



Bambi on Birth Control

The biggest challenge to managing animal populations with contraceptives may be getting people to agree about it **BY JENNIFER WEEKS**

Except in cartoons, animals aren't known to accessorize. But in the town of Estes Park, Colorado, elk have been spotted sporting Christmas lights, laundry, and even bicycles in their antlers. While it might seem amusing, the occasional sock-adorned creature is indicative of a serious problem: There are too many elk in the surrounding area, which drives them into communities they wouldn't otherwise enter. To keep the herd size from growing even larger, wildlife managers at nearby Rocky Mountain National Park are considering putting the animals on birth control.

From California to New Jersey, communities are using contraception to control deer, squirrels, and other critters that are multiplying

and damaging habitats or spreading diseases. Not everyone agrees this approach is the best solution to animal overpopulation. But for the past 15 years, wildlife contraceptives have been used in a variety of settings in which people and animals overlap, including barrier

islands, office campuses, and public lands.

Encounters between humans and animals are on the rise for several reasons. Suburban development is pushing into many formerly wild areas, especially in western states. In the Northeast, forests have been growing for a century on farmland abandoned in the 1800s, creating more habitat for beavers, moose, black bears, and other large creatures. And some species, such as wild turkeys and white-tailed deer, are thriving in suburbs where there are fewer predators and hunting is banned or severely limited.

Many communities that need a targeted and safe way to address overpopulation are

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turning to birth control, which is generally seen as a humane alternative to hunting or culling herds. “The demand [for contraceptives] is overwhelming,” says wildlife fertility specialist Jay Kirkpatrick, director of the Science and Conservation Center in Billings, Montana.

That’s because birth control is often quite effective. Enforced infertility has been used to control creatures as small as parakeets and as large as elephants. Currently, Santa Monica, California is using a contraceptive to reduce persistent squirrel overpopulation in Palisades Park. In the Northeast, several communities have used the approach to stem the ballooning number of deer within their boundaries. And Australian officials are researching contraceptives for koala bears and kangaroos.

Early versions of animal birth control relied on steroids or sex hormones. However, these substances persist in the animals’ bodies, potentially posing threats to people who eat them—an important factor for game species like deer—and they increase risks of cancer and infections in animals. Increasingly, the tool of choice for curbing animal overpopulation is immunocontraception, or vaccines that stimulate an animal’s immune systems to block reproductive functions.

One experimental vaccine, PZP, uses a protein found in pig ovaries. In order to fertilize an egg, sperm must attach to and then penetrate the zona pellucida, a membrane that surrounds mammalian eggs. When a female animal is injected with PZP, her body produces antibodies to it; those antibodies then bind to the zona pellucida, preventing sperm from attaching and fertilizing the egg. Another vaccine, GonaCon, blocks the gonadotropin-releasing hormone, which signals the body to produce sex hormones like estrogen and testosterone. By tying up the hormone, GonaCon short-circuits the reproductive cycle, rendering both males and females infertile for up to four years.

The benefits of wildlife birth control are obvious. PZP, for instance, has played an important role in reigning in the herd of

wild horses on Assateague Island, a barrier island located off the coast of Maryland (see sidebar). “PZP has exceeded every expectation and is a wonderful management tool. I don’t know where we’d be without it,” says Carl Zimmerman, a resource management specialist with the National Park Service at Assateague Island National Seashore. “There are no signs of harm to the horses, it doesn’t appear to change their behavior or social interactions, it’s relatively easy to use, and the cost is reasonable.”

But Kirkpatrick says that the vaccine won’t work in every setting. “PZP was developed to control localized deer populations in urban areas where traditional lethal methods

PLANNED PONYHOOD

MENTION ASSATEAGUE and most people think of the wild ponies immortalized in the classic children’s book *Misty of Chincoteague*. Though no one knows for certain, it’s believed that people brought the feral horses’ ancestors from the mainland to graze on the 37-mile barrier island off the coasts of Maryland and Virginia in the 17th century.

Because they have no natural predators on the island, the ponies tend to spread out and chew up their habitat, especially the beach and cord grasses that keep dunes and marshes intact. To combat the degradation, the National Park Service administers a vaccine, PZP, to each mare, allowing her to produce only one foal in her lifetime. When the program started in 1994, the herd numbered 166 and was growing 10 to 15 percent annually. Today there are about 140 horses.

Initially, managers aimed to limit the herd to 150 horses, according to Park Service resource management specialist Carl Zimmerman. “But we’ve come to recognize that [this target] doesn’t balance the needs of the herd and the ecosystem,” he says. Zimmerman and his colleagues found that mares that foal only once live longer, so the population didn’t decrease as much as they expected. Now, the agency is considering ways to reduce the herd to between 80 and 100 horses. No horses will be killed to reach this goal (some might be moved to mainland sanctuaries), but contraception will be a key tool in maintaining a smaller herd. —J.W.



are no longer legal, wise, safe, or publicly accessible,” he says. More remote areas such as California’s Point Reyes National Seashore, where exotic fallow and axis deer are overgrazing the park and competing with black-tailed deer and other native animals, are another matter. There, the Park Service has hired sharpshooters as well as agreeing, under pressure from activists, to use contraceptives to regulate about 1,100 female deer. “Contraception won’t succeed at Point Reyes because the deer are wild and getting to them is going to be very, very difficult,” Kirkpatrick says.

The difficulty is that finding the creatures in the wild and delivering the contraceptives at close range with a dart gun is both costly and time consuming. These challenges, combined with strong hunting traditions, have made some states reluctant to adopt animal contraception.

Animal-rights advocates, meanwhile, say it’s people, not animals, whose behavior needs to be modified. “When we use birth control on free-ranging animals it’s usually to create new opportunities for consumptive users—for example, sterilizing wolves in Alaska to support deer and moose hunting,” says Priscilla Feral, president of the nonprofit Friends of Animals. “We need to carve out more habitat for wildlife, but it’s outrageous for people to determine that deer and horses and geese and squirrels should all be subject to birth control.”

Sometimes compromise is possible. Mainstream environmental groups including the Audubon Society and the Sierra Club have endorsed hunting, either instead of or in combination with birth control, in places where animals are seriously harming ecosystems or spreading Lyme disease. Under New Jersey’s community-based deer management program, many towns have adopted a combined approach that includes using contraception, hiring professionals to capture or shoot animals, opening off-limits lands to hunters, and lengthening the hunting season.

Finding solutions that work are imperative because the problem isn’t going away. “Urban wildlife issues are getting bigger and bigger, and the questions aren’t about science—they’re political, social, and cultural,” says Kirkpatrick. “That’s the expertise we need to solve these problems.” ☺