

Leave It To The Beavers:

Tips for a Peaceful Coexistence with Beavers

by Kim Willis

Only a couple of hundred years ago, as many as 400 million beavers populated this country. Native American Indians referred to them as “little Indians”, spiritual creatures to be treated with reverence and respect. Then came the white trappers, who called the beaver “living gold”, and trapped them to the brink of extinction for their luxurious pelts. In recent history, as the price of the pelts has fallen, the beaver population has begun to recover. However, beavers are once again being heavily trapped, this time because their dam-building activities are viewed as a nuisance. Local newspapers make it clear that learning to live with beavers has been difficult for many private homeowners and municipalities. Too often, correcting beaver problems has meant eliminating the beavers, and thus the many benefits beavers provide. However, new technology and an increased understanding of the species has made it possible to diminish and sometimes eliminate the damage to property caused by beavers-- without killing them.

Beavers are one of the very few species other than humans that substantially alters its environment for its benefit. When a family of beavers moves into a new habitat, the general area often undergoes radical changes. If there is not already a pond there, the beavers build dams, because the pooling of water keeps them safe from most predators. The beavers then build a lodge with an underwater entrance. They may also build other, upstream dams, complete with channels for floating tree limbs into the main pond. In order to build their dams and lodges, beavers need to cut down lots of trees. In the spring, the beavers will cut down trees for food (they eat the bark), and for repairing any leaks in the dams. They cut few trees in the summer, when they prefer to feed more on fresh grasses, tubers, and saplings, but autumn, however, is a period of intensive logging for beavers. During the fall months, they cut down trees, trim the limbs into manageable pieces, float them to the main pond, and store them in underwater food caches for the winter.

Now, all this dam building and tree cutting is just fascinating to watch, but as you have probably guessed, it can cause lots of problems for the beavers' human neighbors. The area a beaver family claims for its homestead can be quite large, and the landscape can be altered for decades. Many area homeowners have awakened to find their expensive ornamental, shade, and fruit trees mowed down during the night by beavers. Others have their yards, roads, and fields flooded when beavers dam up culverts and streams; the City of Durham is having problems with beavers flooding sewer easements. Unfortunately, many people have been led to believe that lethal trapping is the appropriate response for beaver problems.

Problems with Lethal Trapping

Lethal trapping is expensive, and has been proven to provide only temporary relief.

Trappers typically charge \$50 for every beaver they kill. That's a lot of money when you consider that five to twelve beavers may reside in the same lodge, and you have to kill them all to stop the dam building. It's even more expensive when you consider the fact that beavers move back into an area *within a year* after the previous beaver population is killed. If you have beaver habitat, you're going to have beavers. Which means you're going to have to pay a trapper to come back every year.

What makes it even worse is that trapping beavers can actually increase the immediate beaver population. Beavers are the largest member of the rodent family, and research has shown that rodents begin breeding at earlier ages and produce more offspring in response to an abrupt decline in population levels. One North Carolina city has been lethal trapping its beavers for the last 5 years, and they continue to kill 10 to 20 beavers *a month*, and the end is nowhere in sight. Whip out your pocket calculator and figure out how much those taxpayers are getting soaked for. Trappers know this. It's the perfect scam--they get paid for making the problem worse, thus ensuring they have lots of future business. The only way for lethal trapping to work is to kill *all* the beavers. Even the ones on the Eno River, the Haw River, the New Hope River...well, you get the picture. If you don't kill all the beavers, they just keep coming back. And none of us advocates the extinction of an entire species. Not when there are alternatives.

Lethal trapping has an unacceptably high level of risk for humans and non-target animals.

Many humans, their pets, and non-target wildlife have sustained serious injuries caused by Conibear traps--the type of traps used to kill beavers in North Carolina. In fact, the first animals to be killed in beaver traps are not beavers--they're otters. Otters are incredibly inquisitive animals, and they can't resist getting a closer look at a baited trap. Needless to say, they don't get a second look. Other river animals, including muskrats, raccoons, and wading birds, are routinely killed in beaver traps. Even when traps are placed at the entrance to beaver lodges, otters and muskrats are sure victims. Traps placed near residential areas are also likely to injure humans, especially children, who love to wade in the water, and their pets. Conibear traps are strong--they can cause serious injuries. As a result, cities all across America, including 15 cities in Massachusetts and the Colorado cities of Denver, Wheat Ridge, and Aurora, have banned Conibear traps because they are too dangerous to humans. You should also be aware that your homeowner's insurance may not cover injuries sustained in animal traps.

Lethal trapping is inhumane.

Conibear traps are supposedly "more humane" because they are designed to break the neck of the animal, resulting in a quicker death. Of course, this only works if the beaver cooperates by placing its neck in the trap. If it doesn't, the trapped animal drowns. Because beavers spend so much time underwater, they can hold their breath for a long time. As a result, they take a long time to drown, thus increasing the agony and suffering of the animal. In addition, a 1981

Canadian study revealed that underwater beaver traps do not meet the tentative criteria of humaneness for trapping devices established by the Federal Provincial Committee for Humane Trapping of Canada (not an animal rights group!). Incidents have been documented in which domestic and wild animals have been injured and suffering for as long as 5 days.

Once you educate yourself about lethal trapping, it is apparent that it isn't a good solution to beaver problems: it's expensive, it doesn't offer a long term solution, it's dangerous, and it's inhumane. So why do people recommend it? The first reason is that so many of the people who recommend trapping are themselves trappers, including some of the wildlife biologists at our local universities. The second reason that trapping is still going on is that our wildlife management programs are well behind the times. They are woefully underfunded and understaffed; they need more resources to explore the new technologies and new research for managing our wildlife populations. I've noticed that in many other states where wildlife commissions support non-lethal beaver management, those programs were often initiated and funded by volunteer groups.

So if trapping doesn't work, what does? There is no one perfect, easy solution, but there are lots of different things to try. To explain all of these in detail would take a book, but the following summarizes some different approaches.

If Your Problem is Tree Cutting

- **Protect individual trees** by wrapping them with heavy wire fencing 2" x 4" in size and 3 feet high. The fencing should be placed 6 to 12 inches from the tree so that the beavers can't get their teeth on the tree. The fencing needs to be rugged enough to withstand forty or so pounds of hungry beaver flesh pressing on it. In addition, you need to anchor the wire fencing to the ground to prevent the beavers from crawling under. You'll need to adjust the wires every few years to make sure you don't girdle the tree. Some people prefer to use concrete-reinforcing wire because it is not as visible.

You can also wrap trees in hardware cloth to keep the beavers from gnawing. If you have money to burn, you can put a low brick or stone wall around a favorite tree and use it as a bench. In cities where trapping is banned, many homeowners erect attractive, low, winding fences around groups of trees.

- **Protect trees by spraying them with a taste repellent.** Some people have luck with deer repellents like Ropel and Deer Away sprayed onto bark and foliage. Bill Adler, author of "Outwitting Critters" (published by Harper Perennial) recommends cayenne pepper mixed with water and sprayed on burlap that you wrap around the tree. Adler also claims that suspending a thirty-six-inch square white flag between two trees will scare beavers away.
- This last idea is the most unconventional: Wildlife 2000, a Colorado-based beaver management group, **plants beavers' favorite trees next to the water**, the theory being that if you give them what they really want, the beavers will leave your trees alone. Wildlife 2000

plants trees donated by local nurseries, and reports that it works quite well. In addition, if someone wants to protect remaining trees until beavers can be relocated (I'll talk more about that in a minute), Wildlife 2000 provides tree branches for the beavers to snack on in the meantime. The tree branches are donated by tree trimming companies, who are happy to get rid of them.

If Your Problem Is Flooding

When beavers go house-hunting, they are looking for an area that is easily dammed and will provide an adequately-sized pond. Such areas include drain pipes and culverts. Clogged pipes and culverts can cause extensive flooding, and can result in roads washing out. The best way of dealing with this problem is by installing a device known as a "beaver baffler." There are several different beaver baffler designs in use today, but they involve installing a 15 to 30 foot wire cage-like device on the upstream side. A screen is placed over the upstream entrance to the cylinder and over the exit hole on the opposite side of the road. The device is actually made of two wire cylinders, one inside the other. Beaver Baffles prevent beavers from being able to plug the culvert or drain pipe, and cut down on the maintenance costs from regular cleaning of the pipes.

If the beavers have dammed up a stream, another kind of device known as a "beaver limiter" is needed. Beaver limiters are made of PVC pipe, and are placed through the dam to reduce and control the amount of water backed up behind the dam. Note that if you drain all the water, the beavers will just move and build another dam a few feet away. However, many homeowners are willing to let beavers stay if they can just minimize the flooding. Limiters do this quite well, and are used successfully all across the country. I have talked with lots of people who make and use beaver limiters, including volunteers, wildlife officers, and animal damage specialists, and everyone feels that their own design is the best. However, it appears that most everyone uses 20 to 30 foot lengths of 4" PVC pipe, and these devices can be constructed for as little as \$40 each.

How do limiters work? When beavers detect a leak in the dam, they respond immediately to repair the damage, or the declining water level may leave them exposed to predators. When a leak occurs, what triggers a beaver to respond is the sight or sound of running water, or the feel of a sudden drop in water level. So the secret to controlling the water level behind dams is to drain the water slowly, to minimize the sound and sight of the running water, and to leave enough water that the beavers are protected (they need a minimum of 5 feet of water). When you install a limiter through a beaver dam, you can overcome the sight stimulant by placing the ends of the PVC pipe far enough below and above the dam so that the beavers don't notice it (at least 10 feet in each direction). The sound stimulant can be overcome by adding an elbow joint pointing down on the pond side of the limiter. The elbow joint will reduce the gurgling of water as it is drawn through the pipe. Using 4" perforated pipe will also draw water slowly through the whole pipe, so that the beavers won't notice a current.

Gatineau Park, an 80,000-acre park in Quebec, solved its beaver problems with a combination of beaver bafflers and beaver limiters. In the 1960's, Gatineau Park had a serious problem with roads being washed out from flooding behind beaver dams. For nearly 20 years, the park tried to control the problems through trapping, with little success. In 1981, the park hired a contractor to come up with a long-term solution to their beaver problems. The contractor stopped all trapping, and experimented with bafflers and limiters--with great success. The beaver population actually increased 15% in 5 years, yet flooding problems in the park were reduced by more than 75%. In addition, fears that the beaver population would skyrocket once trapping stopped were unfounded. The park's beaver population stabilized at only 60% of the estimated figure.

Why Not Just Relocate The Beavers?

One of the first things people ask me is "Why can't you just move beavers that are causing problems?" The reason why simple relocation doesn't work is the same reason why trapping doesn't work: if you have beaver habitat, you're going to have beavers. If there is a way they can make a pond, and there's a suitable food supply, beavers will continue to repopulate an area. In addition, the NC Wildlife Commission prohibits the relocation of beavers because they don't want people moving beavers to places where they will cause more damage. However, there are some exciting new programs in Colorado, Idaho, and Massachusetts in which some beavers are sterilized or implanted with contraceptives and relocated to either private lands (with the owner's permission) or to federal lands where they are needed to improve soil and water conditions. The groups who run these programs have no trouble finding people who want beavers; many people want them to make ponds for fishing. The contraceptive implants used are similar to the Norplant implant used in women, and prevent female beavers from reproducing for 5 years. The implants cost about \$12 a beaver; veterinarians volunteer their services to implant them. The sterilizations cost \$35 a beaver, and prevent them reproducing permanently.

Essentially, what these groups are doing is limiting the growth of the beaver population and redistributing the existing beaver population in a way that minimizes property damage. For example, if a homeowner in Denver, Colorado calls Wildlife 2000 and says that a family of beavers has moved in and is taking down all the trees in the homeowner's yard, Wildlife 2000 would live trap the beavers using a humane trap. Unless there were nursing or very young kits in the beaver family, Wildlife 2000 would implant the adult female with a contraceptive. If the homeowner was willing to live with two beavers (two beavers cut down a whole lot less trees than seven beavers!), the adult male and female beavers would be released back into their beaver pond. Wildlife 2000 would then implant any female offspring of breeding age and release all the offspring together in a more suitable area, such as a federal park. Since beavers mate for life and are monogamous, the mom and dad beavers would stay together, but they wouldn't reproduce again for five years. They would also remain territorial, which means they would keep other beavers from moving into their beaver pond and having offspring. Because beaver habitats are not being vacated in this type of program, the beaver population does not

naturally increase in order to fill empty beaver habitats. Rather, the beaver population stabilizes. The advantage of the contraceptive implants over sterilization is that you can easily control the population by allowing some implanted beavers to breed again after five years, and you can implant other beavers again to prevent them from reproducing for another five years.

When asked about contraception/sterilization and relocation programs, a local wildlife biologist who moonlights as a trapper is fond of saying, “So what? Beavers don’t cut down trees with their genitals.” What he’s really saying is, “They damage things, and we don’t have to tolerate that. Just kill them.” But if we want to continue enjoying afternoon swims in the Eno, if we want to be able to keep otters, minks, muskrats, wading birds, fish, turtles, and a thousand other river animals for much longer, if we want clean drinking water and rich topsoil to grow crops, we better learn to tolerate some tree cutting. As I was working on this article, an old friend said, “You know, my grandfather had a family of beavers living in his pond.” Inside, I groaned, for I had already heard a hundred stories from people about beavers that had been shot, blown up, or trapped. “What,” I said, “did he do about it?” “Nothing!” she said. I was shocked. When I asked her why, she replied, “Because I don’t think it ever occurred to him that it wasn’t their pond, too.” What a great guy.