

The Secret Sex Lives of Beavers

HOW DO BEAVERS PAIR OFF, AND WHAT DOES THAT MEAN FOR THEIR TUSSELS WITH HUMANS OVER LAND? / BY JULIE BUTTERS

BEAVERS WERE ONCE A vital part of America's economy. Their pelts were a common currency in the New World, and the hunt for "brown gold" nearly wiped them out.

These days, restrictions on trapping have helped beavers make a comeback—in numbers more than reputation. In the five years following the passage of a 1996 ballot referendum restricting trapping in Massachusetts, the number of beavers in the commonwealth shot up, from 24,000 to 70,000.

The population boom can raise alarms in communities. Beavers are often viewed as a nuisance, causing millions of dollars in damage each year by chewing fences, trees, and decks. They build dams, which leads to flooding of homes, crops, and railroads.

But some behaviors can be beneficial, says Peter Busher, a College of General Studies professor of natural sciences and mathematics and chair of the division. Beaver dam building expands wetlands, whose functions include filtering toxins from water, supporting biodiversity, and mitigating floods.

Busher has been studying beavers for four decades and was the first person to track the animals by tagging them with radio transmitters. He does his research in the Quabbin Reservation in Central Massachusetts, where 150 to 300 beavers constitute the nation's



Beavers may damage property, but they also expand wetlands, which support biodiversity.

longest-studied population, says Busher. Hoping to learn how humans can better coexist with beaver populations, he examines mating habits, birthrates, group structure, and how the animals migrate from one area to another. His findings could inform decisions about how communities respond to beaver activity and manage the animal's population,

both in Massachusetts and across the country.

Although beavers are among only 3 percent of mammals that are socially monogamous, raising their young exclusively with one partner, researchers do not know much about their pairing behavior. Do the parents also mate with other beavers and raise a mixed brood, or are they sexually exclusive? Busher wants to find out. He suspects that genetically monogamous beaver populations—those that tend to mate with one partner— increase more slowly and may stay in an area longer. If one of these populations were removed because of nuisance activity, he says, the area would likely be free of beavers for a while. But if the population were more promiscuous, new beavers could move into the area at any time; communities would then need to develop a long-term animal removal plan.

Peter Busher uses traps to catch beavers, then puts them in denim bags to collect hair samples for DNA analysis.



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