

HOW HUNTING CHANGES BLACK BEAR BEHAVIOR AND DEGRADES THEIR PHYSICAL CONDITION

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In early June in a Vermont forest, a mother bear lifts her head at the baying of a pack of hounds. She recognizes the threat immediately and gathers her cubs for evasive action. Instinct will help her choose one of three options: going on the run, taking to a tree or standing and fighting the hounds. With cubs to protect, none of these choices are promising in the face of six or more aggressive dogs. In the end, the bear and her cubs may or may not survive the encounter. What is highly likely, according to research, is that physiological and behavioral impacts will measurably impact the well-being of the bear from that point forward.

—Jim White, Co-founder, Vermont Wildlife Coalition, Shelburne VT

INTRODUCTION

Bear hunting activity, particularly hounding, negatively impacts bear behavior and degrades their overall health. Despite this fact, Vermont Fish & Wildlife Department's (VFWD) 2020-2030 Big Game Management Plan states, "The department continues to support bear hunting with hounds as a legitimate and biologically sound technique that keeps bears wild and reduces conflicts" [1]. However, research shows that increased hunting pressure not only does not "keep bears wild," it does not lead to reduced human-bear conflicts.

How do Bears Respond to the Presence of Hunters?

Many animals—including bears—appear to be aware of hunter locations, seasons and behavior [2]. Bears alter their behavior when exposed to hunting pressure, particularly hounding, which leads to increased risks to their survival.

In a Michigan study, black bear movement was observed during the hound training and hunting season [3]. At the onset of hound hunting season, bears spent more time near paved roads to avoid hunters and hounds, thus increasing the threat of vehicular collisions.

Additionally, several studies noted a shift towards increased nocturnal activity and alternative feeding patterns during bear hunting seasons, a critical time of the

year when bears must store fat reserves before hibernation and weaning their young.

- In Virginia, a shift towards nocturnal activity with the onset of hound training season was observed in a black bear population [4].
- A Scandinavian brown bear population increased nocturnal activity and decreased daytime movement with the onset of hunting season [5].
- A researcher who studied a group of GPS-collared brown bears in Sweden reported that at the onset of hunting season, bears altered their movement pattern. Most bears followed a pattern of increased nocturnal movement and decreased daytime activity. The bears in this study also increased the distance they traveled to find food, especially after midnight, a period when bears usually slept prior to the hunting season [6].

The Vermont hunting and hounding seasons overlap with the vital period when black bears increase their food intake, known as hyperphagia, in preparation for hibernation. During this time, bears with unlimited resources may eat up to 20,000 kcals per day [7]. However, when the hunting season starts, bears decrease their foraging activity during the time of the day they are at highest risk of being shot, forcing them to forage less efficiently and in areas with poorer food quality.

Additionally, nighttime foraging may not be as optimal due to decreased visibility, especially when it comes to soft-mast foods, which are an important part of the Vermont bear's diet during this time. The variation in natural food availability already makes it hard for bears to eat enough to have adequate reserves for hibernation and weaning.

A Special Case: Bear Hounding

If traditional hunting pressure on bears was not enough, hounding presents significant additional challenges for bears. In Vermont, bear hounding occurs for close to six months of the year when bears are typically nursing their young and have depleted fat reserves (hound training season begins on June 1st and runs the entire summer through the start of the bear hunting season, September 1st, until late November.)



Hounding involves hunters and guides using packs of hounds (houncers may use six hounds at once on a bear) fitted with GPS-equipped collars to pursue bears until the exhausted and frightened animals seek refuge in a tree where they may try to fight the hounds and are often shot. Hounding results in injuries or death to both bears and dogs and leaves bear cubs vulnerable to mauling, orphaning and death. Because the hounds wear GPS collars, houncers do not accompany the hounds. In fact, they can be several miles away, often sitting in their vehicle, tracking the progress of the hounds by GPS signal, so they have no control over their hounds.

In 2020, when the state experienced one of its warmest summers in history, 155 bears were killed with the use of hounds in Vermont. June 2020 experienced a record number of 90°F days in a row, July 2020 was 4.8°F above normal and August 2020 was 1.1°F warmer than normal. In addition, June 2020 was Vermont's 14th driest June since 1895 [8].



Vermont bear hound chasing young bear into road

Hounds often chase bears for miles during the high heat of summer and in ever increasing drought conditions. In a study where five bears were chased, the mean length of the chase was 1.9 hours and the average distance traveled by the bears was 6.9 miles [9]. A Vermont hunter posted on Facebook that her hounds chased a bear for six hours until the bear ran onto a major road.

Hounds will chase both male and female bears, including mothers and dependent cubs, despite what houncers proclaim. In a survey of Virginia bear houncers, the sex of 38% of bears in the first chase could not be identified, and in instances when a second chase occurred, the sex was not determined in 58% of chases [10]. Additional sources reveal that the sex of nearly one third of treed bears are misidentified by hunters [11].

Hounds also chase, and sometimes injure or kill, non-targeted species including moose calves, deer fawn, ground-nesting birds, and other animals. This is of heightened concern during hound training season when most wildlife species are birthing and nursing young.

Hounding is an outdated method of hunting and is at odds with ethical hunting and fair chase as defined by the Boone and Crockett Club [12]. The use of hounds gives the hunter an unfair advantage over the bears. When a bear retreats to a tree for safety and the hunt-

er catches up to the hounds, the bear is often shot with a rifle or bow and arrow. Conversely, not all bears tree. When a bear decides to fight back on the ground, injuries and even death, to both the hounds and the bear, are common. Due to the nature of this blood sport and the inherent lack of control over the hounds, the hounder is often nowhere in sight and unable to call his/her hounds off the cornered bear. Anyone who has watched videos of a pack of bear hounds cornering a bear would find it difficult to reconcile the tolerance of this not-uncommon outcome with the fact that dog fighting is outlawed in all 50 states because of its cruelty.

Hounding also disrupts the peace of surrounding neighborhoods and may threaten the safety of nearby communities. In 2019, five bear hounds attacked a couple and their leashed puppy in Rip-ton, Vermont [13]. Noise complaints and disruptions are frequent during hound training season, as well as bear hunting season. One landowner in Bloomfield, VT had a heated confrontation with a bear hounder whose hounds trespassed onto his property [14].



The Physiological Impact of Hounding on Bears

In addition to the well-documented impact on bears from normal hunting practices, hounding results in additional stress to bears. If an adult female bear is frequently disturbed by hounds, she loses weight and condition which may alter her reproductive success [15].

The added stress and energy expenditure resulting from fleeing hounds and hunters puts bears at increased risk. Bears use more energy while running than other quadrupedal mammals [16]. Black bears have been documented to have increased heart rates when interacting with hunters and humans. A black bear in Minnesota had a heart rate over 200 bpm for 17 episodes¹ during the three hours before being shot by a hunter [17]. This same study found the average daily heart rates of black bears ranges from 8 bpm during winter hibernation to 135 bpm in the summer [17]. This type of heart rate elevation can be harmful to bears because it can burn precious energy stores necessary for winter denning.

Black bears are also vulnerable to heat stress and hyperthermia² during the sum-

¹ An episode, defined by this study [18], is a period of increased heart rate (>167 bpm) sustained for at least 16 beats.

² Hyperthermia is defined as a body temperature \geq to 40.0 C°

mer months because of their dark fur, subcutaneous fat layer, and lack of functioning sweat glands [18]. Bears must develop thick fat layers for long winter denning periods, have an extremely condensed amount of time to acquire annual nutrition, and have limited opportunities for adjusting foraging strategies [18]. In northern habitats, such as Vermont, black bears are particularly vulnerable to the added heat stress and increased heart rate resulting from fleeing bear hounds. These physiological changes undoubtedly have deleterious effects on bear survival.

Does Hounding Keep Bears Wild?

Because bears are pursued by hounds in their natural habitat for almost six months of the year in Vermont, studies are needed to determine if hounding is driving the bears out of the forested areas and into residential areas, neighborhoods and roads as they flee the hounds. Vermont residents have shared anecdotal evidence of this. A resident who lives at the bottom of Snake Mountain where bear hounding often occurs, shared with Protect Our Wildlife in an August 5, 2021 email, “[Hounds] definitely drive the bears and coyotes and do so with much aggression.” In addition, places where hunters are less likely to be found may serve as refuges for bears [19]. Following this logic, it is pos-

sible that other landscapes not inhabited by hunters, such as residential neighborhoods, might also serve as refuges from hunters and hounds. VFWD has no evidence that this does not occur.

Does Hounding Reduce Human-Bear Conflict?

Research throughout the U.S. shows that total bear population numbers play little to no part in determining the number of human bear conflicts in a given area. Human food sources and hunting, including the use of hounds, may actually increase bear conflicts by forcing bears from the woods and into roads and residential areas. In addition, when the health and vitality of bears has been compromised by hunting pressure, particularly hounding, they may turn to sources of food that require less energy such as bird feeders and garbage.

Conclusion

Hunting activity, and especially hounding, has several negative impacts on Vermont black bears that transcend the obvious impact that they are killed in high numbers in Vermont.

The hunting process changes natural bear behavior, increases physical and emotional stressors resulting in elevate-

heart rates and body temperatures, and also interferes with critical foraging times when bears are preparing for hibernation. All of this is especially detrimental during a low food year, and is exacerbated by climate change and human-dominated landscapes. These factors can lead to a weakened condition, and decreased reproductive success, and death.

What hunting and hounding does not do is “keeps bears wild and reduces future conflicts,” as claimed by VFWD.

Additional independent research that evaluates the long-term impacts of hounding and hunting activities on the behavior and health of black bears is necessary in order to ensure that VFWD is upholding their statutory responsibility under title 10 VSA §4081 to protect and conserve Vermont’s wildlife for all. This research should consider the behavioral and physiological impacts of hunting, and particularly hounding, on bears and how these impacts affect bear reproduction, health and survival for those bears that do survive the season, including cubs who may no longer have a mother to protect and teach them.



Vermont bear surrounded by bear hounds



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