. 217.
7. Robert J. Warren, "The Challenge of Deer Overabundance in the 21st Century," *Wildlife Society Bulletin*, Vol. 25, No. 2 (Summer 1997), p. 213.
8. Richard Nelson, "Deer Nation," *Sports Afield*, September 1998, p. 40.
9. Dale R. McCullough, Kathleen W. Jennings, Natalie B. Gates, Bruce G. Elliott, and Joseph E. DiDonato, "Overabundant Deer Populations in California," *Wildlife Society Bulletin*, Vol. 25, No. 2 (1997), p. 481.
10. James R. Dunn, "Wildlife in the Suburbs," Political Economy Research Center, *PERC Reports*, September 1999, pp. 3–5. See also James R. Dunn and John E. Kinney, *Conservative Environmentalism: Reassessing the Means, Redefining the Ends* (Westport, Conn.: Quorum Books, 1996).
11. Revkin, "Out of Control."

species in the Albany, New York, suburbs in addition to deer: birds such as robins, woodpeckers, chickadees, grouse, finches, hawks, crows, and nuthatches, as well as squirrels, chipmunks, opossums, raccoons, foxes, and rabbits.[12] Deer attract coyotes too. According to a 1999 article in *Audubon*, biologists estimate that the coyote population (observed in all states except Hawaii) is about double what it was in 1850.[13]

Joel Garreau, author of *Edge City*, includes black bears, red-tailed hawks, peregrine falcons, and beaver on his list of animals that find suburban niches. Garreau still considers these distant "edge city" towns a "far less diverse ecology than what was there before." However, he writes, "if you measure it by the standard of city, it is a far more diverse ecology than anything humans have built in centuries, if not millennia."[14]

For one reason or another, some environmental activists tend to dismiss the resurgence of deer and other wildlife. In an article criticizing suburban sprawl, Carl Pope, executive director of the Sierra Club, says that the suburbs are "very good for the most adaptable and common creatures—raccoons, deer, sparrows, starlings, and sea gulls" but "devastating for wildlife that is more dependent upon privacy, seclusion, and protection from such predators as dogs and cats."[15]

Yet the suburbs attract animals larger than mesomammals, and the suburban habitat may be richer than what they replace. In many regions, suburban growth comes at the expense of agricultural land that was cultivated for decades, even centuries. Cropland doesn't necessarily provide abundant habitat. Environmental essayist Donald Worster, for example, has little favorable to say about land cultivated for crops or used for livestock grazing. In Worster's view, there was a time when agriculture was diversified, with small patches of different crops and a variety of animals affecting the landscape. Not now. "[T]he trend over the past two hundred years or so," he writes, "has been toward the establishment of monocultures on every continent."[16] In contrast, suburbs are not monocultures.

Even large animals can be found at the edges of metropolitan areas. Early in 2004, a mountain lion attacked a woman riding a bicycle in the Whiting Ranch Wilderness Park in the foothills above populous Orange County, and the same animal may have killed a man who was found dead nearby. According to the *Los Angeles Times*, if the man's death is confirmed as caused by the mountain lion, it would be the first death by a mountain lion in Orange County. The *Times* added, however, that "[m]ountain lions are no strangers in Orange County's canyons and wilderness parks."[17] Indeed, in 1994, mountain lions killed two women in state parks near San Diego and Sacramento. Deer may be attracting the cats, suggests Paul Beier, a professor at the University of California at Berkeley.[18]

An article in a Montana newspaper, also citing Paul Beier's research, reported that mountain lion encounters are increasing around the country. The article noted that according to "conventional wisdom," the encounters occur because more people are moving into the lions' habitat. But, the author says, the reverse is also true. Lions "are spending more time in what has long been considered human habitat, our cities and towns and subdivisions."[19]

Even in the East, mountain lions may be returning. Bill McKibben reported in 1995 that the Eastern Puma Research Network had been told of 1,800

12. Dunn, "Wildlife in the Suburbs," p. 3.
13. Mike Finkel, "The Ultimate Survivor," *Audubon*, May–June 1999, p. 58.
14. Joel Garreau, *Edge City: Life on the New Frontier* (New York: Random House, 1991), p. 57.
15. Carl Pope, "Americans Are Saying No to Sprawl," Political Economy Research Center, *PERC Reports*, February 1999, p. 6.
16. Donald Worster, *The Wealth of Nature: Environmental History and the Ecological Imagination.* (New York: Oxford University Press, 1993), p. 59.
17. Kimi Yoshino, David Haldane, and Daniel Yi, "Lion Attacks O.C. Biker; Man Found Dead Nearby," *Los Angeles Times*, January 9, 2004.
18. McCullough *et al.*, "Overabundant Deer Populations in California," p. 479.
19. Scott McMillion, "Cat Power," *Bozeman Daily Chronicle*, November 28, 1999, pp. 33ff.

puma (a mountain lion) sightings during the previous 10 years. The National Wildlife Federation reports a resurgence of cougars (another type of mountain lion) in California, where they are endangering bighorn sheep in the Sierra Nevadas.[20]

Although black bears are smaller than the relatively rare and dangerous grizzlies, they can be sizable, and they appear to be moving into urban areas too. *New York Times* reporter Robert Hanley noted that a 175-pound black bear was discovered in "the heart of the business district" of West Haven, Connecticut. "The world of wildlife is far different from what it was a generation ago," Hanley noted, "as more housing eats into once distant wilderness. All sorts of species no longer stay secluded in deep woods." He specifically cited "moose on the developing outer fringes of suburbia; coyotes, fox, deer and the ubiquitous Canada geese in older suburban towns; bears and turkeys in cities."[21]

Elk have been infiltrating subdivisions in Jefferson County, Colorado. According to the *Rocky Mountain News*, state wildlife officials estimate that 2,500 elk live in the area between Denver and the Continental Divide. "The increase has occurred entirely in residential subdivisions such as Evergreen Meadows, not in the area's vast expanses of national forests, according to state wildlife biologist Janet George."[22]

Wild Backyards

A few environmental groups acknowledge the richness, or potential richness, of the suburban environment. A project of the National Wildlife Federation is called "Backyard Wildlife Habitat." It certifies families' backyards that have been planned to attract wildlife. Through its Web site, the National Wildlife Federation advises amateur naturalists on how to develop wildlife-friendly yards. Habitat builders are led through the basics of improving their backyards. In "Learn How to Build a Simple Pond," Doug Inkley, a senior scientist for the Federation, describes how to design a pond to include fish and frogs.[23]

The owner of one Colorado backyard habitat certified by the National Wildlife Federation welcomes mallard and wood ducks; herons, kingfishers, and other large birds; and hawks, snakes, foxes, and skunks to her property. The owner has chickadees in a nest box and finches in a thistle feeder. "Before" and "after" photos on the National Wildlife Federation's Web site are impressive.[24]

In a similar vein, Keeping Track is a Vermont organization that teaches volunteers how to monitor signs of wildlife. Susan Morse, founder and program director, says, "We offer the average citizen something physical they can do for wildlife in the community to stop the damage they see happening."[25] Founded in 1994, the organization has approximately 600 members and 55 groups, primarily in New England. The goal is to identify wildlife so that local planning commissions will make wiser decisions. "We urgently need to make a planned attempt to create buffer-lands around wilderness areas and protect the rural working landscapes," Morse told the *Amicus Journal*.[26]

A Keeping Track group in New Hampshire documented the presence of bobcats at one site. Their records led to a decision to relocate a proposed electric utility transfer station and to defeat plans for a snowmobile trail. Bobcats? In suburbia? No, but close to it. The group was the Piscataquog Watershed Association based in Weare, New Hampshire, a town in the growing southern part of the state.

20. Martin Fortenzer, "Clawing Its Way to the Top," *National Wildlife*, February–March 2000, at *www.nwf.org/natlwild/2000/mtlionfm.html.*
21. Robert Hanley, "Coyotes, Turkeys and Bears, Oh My!" *The New York Times*, June 18, 1999, p. B1.
22. Berny Morson, "Worn-Out Welcome," *Rocky Mountain News*, August 24, 1997.
23. See *www.nwf.org/habitats/backyard/beyondbasics/hints/frogpond.cfm* (February 9, 2000).
24. See *www.nwf.org/habitats/backyard/certifysample.cfm* (February 9, 2000).
25. Steve Lerner, "A Walk on the Wild Side," *Amicus Journal*, Summer 1999, at *www.nrdc.org/nrdc/eamicus*.
26. *Ibid.*

Apparent Compatibility

What Americans are seeing is an apparent compatibility—albeit perhaps an uneasy one—of animals and humans in growing metropolitan areas. Suburbs have grown in large measure because people have the wealth and the mobility to move into less-dense environments. Economic studies show that as income rises, people show greater interest in protecting their environment. Although they may shop in malls and drive on highways, they like open space, gardens, and groves of trees—landscapes also likely to attract and nurture wild animals.

Some entrepreneurs, responding to this interest in nature, are making deliberate efforts to maintain the natural environment when they develop home sites. In the West, entrepreneurs are integrating homes with habitat for wildlife, including large animals such as elk and bears. Lee Poole and Joe Vujovich, for example, have been developing Moonlight Basin, a mountainside community that combines homes with easy access to ski lifts and wildlife habitat near Big Sky, Montana. William Ogden is doing something similar on a smaller scale in the nearby Eagle Rock Reserve. Other "eco-developments" include Farmview in Pennsylvania and Wildcat Ranch near Aspen, Colorado. There are even "eco-sensitive" golf courses. An international certification program evaluates golf courses on the basis of their preservation of natural habitat, their conservation of water, and other environmental features.

Others combine nature and residences by restoring native plants. Ron Bowen, president of Prairie Restorations, Inc., is a pioneer in this endeavor. Based in Minnesota, Bowen raises plants like wild rye and thimbleweed, vegetation native to the prairies and savannahs of the Midwest. Until recently, residents routinely seeded their lawns with imported vegetation such as Kentucky blue grass; but some years ago, Bowen dreamed of designing landscapes that resemble the traditional fields of southern Minnesota. Today, his restorations can be found on the lawns of corporate headquarters and private homeowners.[27] Bowen's efforts would be severely restricted in a dense urban setting—partly because they depend on periodic, controlled fires. Only low-density suburbs can bring the experience of prairie life to individuals on a day-to-day basis.

In addition to such entrepreneurial efforts, citizens are taking political action in an attempt to set aside more open space—another sign that increasingly affluent Americans want to maintain natural habitat where they live. Voters in many states have approved ballot measures that provide funds for additional open space set-asides. In his 1991 book, Joel Garreau remarked that the New Jersey state plan (a growth-management strategy) urged company headquarters to become "refuges for wildlife" and new residential developments to be "clustered and adjoin protected natural streams and wooded areas."[28]

Sharing Our Turf

The fact that wildlife finds a home in suburban settings does not mean that *all* wildlife will do so. The greening of the suburbs is no substitute for big stretches of land—both public and private—that allow large mammals such as grizzly bears, elk, antelope, and caribou to roam. The point of this essay is that the suburbs offer an environment that is appealing to many wild animal species.

If the United States continues to prosper, the 21st century is likely to be an environmental century. Affluent people will seek to maintain or, in some cases, restore an environment that is attractive to wildlife, and more parks will likely be nestled within suburban developments, along with gardens, arboreta, and environmentally compatible golf courses. As wildlife proliferates, Americans will learn to live harmoniously with more birds and meso-mammals. New organizations and entrepreneurs will help integrate nature into the human landscape. There is no reason to be pessimistic about the ability of wildlife to survive and thrive in the suburbs.

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27. Linda E. Platts, "Enviro-Capitalists: Who Are They?" Political Economy Research Center, *PERC Reports*, December 1998, pp. 7–11.

28. Garreau, *Edge City*, p. 57.