

Formerly called the Humane Society of the United States

## **Baiting bears increases** negative interactions with humans, and creates many other harms

## Hunting methods permitted in 34 black beartrophy hunting states





## Hunting bears over bait is unsporting and creates unnecessary hazards for bears and people

Baiting bears increases negative human interactions that can endanger people, bears and non-target species.

Experts agree that baiting bears (or other species) invariably increases dangerous human-bear conflicts. Black bears (and potentially brown bears and polar bears, depending on the ecosystem) would be attracted to bait sites which puts recreationists and nearby residents into danger, aggregates animals resulting in the spread of disease between bears and other species, increases predation of smaller bears by larger bears, creates vexing health risks to many wildlife because of spoilage (e.g., rotting meats), toxicity (e.g., theobromine and caffeine) and unnatural high sugar and fat content baits (that increases cellular aging and tooth decay), and makes meso-carnivores such as mustelids and coyotes reliant on bait sites for preying upon microfauna, which can create an ecological trap for species at the lower trophic levels. For all these reasons, wildlife baiting should be disallowed.

As the National Park Service noted, bear baiting increases the "potential for significant human injury or even death" to other recreationists in areas near bait sites. It adds that baited bears are "habituated to humans and conditioned to human-produced foods, resulting in increased likelihood of incidents that compromise public safety, result in property damage and threaten the lives of bears who are killed in defense of human life and property." The NPS further notes that many of the foods used in bear baits are processed foods that do not readily degrade, making them available to bears year-round and thus endangering sightseers, hikers, boaters, non-bear hunters, photographers, anglers, and others even during the non-bear-hunting season.<sup>2</sup>

The Florida Fish and Wildlife Conservation Commission will limit bear baits to "game feeding stations using only pelleted feed or agricultural crops/products" and "on private lands only." They add, "No processed (i.e., enhanced scent or flavor) foods are allowed."

Scharhag et al. (2021) found that in the lower 48 states that non-fatal black bear attacks were typically defensive (52%)—most involved females protecting cubs; however, the second biggest category of attacks (33%) came from bears who were motivated by food.<sup>3</sup> Simply put, food-conditioned bears are hazardous. Bears that become habituated to human foods become less shy and more unpredictable.<sup>4</sup> As a result of placing junk food into the environment bears associate food with the smells of humans, and even livestock.<sup>5</sup> Baited bears experience serious behavior modifications, which are sometimes irreversible.<sup>6</sup> Food-conditioned bears change their eating habits, home ranges, and movement patterns.<sup>7</sup> Bears who obtain human food baits hibernate for shorter periods and, because of this, are active longer, thus increasing the potential for greater human-bear conflicts.<sup>8</sup> Bears who are involved in conflicts from human foods are more likely to be removed—contributing to bear population threats.<sup>9</sup>

In Wisconsin and Michigan, wolves guard bear bait sites, and kill bear-hunting hounds, increasing human-wildlife conflicts. <sup>10</sup> Hatch et al. (2022) found that bears habituated to human-foods had greater tooth wear

and other dental health issues, including tooth decay, that could lead to both greater human-bear conflicts and, ironically, upon more reliance on human foods, especially by larger, male bears.<sup>11</sup>

- Baiting bears is harmful to them, other wildlife, and the environment. Hunters and outfitters use bait sites to increase hunter success, but these places cause multiple harms. Bait sites attract and aggregate many animals, most of whom are non-target species (e.g., mustelids); bait sites facilitate the spread of deadly diseases including chronic wasting disease, rabies and potentially mange; they cause meso-carnivores to become indirectly human dependent—creating ecological traps for microfauna:
- Bear baits that are toxic or spoiled are deadly to bears and other wildlife. Some bear baits contain waste chocolate candy that contains theobromine and or caffeine, which is toxic to dogs, coyotes, foxes, rabbits, hares, and wild fowl, and fatal to bears. According to Beringer et al. (2016), baits that contain toxic elements can lead to various negative outcomes: mortality, thermoregulatory stress, suppression of the immune system, increased predation and the transference of toxins to young via lactation. The physical effects are varied and include stimulation of the central nervous system, seizures, vomiting, heart arrhythmias, and mortality. For that reason, both New Hampshire and Michigan have banned chocolate and other toxins for use in bear bait. Baits that contain spoiled foods are also toxic and even fatal to bears and other wildlife. To
- Baits increase bears' cellular aging and contributes to tooth decay. Anthropogenic food sources alter the gut biomes of mammalian carnivores, which "play pivotal roles in host health through weight modulation, metabolic function, digestion, and immune system maintenance (Hooper et al. 2002, 2012; Nicholson et al. 2012; Menni et al. 2017).¹6 Numerous studies indicate in humans that a diet reliant on great amounts of processed carbohydrates and trans/saturated fats can deplete the gut biome; therefore, highly processed human foods can harm the health of bears and other species who eat baits.¹7 Bears who eat human foods experience increased cellular aging.¹8 Human foods also harm bears' teeth.¹9
- Baits can harm generations of bears. Human-food baits are "junk food," that is, foods high in artificial sweeteners, low in fiber, and are highly processed which can affect populations of bears especially if mother bears shift to these foods over time, potentially harming wildlife health over generations.<sup>20</sup>
- Bait sites cause intraspecific strife leading to greater mortalities between bears. Concentrations
  of bears at bait sites puts smaller bears at risk of predation by larger bears or gives large males the
  opportunity to exclude females and smaller males.<sup>21</sup>
- A concentration of different wildlife at bait sites increases the potential for disease and parasite transmission, especially rabies and chronic wasting disease, and, for bears, potentially mange.<sup>22</sup> Candler et al. (2019) found that at their bear bait sites in northern Michigan, most visitors, 82%, were non-target species such as raccoons, coyotes, lagomorphs, rodents, and mustelids.<sup>23</sup>
- Bear bait sites harm meso-carnivores and their prey. Bait sites affect the meso-carnivore communities (e.g., foxes and mustelids)—by making them more reliant on prey species who feed on human-food baits.<sup>24</sup> Candler et al. write that this creates "ecological traps" for species at "lower trophic levels (Morris 2005, Cortés-Avizanda et al. 2009)," "decoupling the predator-prey relationship (Rodewald et al. 2011)."<sup>25</sup>
- Baiting bears unnaturally increases their densities, which is often at odds with states' goals.
   Researchers link supplemental feeding programs and/or nutrition from baits to an increase in bear densities, and bear populations that have access to supplemental foods from human sources are

more productive and have higher rates of cub survival.<sup>26</sup> Females who have access to human foods start reproduction years earlier than bears that rely only upon natural foods.<sup>27</sup> A large empirical study found that human food in the environment increases bear populations.<sup>28</sup> When bears obtain human foods, the interval of time between litters decreases while the numbers of cubs increase.<sup>29</sup> To emphasize: human-placed bait cause more bears to survive wintertime hibernation, more bears to have cubs and in greater frequencies, and higher rates of cub survival.<sup>30</sup>

- Baiting is destructive to wild habitats. Bait sites require ease of access and biologists have noted habitat destruction at these places, including the spread of invasive plants.<sup>31</sup> Bait piles are smelly and irritating to other outdoor recreationists.
- Bait sites increase vehicle-bear strikes. If bait sites are near roadways, vehicles strike bears who travel near or on roadways to access bait piles.<sup>32</sup> Vehicle-animal collisions are dangerous and costly to individuals and society.33

Baiting bears endangers unsuspecting recreationists, nearby residents, and individual animals.

<sup>&</sup>lt;sup>1</sup> National Park Service, "Proposed Rule: Alaska; Hunting and Trapping in National Preserves," https://www.federalregister.gov/documents/2023/01/09/2023-00142/alaska-hunting-and-trapping-in-nationalpreserves (2023).

<sup>&</sup>lt;sup>2</sup> 88 Fed. Reg. 5, p. 1179.

<sup>&</sup>lt;sup>3</sup> Janel M. Scharhag et al., "Characteristics of Non-Fatal Attacks by Black Bears: Conterminous United States, 2000-2017," Human-Wildlife Interactions 15, no. 1 (2021).

<sup>&</sup>lt;sup>4</sup> Inslerman et al., "Baiting and Supplemental Feeding of Game Wildlife Species," The Wildlife Society; Dunkley and Cattet, "A Comprehensive Review of the Ecological and Human Social Effects of Artificial Feeding and Baiting of Wildlife."

<sup>&</sup>lt;sup>5</sup> Beck et al., "Sociological and Ethical Considerations of Black Bear Hunting"; Inslerman et al., "Baiting and Supplemental Feeding of Game Wildlife Species." The Wildlife Society: Dunkley and Cattet, "A Comprehensive Review of the Ecological and Human Social Effects of Artificial Feeding and Baiting of Wildlife."

<sup>&</sup>lt;sup>6</sup> Inslerman et al., "Baiting and Supplemental Feeding of Game Wildlife Species" The Wildlife Society.

<sup>&</sup>lt;sup>7</sup> J. P. Beckmann and J. Berger, "Rapid Ecological and Behavioural Changes in Carnivores: The Responses of Black Bears (Ursus Americanus) to Altered Food," Journal of Zoology 261 (2003).

<sup>&</sup>lt;sup>8</sup> Rebecca Kirby et al., "The Cascading Effects of Human Food on Hibernation and Cellular Aging in Free-Ranging Black Bears," *Scientific Reports* 9, no. 1 (2019). H. E. Johnson et al., "Human Development and Climate Affect Hibernation in a Large Carnivore with Implications for Human-Carnivore Conflicts," Journal of Applied Ecology 55, no. 2 (2018).

<sup>&</sup>lt;sup>9</sup> See discussion in e.g., Kent A. Hatch et al., "Tooth Wear and the Apparent Consumption of Human Foods among American Black Bears (Ursus Americanus) in Great Smoky Mountains National Park, USA,"

Mammalian Biology (2022). 

10 J. K. Bump et al., "Bear-Baiting May Exacerbate Wolf-Hunting Dog Conflict," *Plos One* 8, no. 4 (2013).

<sup>&</sup>lt;sup>11</sup> Hatch et al., "Tooth Wear and the Apparent Consumption of Human Foods among American Black Bears (Ursus Americanus) in Great Smoky Mountains National Park, USA."

<sup>&</sup>lt;sup>12</sup> Inslerman et al., "Baiting and Supplemental Feeding of Game Wildlife Species. The Wildlife Society; Valdmanis, "Death by Chocolate: A Problem for Bears in New Hampshire." <sup>13</sup> Jeff Beringer, Andrew Timmins, and Tim L. Hiller, "Unintentional Toxicosis from Methylxanthines in

Chocolate-Based Baits Consumed by American Black Bears," Wildlife Society Bulletin 40, no. 2 (2016). <sup>14</sup> Inga Sidor, "Final Report: Toxicology Results Involving Bear Mortality by Chocolate (Methylxanthines)," University of New Hampshire Veterinary Diagnostic Laboratory UNH Case Number 14-6784 (2015).

<sup>&</sup>lt;sup>15</sup> Dunkley and Cattet, "A Comprehensive Review of the Ecological and Human Social Effects of Artificial Feeding and Baiting of Wildlife."

<sup>&</sup>lt;sup>16</sup> Sierra J Gillman, Erin A McKenney, and Diana J R Lafferty, "Human-Provisioned Foods Reduce Gut Microbiome Diversity in American Black Bears (Ursus Americanus)," Journal of Mammalogy 103, no. 2 (2021): p. 1.

<sup>&</sup>lt;sup>17</sup> Ibid.

<sup>18</sup> Kirby et al., "The Cascading Effects of Human Food on Hibernation and Cellular Aging in Free-Ranging Black

<sup>19</sup> Hatch et al., "Tooth Wear and the Apparent Consumption of Human Foods among American Black Bears (Ursus Americanus) in Great Smoky Mountains National Park, USA."

<sup>20</sup> Gillman, McKenney, and Lafferty, "Human-Provisioned Foods Reduce Gut Microbiome Diversity in American Black Bears (Ursus Americanus)."

<sup>21</sup> Lynn L. Rogers, "The Role of Habitat Quality in the Natural Regulation of Black Bear Populations," *Technical Report, National Park Service* (1993). Hatch et al., "Tooth Wear and the Apparent Consumption of Human Foods among American Black Bears (Ursus Americanus) in Great Smoky Mountains National Park, USA."
<sup>22</sup> *Id.*; Inslerman et al., "Baiting and Supplemental Feeding of Game Wildlife Species," The Wildlife Society; Amanda Sommerer, "A Spatial Analysis of the Relationship between the Occurrence of Mange in Pennsylvania's Black Bear Population and Impervious Land Cover" (2014); Rebecca Kirby, David M. Macfarland, and Jonathan N. Pauli, "Consumption of Intentional Food Subsidies by a Hunted Carnivore," *The Journal of Wildlife Management* 81, no. 7 (2017).

<sup>23</sup> Ellen M. Candler, William J. Severud, and Joseph K. Bump, "Who Takes the Bait? Non-Target Species Use of Bear Hunter Bait Sites," *Human-Wildlife Interactions* 13, no. 1 (2019).

<sup>24</sup> Ibid.

<sup>25</sup> Ibid., p. 105.

<sup>26</sup> D. L. Garshelis et al., "Is Diversionary Feeding an Effective Tool for Reducing Human-Bear Conflicts? Case Studies from North America and Europe," *Ursus* 28, no. 1 (2017); R.A. Inslerman et al., "Baiting and Supplemental Feeding of Game Wildlife Species. The Wildlife Society.," *http://wildlife.org/documents/technical-reviews/docs/Baiting06-1.pdf.*, no. Technical Review. 58p. (2006); S. Dobey et al., "Ecology of Florida Black Bears in the Okefenokee-Osceola Ecosystem," *Wildlife Monographs*, no. 158 (2005); L. Dunkley and M.R.L. Cattet, "A Comprehensive Review of the Ecological and Human Social Effects of Artificial Feeding and Baiting of Wildlife," *Canadian Cooperative Wildlife Health Centre - Dept. of Veterinary Patholgoy, Saskatoon, Saskatchewan.*, no.

http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1020&context=icwdmccwhcnews (2003); Lynn L. Rogers, "Effects of Food Supply and Kinship on Social Behavior, Movements, and Population Growth of Black Bears in Northeastern Minnesota," *Wildlife Monographs, The Wildlife Society* 51, no. 97 (1987); "The Role of Habitat Quality in the Natural Regulation of Black Bear Populations."; Thomas D. Beck et al., "Sociological and Ethical Considerations of Black Bear Hunting," *Proceedings of the Western Black Bear Workshop* 5 (1995); J. P. Beckmann and J. Berger, "Rapid Ecological and Behavioural Changes in Carnivores: The Responses of Black Bears (*Ursus Americanus*) to Altered Food," *Journal of Zoology* 261 (2003).

<sup>27</sup> Rogers, "Effects of Food Supply and Kinship on Social Behavior, Movements, and Population Growth of Black Bears in Northeastern Minnesota."; "The Role of Habitat Quality in the Natural Regulation of Black Bear Populations."

<sup>28</sup> R. Kirby, D. M. Macfarland, and J. N. Pauli, "Consumption of Intentional Food Subsidies by a Hunted Carnivore," *Journal of Wildlife Management* 81, no. 7 (2017).

<sup>29</sup> Rogers, "The Role of Habitat Quality in the Natural Regulation of Black Bear Populations."

<sup>30</sup> Kirby, Macfarland, and Pauli, "Consumption of Intentional Food Subsidies by a Hunted Carnivore."

<sup>31</sup> Hank Hristienko and Jr. McDonald, John E., "Going in the 21st Century: A Perspective on Trends and Controversies in the Management of the Black Bear " *Ursus* 18, no. 1 (2007).

<sup>32</sup> Remington J. Moll et al., "An Apex Carnivore's Life History Mediates a Predator Cascade," *Oecologia* 196, no. 1 (2021).

<sup>33</sup> U.S. Department of Transportation, "Wildlife-Vehicle Reduction Study: Report to Congress," https://www.fhwa.dot.gov/publications/research/safety/08034/08034.pdf (2008).