

CONSERVATION BRIEF



The Implication of a Statewide Ban on Trapping: The Massachusetts Experience





After the Massachusetts trap ban passed in 1996, it took only four years for the beaver population to double from approximately 23,000 to nearly 50,000. In the absence of an annual regulated harvest, complaints about the species increased by 90 percent. *Photo: Vermont Fish and Wildlife Department*

The Implication of a Statewide Ban on Trapping: The Massachusetts Experience

The mission of state Fish and Wildlife agencies across the country is to maintain and conserve sustainable wildlife populations while meeting the needs and interests of all citizens. Beavers are a keystone species in the environment, as they provide valuable habitat for many other fish, wildlife, and plant species and offer sustenance to people when they are harvested for food and fur. Wildlife biologists maintain beaver populations for their ecological, utilization, and intrinsic values by integrating multiple goals, objectives, and regulations.

Historically, beavers occupied all of North America except for a small portion of Florida and some western desert habitats. They were extirpated throughout most of their original range by the 19th century as a result of unregulated harvest and habitat loss. As the country was developed, a great deal of human infrastructure was constructed while beaver populations were low or absent. In the 20th century, Fish and Wildlife agencies across the country worked to restore beaver and/or establish restricted and regulated harvest seasons. Their restoration provided multiple benefits including the creation of wetland habitats and ponds that

recharge groundwater, filter sediments, control erosion, and create wildlife habitat. As beaver populations rebounded and expanded, conflicts between humans and beavers increased, impacting public and private property and, in some cases, threatening public health and safety. Roads, septic systems, wells and other infrastructure are affected by beaver activity. Proactively managing beaver populations through regulated trapping aided in preventing and resolving these conflicts which helped maintain the public's acceptance and tolerance for beavers on the landscape.

In Massachusetts a Trap Ban was passed in 1996 by ballot referendum under the auspices of "public safety and wildlife protection." It banned the following trap types for the capture of beaver and other wildlife species:

- Foothold traps
- Snares (including cable restraints)
- Bodygrip traps (except common mouse and rat traps)
- Cage type traps were still legal following the ban

At the time, trapping (season timing and length, methods, and size and types of devices) was already heavily regulated by the Massachusetts Division of Fisheries & Wildlife (MDFW).

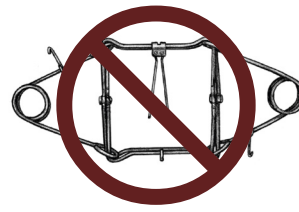
Prior to the 1996 Trap Ban

- MDFW was able to manage beaver populations through regulated trapping which helped control the growth and expansion of the beaver population and resolve damage problems.
- The beaver population was maintained within cultural carrying capacity at limited or no cost to towns and citizens. The beaver population was maintained at around 23,000 animals statewide through an annual regulated harvest of approximately 1,270 beavers (8% of the population at that time). In general, as a result, beavers and wetlands were valued by citizens.
- Most conflicts were prevented proactively. When conflicts occurred, there was the option of free removal during the trapping season when young are independent, and pelt and meat were utilized.
- The public who participated were trained and licensed.

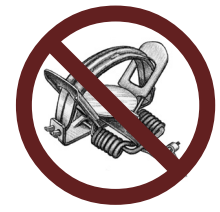
After the Trap Ban Passed

- Most trap types effective for capturing beavers were prohibited from use. Cage traps (including Bailey and Hancock) were the only traps allowed but are specialized for open water only (can't be used in winter) and are more expensive. Bodygrip traps cost between \$18 and \$30 dollars while cage traps cost \$400-\$500 each.
- Annual beaver harvest dropped from 1,270 to 98 the first year after the ban.
- In 4 years, the beaver population doubled from approximately 23,000 to almost 50,000 and beaver complaints increased 90%.
- Most of these complaints required site visits, causing the MDFW to shift resources from wildlife conservation priorities to resolving human/beaver conflict/damage.
- Beaver-related expenses for several town highway departments in Worcester County ranged from \$4,000 to \$21,000 per year from 1998-2002, and individual landowners are paying upwards of \$300 per beaver to have them trapped by nuisance animal control agents in conflict situations.

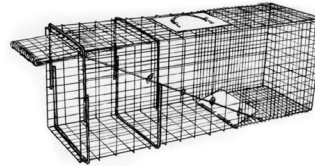
TRAP DEVICES LIMITED FOR USE BY LICENSED TRAPPERS AFTER TRAP BAN



Bodygrip



Foot Hold



Box Trap



Bailey/
Hancock

A Broken Law

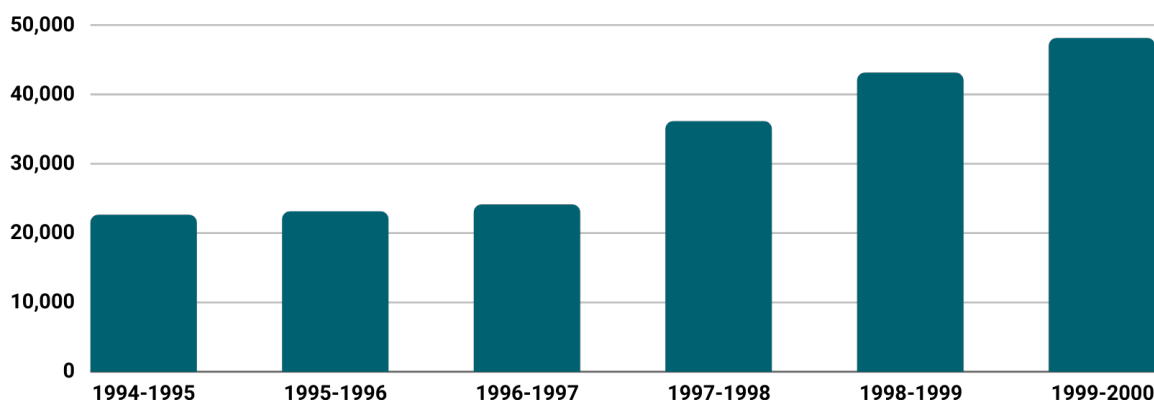
In 2000, the Legislature modified the trap ban legislation in response to growing beaver complaints and changes in public attitudes.

The modifications allowed local municipalities (351 towns) to approve the use of bodygrip traps via emergency permits, which allowed year-round trapping with bodygrip traps and the year-round alteration/removal of a beaver dam without MDFW approval or review. The legislature allowed the bodygrip trap due to its effectiveness in winter compared with a cage-type trap.

Unfortunately, today, the use of banned traps is reactive and only in response to damage occurring and/or threats to human safety. No reporting regarding the number of complaints, number of permits issues, or outcome is currently required.

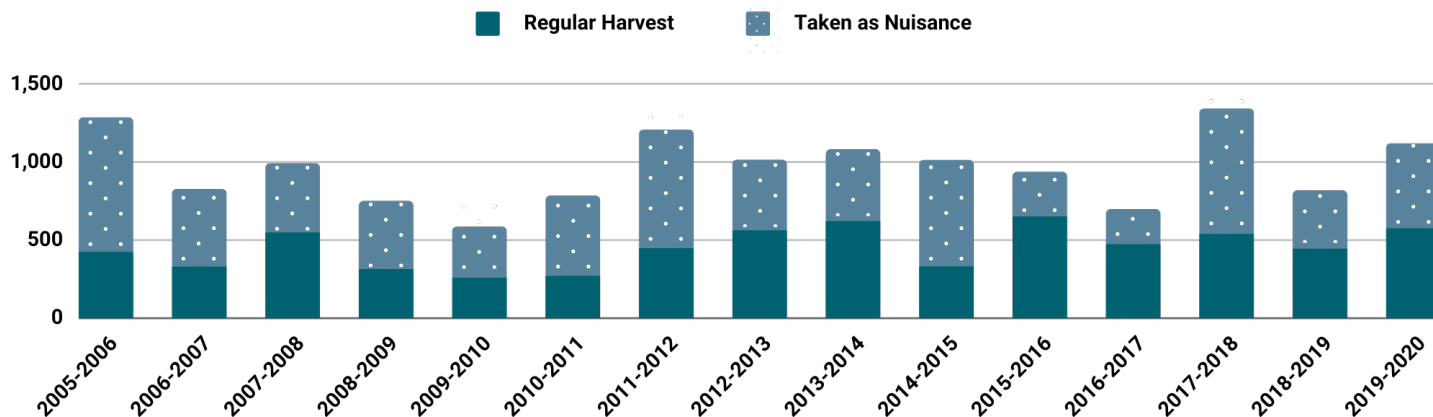
Reactive Management resulted in increased costs to towns/landowners and loss of wetland habitats and the many wetland-dependent species such as otter, mink, muskrat, waterfowl, and amphibians. (D. Wattles, pers com)

BEAVER POPULATION IN MASSACHUSETTS



ANNUAL BEAVER HARVEST 2005-2020

Between 2005 and 2020, upwards of 50% of the beaver have been taken via a "nuisance" permit with the banned bodygrip trap.



Today in Massachusetts: “Reactive Management”

Massachusetts lost a valuable scientific technique in trapping, for managing furbearer populations, conducting research, dealing with human-wildlife conflicts, and collecting important biological data.

Paradoxically, the trap ban in Massachusetts resulted in as many beaver killed today as those taken prior to the ban in 1996. Unfortunately, the number of beavers currently being killed can no longer control the growth of the expanded population which has increased exponentially since 1996. In addition, today’s trapping is less regulated, is allowed only after damage has occurred or public health is threatened and is conducted year round instead of during the recommended time of year.

IN SUMMARY

- Banned bodygrip traps are still being used but are no longer regulated by MDFW.

- Hundreds of beavers are taken annually with bodygrip traps. Beavers are taken year-round, including when young are dependent.
- Today, upwards of 50% of beaver are taken as “nuisance” with the banned bodygrip trap. Many of these animals are wasted and not utilized.
- Emergency trapping permits and permits to modify or remove beaver dams are issued by local municipalities and are no longer regulated by MDFW, resulting in the destruction of wetland habitats.
- Lack of reporting requirements under the permit system has resulted in MDFW losing the ability to collect critical data to monitor and manage beaver populations and beaver harvest.
- MDFW lost trapping devices that could be used to conduct wildlife research.
- MDFW lost trapping devices used to remove individual problem animals (e.g. beaver, coyotes).
- Costs to towns and landowners has increased significantly.
- The Massachusetts beaver population has increased beyond cultural carrying capacity. Beaver are now viewed, and treated, as pests by many residents (Jonker 2006).



Flooding from beaver dams has damaged homes, septic systems, wells, and agricultural crops and equipment. At right, before and after images of clearing a beaver dam that clogged a box culvert under a highway. Left, Bo Benton USDA Wildlife Services; center and right, USDA Wildlife Services



Wildlife Specialist Tyler Brown prepares a "beaver baffle," a device that allows water to pass through a dam without breaching it and destroying wetland. Baffles are one technique that Vermont Fish & Wildlife staff recommend to minimize beaver damage. *Photo: Vermont Fish and Wildlife Department*

Fact or Fiction?

Beaver populations are self-regulating. Wildlife biologists recognize that beaver populations, if left to their own devices, “self-regulate” by cycling through peaks and valleys. Unfortunately, in areas where humans, their infrastructure, and wildlife overlap, human/wildlife conflicts increase as the population approaches the peak. Today, the cultural carrying capacity (the tolerance of humans to wildlife) in most states is lower than the biological carrying capacity (how many beavers can live in the existing wetland), except in areas where very few humans reside.

Water level control devices (WLCD) will solve all human-beaver conflicts. WLCDs can be an effective tool and are part of an integrated approach to human-beaver conflicts. While these devices can mitigate some flooding issues, they are not appropriate at all sites. As such, they cannot replace lethal control. Most devices require maintenance by the landowner or the installer to function long term. Callahan (2005) installed 43 devices in the town of Billerica, Massachusetts at a cost of \$83,000 (\$1,500 per installation, \$79 annual monitoring costs). In spite of the WLCD, he also had to continue to trap at 12 other sites (average of 18.5 beaver per year at a cost of \$409 annually per site). The total cost for the Town of Billerica was \$135,000 (excluding costs to private landowners). These devices don’t control the beaver population.

In Vermont, 95 WLCD structures installed between 2001 and 2017 were inspected in 2019 and 2020. Fifty-nine of the structures continued to function while 36 (38%) had either failed or the area had been abandoned by beaver. Research done in Vermont in 2003 (Algeo) found that in many cases landowners or municipalities must be tolerant of water level fluctuations even after the installation of a water control device. Of the 26 sites studied, only 16% maintained water

levels within a 6-inch threshold and 61% within a 12-inch threshold. Regardless, several states continue to promote WLCDs as a valuable tool for dealing with select human/beaver conflicts depending on the wetland topography and the type of damage. Effective management means recognizing that regulated trapping is required to manage populations at some sites.

This brief was prepared by the Association of Fish and Wildlife Agencies Furbearer Conservation Working Group.

REFERENCES

- Algeo, T. 2005. Beaver Damage Management and Water Level Control Devices: Success Evaluation and Risk Assessment. M.S. Thesis. University of Massachusetts. 21 pgs.
- Callahan, M. 2005. Best management for beaver problems. Association of Massachusetts Wetlands Scientists Newsletter 53:12-14.
- Callahan, M., Richard F.E. Berube, Isabel Tourkantonis P.W.S. Billerica Municipal Beaver Management Program: 2000-2019 Analysis. Unpublished. 7 pgs.
- Jonker SA, Muth RM, Organ JF, Zwick RR, Siemer WF. 2006. Experiences with beaver damage and attitudes of Massachusetts residents toward beaver. Wildlife Society Bulletin 34: 1009–1021. [https://doi.org/10.2193/0091-7648\(2006\)34\[1009:EWBDA\]2.0.CO;2](https://doi.org/10.2193/0091-7648(2006)34[1009:EWBDA]2.0.CO;2)

*Cover Photo by Jillian Cooper/Getty Images
Trap Illustrations (Except for Bailey/Hancock) by Joe Goodman*