

CONTRACEPTIVE AGENTS OFFER HOPE FOR HUMANE WILDLIFE MANAGEMENT

By Geoffrey L. Handy

For more and more local animal shelters, the surplus of companion animals isn't the only population problem that's giving them trouble. Increasingly, problems

caused by wildlife such as deer, raccoons, skunks, and foxes are creeping into their purview.

While animal shelters traditionally leave wildlife problems to other agencies, many are now responding

to wildlife rescue requests, cultivating relationships with wildlife rehabilitators, or incorporating wildlife issues into their educational programs. The spread of rabies through skunk, raccoon, and fox populations, of course, is a vital concern for shelters as well.

A large reason for wildlife population problems is the animals' abilities to adapt to urban and suburban environments where reduced natural mortality can easily affect relatively long-lived animals such as white-tailed deer. Deer populations, in fact, have increased by 300-400 percent in some areas of the United States.

Fortunately, a humane and practical solution to selected wildlife population problems is gaining wider viability and acceptance: humane fertility control. At recent HSUS conferences, Jay F. Kirkpatrick, Ph.D., associate professor of physiology in the biology department at Eastern Montana College, has presented promising research that indicates wildlife contraceptive agents are not only more humane than lethal methods of wildlife management, but also more effective. FDA approval for these agents is several years away, but the progress of Dr. Kirkpatrick's work mirrors that of studies into non-surgical methods of sterilization of dogs and cats (*Shelter Sense*, February 1991).

Kirkpatrick and his colleagues have spent the last 20 years searching for the ideal wildlife contracep-



Dr. Jay Kirkpatrick fills a dart with contraceptive vaccine prior to vaccinating a wild horse on Assateague Island, Md.

tive agent. This ideal agent, says the scientist, would be 1) greater than 80–90 percent effective, 2) free of harmful side effects, 3) reversible (i.e., not permanent), 4) inexpensive to produce or acquire, 5) able to be delivered remotely, 6) free of effects on target species' behavior, 7) unable to be passed through the food chain, and 8) safe for use in pregnant animals.

According to Kirkpatrick, studies of contraceptives for wildlife have in the past focused on steroid implants and oral doses. Steroids, though, have proven problematic for most applications because they can be passed through the food chain, are unsafe for use in pregnant animals, and are often expensive.

Kirkpatrick and his colleagues abandoned the steroid approach after discovering the effects of non-steroidal agents called immunocontraceptives, which match much more closely the ideal contraceptive agent. "Immunocontraception," says Kirkpatrick, "will be the primary focus of wildlife contraception for the next decade because of its effectiveness, relative lack of side effects, remote delivery capabilities, and inability to pass through the food chain." It's the same technique being applied to research for use in female dogs, cats, and ultimately, humans.

The viability of immunocontraception has been shown most convincingly in Kirkpatrick's work with the feral horse population at Assateague Island National Seashore, a barrier island off the coast of Maryland. In each of the past four years, Kirkpatrick and his associates have delivered an anti-zona pellucida vaccine to mares on the island. In general terms, the vaccine works by preventing sperm from fertilizing the mares' eggs.



In this study, the scientists have found the vaccine to be 100 percent effective and to meet most of the other criteria of the ideal wildlife contraceptive agent. Especially encouraging is the fact that the study has involved absolutely no direct contact with the animals; the vaccine, and its annual boosters, are given via darts that fall out soon after delivery.

Another version of the immunocontraceptive vaccine is being tested in a pilot study involving captive white-tailed deer in Ohio. Thus far, all seven treated does have not produced offspring. Effects on behavior and other long-term consequences of the vaccine have yet to be studied, but negative effects are not expected.

Unfortunately, FDA approval of wildlife immunocontraceptives for use by state and local animal control personnel is probably at least a decade away. In addition to further general studies of anti-zona pellucida

Dr. Kirkpatrick is also studying the viability of contraceptive vaccines in small mammals. Here, he inserts an implant containing levonorgestrel (Norplant) into the neck of an anesthetized skunk.

vaccines, developing a vaccine that requires less frequent doses and boosters, says Kirkpatrick, will remain a focus over the next few years.

While much work still lies ahead, wildlife contraceptives offer the hope that effective and humane control of selected wildlife populations can become a reality. As HSUS Vice President for Wildlife Dr. John Grandy says, "We want to end the reliance on lethal methods to control wild animals—whether predators, skunks, raccoons, deer, wild horses and burros, or any other animals—that have been perceived as nuisances." □