Changing the narrative on human–bear conflicts by standardizing bear management terms

Authors: Lackey, Carl, Telesco, Dave, Annis, Kim, Battle, Dave, Cooley, Hilary, et al.

Source: Ursus, 2025(36e4) : 1-10

Published By: International Association for Bear Research and Management

URL: https://doi.org/10.2192/URSUS-D-24-00008R1

Changing the narrative on human–bear conflicts by standardizing bear management terms

Carl Lackey[1,2,12], Dave Telesco[1,3], Kim Annis[1,4], Dave Battle[1,5], Hilary Cooley[1,6], Paul Frame[1,7], Lindsey Mangipane[1,8], Colleen Olfenbuttel[1,9], Mark Vieira[1,10], and Tammy Waldrop[1,11]

[1]*International Association for Bear Research and Management – Management Committee (past and present members)*
[2]*Nevada Department of Wildlife, Reno, NV, USA*
[3]*Florida Fish and Wildlife Conservation Commission, Tallahassee, FL, USA*
[4]*U.S. Fish and Wildlife Service, Libby, MT, USA*
[5]*Alaska Department of Fish and Game, Anchorage, AK, USA (Retired)*
[6]*U.S. Fish and Wildlife Service, Missoula, MT, USA*
[7]*Alberta Forestry and Parks, Edmonton, AB, Canada*
[8]*U.S. Fish and Wildlife Service, Anchorage, AK, USA*
[9]*North Carolina Wildlife Resources Commission, Raleigh, NC, USA*
[10]*Colorado Parks and Wildlife, Fort Collins, CO, USA*
[11]*South Carolina Department of Natural Resources, West Columbia, SC, USA*

Abstract: Human–wildlife interactions and conflicts are increasing in many parts of the world. The ability of North American wildlife agencies to accurately record information about human–wildlife conflict and then share and compare those data is important for agency conservation efforts, inter-agency communications, and public messaging. Agency bear managers and researchers record human–bear conflict data and depend upon that information for making management decisions, determining whether those decisions were effective, and for developing public education messaging. To successfully manage human–bear conflict, it is essential that inter-agency communication, recording of data, and public messaging be consistent. Yet, defining human–bear conflicts in a consistent manner, even within jurisdictions, can be difficult and the application of common bear management terms is often inconsistent, and therefore may be unreliable. Even when these terms are clearly defined, there is often no uniformity in application, nor is there a defined entity to collect, store, and disseminate the information. Additionally, some terms commonly used in agency messaging and often repeated by the public are subjective and can have negative connotations for bears. The International Association for Bear Research and Management's (IBA) Management Committee (MC), with members representing 9 jurisdictions and all 3 bear species in North America, reviewed literature that list terms and definitions used in bear management and bear research with the following goals: (1) identifying terms and definitions that were clear, concise, and used consistently among jurisdictions; (2) defining or modifying those terms and definitions that are commonly used, yet are used inconsistently, incorrectly, or interchangeably; and (3) identifying terms that should be removed from written and verbal agency messaging that lead to mischaracterization of bears. Here we present 12 terms and definitions that will help facilitate clear and consistent inter- and intra-agency communications and allow jurisdictions to better compare information across databases. We also identify 5 terms that should be removed from professional wildlife management vernacular and publications. Finally, we propose that the IBA adopt these terms and definitions for use within their publications and request the use of these terms and definitions by other governing and publication entities.

Key words: aversive conditioning, food-conditioned bear, habituated bear, hazing, human–bear conflict, human–bear interaction, nuisance bear, problem bear, relocation, translocation, *Ursus americanus*, *Ursus arctos*, *Ursus maritimus*

DOI: 10.2192/URSUS-D-24-00008R1
Ursus 36:article e4 (2025)

The success of many large carnivore conservation programs throughout the world (Enserink and Vogel 2006), changes in species distribution due to environmental change (Rode et al. 2022), and the expansion of the human footprint (Ma et al. 2024) have led to increased human–wildlife interactions and in some cases, increased human–wildlife conflict. Having the ability to record these interactions and conflicts, and to accurately compare these databases, especially over vast jurisdictional boundaries, can prove problematic for wildlife agencies and researchers (Spencer et al. 2007, Seoraj-Pillai and Pillay 2017) especially if definitions of these terms are inconsistently used. Further, defining human–wildlife conflict is difficult because, unlike other important parameters for wildlife management (e.g.,

[12]email: clackey@ndow.org

population size, demographic rates, resource selection), human–wildlife conflict is a socio-ecological parameter (Zajac et al. 2012, Lackey et al. 2018, Siemer et al. 2023). Human perceptions, attitudes, beliefs, and tolerance for wildlife, as well as the governance of the management agency, play important roles in accurately recording and defining interactions and conflict, influencing which type of situations are labeled conflicts and which conflicts are reported (Lischka et al. 2019). Human–bear interactions can occur when a bear and a human are seemingly aware of each other and can result in positive, neutral, or negative (i.e., conflict) outcomes. Interactions resulting in negative outcomes are human–bear conflicts (HBC) and are a global issue, involving all 8 species of bears (Can et al. 2014). Human–bear conflicts can cause economic loss to humans, human injuries, fatalities to both humans and bears, and negative attitudes toward bears (Ciarniello and Beecham 2019). Effective and consistent communication among bear managers and researchers is essential for quantifying HBC and determining success or failure of responsive management actions (Spencer et al. 2007, Hopkins et al. 2010, Gunther et al. 2018). Yet, developing and adopting standardized terms and definitions across multiple jurisdictions is challenging because jurisdictions often have different policies and protocols that govern HBC response, which in turn can be based upon that jurisdiction's definition of certain management terms (Spencer et al. 2007, Lackey et al. 2018, Scharhag 2018; R. Beausoleil, Washington Department of Fish and Wildlife [WDFW], personal communication). Hopkins et al. (2010) noted that terminology and definitions frequently differ among jurisdictions because they evolved as bear management techniques evolved. Additionally, these techniques often varied, depending on jurisdictional policy governing HBC response and whether the jurisdiction was a local, state, federal, or provisional government. Even when techniques or reporting of conflicts are consistent, they are not always recorded. For example, Hristienko and McDonald (2007) reported that in a 2001 survey of 62 North American jurisdictions, only 10 had formal databases to document HBC. Other examples include surveys of management agencies, specifically, 3 jurisdictional surveys of North American wildlife agencies that all assessed different American black bear (*Ursus americanus*) management techniques. Spencer et al. (2007) posed questions specific to HBC response, whereas both Beausoleil and Dobey (2015) and the most recent survey, conducted in 2022 by the International Bear Associations' (IBA) Management Committee (MC) included population management and HBC actions (IBA MC 2024). One common issue reported during all 3 surveys was the difficulty in designing questions that would generate answers specific to HBC because of the known inconsistencies in terminology and recording used by different jurisdictions. For example, in the 2022 survey the MC had to offer multiple answers to the question of "How does the jurisdiction document human–black bear interactions?". Over 50 percent of responses indicated the agency did not separate positive, neutral, or negative interactions (i.e., conflict) when recording calls from the public (IBA MC 2024). Some jurisdictions reported they had no standard definition of 'interactions' regionally, nor within the jurisdiction. In Beausoleil and Dobey (2015), one jurisdiction, Alberta, included bear sightings in their human–bear conflict data. Further, at the 5th International Human–Bear Conflicts Workshop (IHBCW), Scharhag (2018:78) expressed difficulty in defining what constitutes a bear attack "due to the various definitions from state to state."

Despite Hopkins et al. (2010) being a thorough review of human–bear management programs and terminology used in North America by some of the most recognized experts in bear management, their definitions ($n = 38$) published in *Ursus* are still not used consistently. We offer several instances where the inconsistent use of terminology, inconsistently or inaccurately defining terms, or using terms interchangeably occurred in the reporting of human–bear interactions and conflict in publications on these topics, or simply ambiguity in defining bear management terms. These comparisons in terms include hazing and aversive conditioning; on-site release, relocation, and translocation; human–bear interaction and human–bear conflict, and habituated bear and food-conditioned bear.

Hazing of a bear is generally viewed as a single event whereas aversive conditioning requires continual and consistent administering of deterrents (Schirokauer and Boyd 1998, Hopkins et al. 2010). These terms are often used interchangeably, with managers referring to a management action as aversive conditioning although the technique reportedly used was neither consistent nor continual (Leigh and Chamberlain 2008, Mazur 2010, Alldredge et al. 2015). There are also examples of on-site releases being described as aversive conditioning (Clark 1999, Clark et al. 2003), with the suggestion being that aversion occurs during capture and handling and the subsequent release at the point of capture. Yet, by definition, conditioning implies a repetitive, or learning process (Hopkins et al. 2010, Gunther et al. 2018). On-site releases

have been further described by several others including Clark et al. (2003), Hopkins et al. (2010), and White et al. (2022). Our modification of the Hopkins et al. (2010) definition of on-site release includes a reference to hazing to clarify how this management technique has evolved.

Similarly, sometimes the terms relocation and translocation are used interchangeably regardless of the distance a bear was moved (Beckmann and Lackey 2004, Landriault et al. 2009, White et al. 2022), or the term relocation was used incorrectly (Stenhouse et al. 2022). Human–bear interaction and human–bear conflict are also commonly used interchangeably and inconsistently. For example, Hopkins et al. (2010:157) defines human–bear conflict as "when a bear exhibited stress-related or curious behavior, causing a person to take extreme evasive action, made physical contact with a person or exhibited clear predatory behavior, or was intentionally harmed or killed (not including legal harvests) by a person." Yet in 2019, the Human–Bear Conflict Expert Team of the International Union for Conservation of Nature (IUCN) Bear Specialist Group (BSG) defined human–bear conflict as "… any situation where wild bears undesirably use or damage human property, where wild bears harm people, or where people perceive bears to be a direct threat to their property or safety." (Carniello and Beecham 2019:1). The first definition does not include one of the most commonly viewed forms of HBC, which is the use of, or damage to, human property by bears, and the second definition includes a person's perception of HBC (i.e., a subjective definition that could include bear sightings, which are not considered conflict; Hopkins et al. 2010, Blair et al. 2020). Other examples where human–bear interaction and human–bear conflict were used interchangeably or defined ambiguously can be found in Baruch-Mordo et al. (2008), Kretser et al. (2009), Merkle et al. (2011), and White et al. (2022).

Habituation and food-conditioning are terms that describe behavioral learning processes (Gunther et al. 2018) and can be confusing and misinterpreted by the public and managers. For example, these two examples from the media both imply, incorrectly, that a bear can be habituated to food. From the Adirondack Almanack, "It means if a bear gets food from humans too many times, it will get habituated to the food" (Lynch 2020:1). And from a California Department of Fish and Wildlife (CDFW) press release, "These traps represent official state business to capture a specific and "severely food-habituated bear" defined as a conflict bear under CDFW's 2022 Black Bear Policy in California. Food-habituated means that the animal has lost its fear of people and is associating people with access to food." (CDFW 2022:1). It should be noted, however, there are numerous examples where managers or researchers used terms and definitions in a consistent and appropriately defined manner including Wieczorek Hudenko (2012), Gunther et al. (2018), Gillikin et al. (2021), Edwards (2023), and Homstol et al. (2024).

The point here is not to single out specific instances or publications (the citations listed are just a few of the many examples available), but rather to make it clear that inconsistent or incorrect use of several bear management terms is somewhat common. The MC is not the first to recognize this issue and to suggest a way of developing consensus on terms and definitions. Gunther et al. (2004:108) stated "The current scientific literature contains ambiguous terms and definitions for measurements of wildlife responses to humans …" and "The term habituation has been frequently misused by wildlife biologists and the press …". Further, at the 4th International Human–Bear Conflicts Workshop (IHBCW) in Missoula, Montana, during a workshop on Best Management Practices for HBC response planning, participants developed a list of components to be included in "ideal human–bear conflict response guidelines" and this list included "standard terminology and definitions that are acceptable to all stakeholders" (Matt 2012:60). And during a presentation at the 5th IHBCW in Tennessee titled *Managing Bears Across Multi-Jurisdictional Boundaries*, the authors identified areas for improvement to include "… the need for standardized systems, procedure, terminology, and reporting across all agencies …" (Honeyman and Michel 2018:51).

Inconsistency in reporting and documenting HBC can be exacerbated further when comparing data between the 3 bear species in North America—American black bear, grizzly bear (*Ursus arctos*), and polar bear (*U. maritimus*)—because the type of HBC may vary considerably. Tolerance for, and perception of, bears are notably important considerations when trying to quantify interactions and conflict (Lackey et al. 2018). For example, consider a polar bear passing through a coastal community that consistently experiences a large influx of bears during the ice-free period and then compare that same scenario to a bear in a developed area where polar bears are rarely seen. One or both scenarios may be reported as a conflict or just a sighting, depending on the person's perception of bears (labeling bias), and then recorded as a conflict or a sighting, depending on the person responding and how

their management agency defines HBC (reporting bias; Lackey et al. 2018).

The MC members, with roughly 200 years of combined experience managing human–bear conflicts, are in the unique position to compare terms and definitions used throughout our respective jurisdictions and we are of a consensus that even within our jurisdictions, definitions are used inconsistently. For example, "Montana Fish, Wildlife and Parks regions do not use the same definition of conflict, which restricts the ability to compare trends across regions" (K. Annis, personal communication). When managers use different definitions for terms such as human–bear conflict, habituated bear, or relocation, the result can be ineffective communication and inconsistent data that are difficult to compare, not only across jurisdictions but also to people such as researchers who analyze HBC data. Having comparative data allows us to efficiently and effectively evaluate what is working and what is not. Additionally, these data are necessary when applying for funding opportunities that can help agencies and nongovernmental organizations cooperatively answer management-oriented research questions. We acknowledge and appreciate all previous work on bear behavior and human–bear conflict terminology, including those by Aumiller and Matt (1994), Gunther et al. (2004, 2018), Herrero (1985), Herrero et al. (2005), Jope (1983), Smith et al. (2005) and many others. But like Hopkins et al. (2010), we also recognize that terminology has evolved, and will continue to evolve, as management techniques and public messaging evolves.

Hopkins et al. (2010) suggested 3 reasons for standardizing definitions and concepts among jurisdictions: (1) enhancing intra-agency conservation efforts; (2) enhancing inter-agency cooperation; and (3) providing standard definitions to researchers who study and evaluate agency programs. We suggest an additional reason is to facilitate effective messaging when communicating with the public about human–bear conflict mitigation measures and personal responsibility.

To exemplify this, we note there are terms commonly used by the public and wildlife agencies, and even suggested for use by wildlife managers (Hopkins et al. 2010) that complicate effective messaging by removing personal responsibility from HBCs and rhetorically placing blame for HBC solely on the bear. These include the 3 terms "nuisance bear," "garbage bear," and "problem bear." Failure to identify responsibility, and thus potential mitigative actions, perpetuates the HBC issue (Penteriani 2023), especially when these terms are used by bear managers, or in agency publications or media communications. In addition, "nuisance bear" and "problem bear" are subjective terms because they are often used to label a wild animal based on public perception of a human–bear interaction (see definition of "human–bear interaction" below). These terms could describe an actual conflict, reflect a person's lack of knowledge of normal bear behavior, or be based on an individual's low tolerance threshold for a bear. Seoraj-Pillai and Pillay (2017:17) offered a definition for animals involved in conflict that demonstrates this subjectiveness. They define a "problem animal" as "A free-living, native wild mammal or bird whose natural behaviour, temperament or habits brings it into conflict with humans." This definition does not place any responsibility for conflict on humans but instead 'blames' the wild animal for its natural behavior. Similarly, Hopkins et al. (2010:157) defined "problem bear" as "a bear involved in repeated bear incidents," with "bear incident" defined as "an occurrence that involved a human–bear conflict or episodes where bears caused property damage, obtained anthropogenic food, killed or attempted to kill livestock or pets …". And Matt (2012:66) defined "problem bear" as "a bear that requires a management action or expenditure of human and/or financial resources. This term covers a broad spectrum, from bears that require periodic monitoring because they are near human infrastructure, to bears that require intensive hazing or lethal removal.". None of these examples address the underlying causes for the conflict.

Even the subtle difference between "human–bear conflict" and "bear–human conflict" can create a shift in responsibility based on the order in which it is said. Placing the word "bear" first and using "bear–human conflict" can have negative connotations for bears by implying bears are the initial cause of HBC. This was the main reason the name of the IHBCW's was changed after the 1997 workshop in Canmore, Alberta, which was titled "Bear–People Conflicts Workshop" (R. Beausoleil, [WDFW], personal communication).

Further, the Association for Fish and Wildlife Agencies (AFWA) represents all jurisdictions in North America, and as stated on their website they are "the collective voice of state, provincial and territorial fish and wildlife agencies." BearWise® is a national education and outreach program of AFWA and is supported by over 40 member states. In the BearWise Brand Guide (2024:6), an internal document for member agencies, it states "BearWise does not use and cannot

approve or endorse materials that use language that blames the bear for behavior that results from intentional or unintentional human-caused conflict." The Guide also lists terms to avoid, including "nuisance bear," "problem bear," "bear problems," and "bear–human conflicts." As bear managers, all members of the MC understand that there will always be individual bears involved in chronic human–bear conflict that are perceived as, and labeled as, problem bears and nuisance bears; the words are simply too ingrained in the common terminology used by wildlife professionals and the public and have been for decades. Similarly, we do not believe that most bear managers do not understand the varying definitions and interpretations of common bear management terms. What we are striving for is a change in the narrative that bears are the root cause of HBC and removing 'the bear' will make the public's 'problem' disappear. Getting people to think about bears differently by expanding education programs, and to accept some personal responsibility for HBC, can affect their tolerance for bears and their perceived benefits versus risks of coexisting with bears (Zajac et al. 2012, Pooley et al. 2016, Warrier et al. 2021, Penteriani 2023, Siemer et al. 2023, Gunther et al. 2024).

We suggest that bear managers, management agencies, and researchers should strive to change this narrative by framing the messaging differently. This may be partially accomplished by educating the public about the ecological and intrinsic value of bears (Siemer et al. 2023). However, the words used by wildlife professionals are important because they can often either create tolerance or further polarize the issue (Lischka et al. 2019). As stated by R. Shideler (2018:59), at the 5th IHBCW, "Words matter when you are sharing information with the public." Certainly, the words wildlife professionals use can influence the public's attitude and perception, with negative terms used to describe bears that are involved in human-caused conflict being pervasive in educational publications such as National Geographic (Tree 2024) for just one recent example. An alternative to "nuisance bear," "garbage bear," or "problem bear" is to use a more descriptive term such as "human–bear conflict" (see definitions below) or simply state that a bear was involved in conflict.

Finally, bear managers and researchers outside North America have expressed confusion regarding the terms "roadkill" and "road killed bear." Not because they do not understand that a bear died as a result of a collision with a vehicle, but because they have no translation for "roadkill." It is important to avoid confusing or misleading terminology whenever possible. We therefore recommend replacing the terms "roadkill" or "road killed" with a single term describing what happened—a "vehicle–bear mortality." In addition, referring to an animal as "roadkill" can be viewed as disparaging or devaluing the animal.

The IBA MC reviewed terms and definitions found in an abbreviated review of literature related to bear management and bear research to (1) identify terms and definitions that were used consistently and correctly among jurisdictions; (2) select those terms and definitions that are commonly used, yet are used inconsistently, incorrectly, or interchangeably; and (3) identify terms that should be removed from written and verbal agency messaging that lead to mischaracterization of bears, with the goal of facilitating more effective communication both within and outside of wildlife agencies and to allow jurisdictions to more efficiently compare databases.

This effort was similar to the Definition of Terms section in Lackey et al. (2018:15) in that we started with the Hopkins et al. (2010) manuscript because it was a thorough review of previous publications, and we then reviewed and modified some of the terms listed. To be clear, we are not redefining terms already established by the formative works of our predecessors, such as Aumiller and Matt (1994), Gunther et al. (2004), Herrero (1985), Herrero et al. (2005), Jope (1983), and Smith et al. (2005), but rather we provide minor modifications to these existing terms and their definitions to better reflect modern iterations and the evolution of bear management techniques. We also identify terms that should no longer be used by bear managers or researchers, or in agency messaging. It is our collective belief that standardizing management definitions and removing certain terms from bear management and bear education vernacular will better represent the professional standards of bear managers and researchers and make it more efficient for North American jurisdictions to communicate and share bear management data. Standardizing and adopting our suggested terms, while removing the negative terms, will decrease biases and subjectivity by individuals, organizations, and agencies in categorizing bear behavior, and increase consistency in human–bear interaction and human–bear conflict databases between jurisdictions.

We identified 11 terms and definitions found in previous publications and added 1 term to facilitate clear and consistent communications about HBC. There are 4 categories that apply to these terms and definitions to

identify their origins. Two terms and their definitions are directly from Hopkins et al. (2010) and are cited as such. Eight definitions are modified from Hopkins et al. (2010) or Lackey et al. (2018) and are therefore noted as "modified from." One term name was modified but the definition did not change (Matt 2012), and one term was not found in previous publications and is therefore noted as "new."

Additionally, the MC recommends the following 5 terms should no longer be used by wildlife professionals: "nuisance bear," "garbage bear," "problem bear," "roadkill bear," and "roadkilled bear." Terms that incorrectly and/or unintentionally place the responsibility of HBCs on the individual bear without acknowledging the role people have in the conflict and terms that may create confusion or be interpreted as disparaging to the bear should not be used. We therefore suggest these terms be removed from all future IBA publications, including submitted manuscripts to *Ursus* and *International Bear News* by removing them during the editorial process.

Definitions

We present the following 12 terms for adoption, with modifications and additions identified in italics and deleted words identified by strikethrough text. Our rationale for modifications follows each definition when necessary:

- Aversive conditioning (from Hopkins et al. 2010): A learning process in which deterrents are continually and consistently administered to a bear to reduce the frequency of an undesirable behavior.

  Rationale: No change

- Conflict bear (modified from Lackey et al. 2018:16): A bear involved in repeated human–bear ~~incidents~~ *conflicts*.

  Rationale: The MC received feedback indicating the need for a word that replaces the negative terms, including *problem bear*. The other alternative is to use a more descriptive term such as *human–bear conflict* or simply state that a bear was involved in conflict.

- Food-conditioned bear (modified from Lackey et al. 2018:16): A bear that has learned to associate people ~~(or the smell of people),~~ human activities, human-use areas, or food storage receptacles with anthropogenic food as a result of repeatedly accessing anthropogenic foods without substantial ~~negative~~ consequence.

  Rationale: "Conditioning," like "habituation," implies a learning process, so we chose to use the Lackey et al. (2018) version of this definition. For consistency with the Hopkins et al. (2010) definition of "habituated bear," we changed "negative consequences" to *substantial consequence*.

- Habituated bear (from Hopkins et al. 2010:157): A bear that shows little to no overt reaction to people as a result of being repeatedly exposed to anthropogenic stimuli without substantial consequence.

  Rationale: No change

- Hazing (modified from Hopkins et al. 2010:157): A technique where *human activity and/or* deterrents are administered to a bear to immediately modify the bear's undesirable behavior *and to create a negative association with humans or human-use areas.*

  Rationale: Human activity, such as making noise, was added to further clarify the definition of a deterrent. Often and incorrectly, hazing is referred to as "aversive conditioning," which is "a learning process in which deterrents are continually and consistently administered …" from Hopkins et al. (2010:157). Hazing is different in that it is neither continual nor consistent.

- Human–bear conflict (modified from Lackey et al. 2018:16): Any situation where there is a ~~real or perceived~~ threat to human life or property by bears or where bears use or damage human property; or episodes where bears obtained anthropogenic food, killed or attempted to kill livestock or pets; or when a bear exhibited stress-related or curious behavior causing a person to take extreme evasive action, made physical contact with a person or exhibited clear predatory behavior, or was intentionally *or unintentionally* harmed or killed (not including legal harvests) by a person.

  Rationale: This is one of the most inconsistently used terms. Lackey et al. (2018) combined 2 definitions from Hopkins et al. (2010)—*bear incident* and *human–bear conflict*. We agree that this definition is more inclusive of HBC, but we deleted "real or perceived" because they are subjective terms and could include a bear sighting, which by definition is not conflict. Our modified definition of HBC is pertinent to all species of bears.

- Human–bear interaction (modified from Hopkins et al. 2010:157): An occurrence when a person ~~and a bear~~, *a bear, or both* are ~~mutually~~ *seemingly* aware of ~~each other~~ *one another in place and/or time. These interactions can have positive, neutral,*

or negative effects. Interactions resulting in negative outcomes are human–bear conflicts.

Rationale: We modified this definition to address the fact that in an interaction it is not always apparent whether a bear was actually aware of the person (i.e., a habituated bear). This modification is consistent with the Hopkins et al. (2010:157) definition of a bear sighting, which states "an observation when a bear was seemingly unaware of the person …" *In place and/or time* was added because in a negative interaction (i.e., conflict, such as a nocturnal bear accessing neighborhood garbage), the person may not be aware of this until the next morning. Additional text is for clarification on the difference between interactions and conflicts.

- *Human-provided* attractant (modified from "attractant" in Matt 2012:64): Any item provided by a person, whether intentionally or unintentionally, that draws a bear into an area, including natural foods (e.g., berry farm, fish hatchery, hunter-killed ungulate carcass), anthropogenic foods (e.g., garbage, bird feeders, livestock), or items humans would consider inedible (e.g., motor oil, antifreeze, fertilizer, coatings on power cables).

Rationale: Adding *human-provided* to the term better represents the definition.

- On-site release (modified from Lackey et al. 2018:17): A management method, *sometimes used as a form of hazing*, that consists of capturing and releasing a bear at or near the site of capture.

Rationale: This was modified to include *hazing* in response to the evolution of this management technique. Some managers have implied that the negative stimuli occurring during a capture and on-site release is aversive conditioning. This is incorrect, as described above, unless it is done repetitively and consistently.

- Relocation (modified from Hopkins et al. 2010:158): The capture and subsequent transport of a bear from the site of capture to a location likely within its home range, often with the intent to temporarily mitigate ~~bear incidents~~ *human–bear conflicts at the capture site*.

Rationale: This modification adheres to our definition of HBC, which does not include the term *incident*. *At the capture site* was added to better reflect one of the obvious goals of relocations and translocations (i.e., the intent is not to mitigate human–bear conflicts somewhere other than where the bear was captured).

- Translocation (modified from Hopkins et al. 2010: 158): The capture and subsequent transport of a bear from the site of capture to a location outside its presumed home range, often *with the intent* to ~~permanently~~ mitigate ~~bear incidents~~ *human–bear conflicts at the capture site* or augment a population.

Rationale: Modification is for consistency with our definition of "Relocation."

- Vehicle–bear mortality (new): A bear mortality resulting from a vehicle strike, whether the bear dies directly from the collision or is euthanized as a result of vehicle-related injuries.

Rationale: This new term replaces several terms that are not easily translatable in other languages. Further, the word "vehicle" can refer to all types of transportation, including cars, trucks, and trains.

Hopkins et al. (2010) was published in *Ursus* and Lackey et al. (2018) was published for AFWA, but neither of these documents, despite defining management terms specifically for use by wildlife professionals, resulted in consistent use by managers. Similarly, none of the seminal publications mentioned earlier resulted in consistent use of their terminology or definitions. We believe the reason for the lack of unilateral use was because the terms and definitions were not formally adopted by any individual publishing entity. Our recommendation is that the IBA adopt and then implement these terms in all their publications, including *Ursus*, the *Ursus* submission guidelines, the *International Bear News*, and in all articles or manuscripts submitted for publication by removing them during the editorial process. We also recommend the IBA request that AFWA, The Wildlife Society, the Northeast Black Bear Technical Committee, the Southeastern Association of Fish and Wildlife Agencies Large Carnivore Working Group, and any other entities deemed appropriate endorse this list and encourage the use of these terms by their representative agencies in all publications, media communications, and educational material. We also suggest that the MC, through their Jurisdictional Surveys, is the proper entity to collect, store, and share information on HBC in North America. It is our preference that, by doing so, these definitions will be adopted and used consistently among everyone in the bear community, allowing jurisdictions to be better able to communicate effective and consistent messaging regarding HBCs, and for analyses of best management practices that ultimately reduce human–bear conflict.

Acknowledgments

We thank all the bear managers and wildlife educators who provided their insight over the past couple of years while this manuscript was taking shape. We also thank the

Editor and reviewers, whose comments and suggestions significantly improved our initial submission.

Literature cited

ALLDREDGE, M.W., D.P. WALSH, L.L. SWEANOR, R.B. DAVIES, AND A. TRUJILLO. 2015. Evaluation of translocation of black bears involved in human–bear conflicts in south-central Colorado. Wildlife Society Bulletin 39:334–340. https://doi.org/10.1002/wsb.526

AUMILLER, L.D., AND C.A. MATT. 1994. Management of McNeil River State Game Sanctuary for viewing of brown bears. International Conference on Bear Research and Management 9:51–61. https://doi.org/10.2307/3872684

BARUCH-MORDO, S., S. BRECK, K.R. WILSON, AND D.M. THEOBALD. 2008. Spatiotemporal distribution of black bear–human conflicts in Colorado, USA. Journal of Wildlife Management 72:1853–1862. https://doi.org/10.2193/2007-442

BEARWISE. 2024. BearWise brand guide for member state wildlife agencies. Association of Fish and Wildlife Agencies, Washington, DC, USA.

BEAUSOLEIL, R., AND S. DOBEY. 2015. Agency responses to a 2015 Agency Black Bear survey conducted for the Western and Eastern Black Bear Workshops. https://www.bearbiology.org/download/agency-responses-to-a-2015-agency-black-bear-survey-conducted-for-the-western-and-eastern-black-bear-workshops/?ind=1732718651095&filename=2015-Agency-Black-Bear-Survey-Beausoleil-and-Dobey.xlsx&wpdmdl=9186&refresh=67ad3e34331771739406900. Accessed 20 Jan 2025.

BECKMANN, J.P., AND C.W. LACKEY. 2004. Are desert basins effective barriers to movements of relocated black bears (*Ursus americanus*)? Western North American Naturalist 64:269–272. https://www.ndow.org/wp-content/uploads/2023/01/Beckmann_Lackey_relocation.pdf. Accessed 20 Jan 2025.

BLAIR, C.D., L.I. MULLER, J.D. CLARK, AND W.H. STIVER. 2020. Survival and conflict behavior of American black bears after rehabilitation. Journal of Wildlife Management 84:75–84. https://doi.org/10.1002/jwmg.21783

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE [CDFW]. 2022. The food-habituated Tahoe Keys bear. Bear, Naked Truth. https://wildlife.ca.gov/Conservation/Mammals/Black-Bear/Blog/the-food-habituated-tahoe-keys-bear. Accessed 1 Feb 2025.

CAN, Ö. E., N. D'CRUZE, D.L. GARSHELIS, J. BEECHAM, AND D.W. MACDONALD. 2014. Resolving human–bear conflict: A global survey of countries, experts, and key factors. Conservation Letters 7:501–513. http://dx.doi.org/10.1111/conl.12117

CIARNIELLO, L., AND J. BEECHAM. 2019. Approaches to human–bear conflict management by the human–bear conflicts expert team IUCN SSC BSG. https://www.researchgate.net/profile/Lana-Ciarniello/publication/333356586_Approaches_to_Human-Bear_Conflict_Management_by_the_Human-Bear_Conflicts_Expert_Team_IUCN_SSC_BSG/links/5ce844dba6fdccc9ddcce00/Approaches-to-Human-Bear-Conflict-Management-by-the-Human-Bear-Conflicts-Expert-Team-IUCN-SSC-BSG.pdf?_tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxpY2F0aW9uIiwicGFnZSI6InB1YmxpY2F0aW9uIn19. Accessed 10 Mar 2025.

CLARK, J.E. 1999. Capture and on-site release of nuisance black bears and survival of orphaned black bears released in the Great Smoky Mountains. Thesis, University of Tennessee, Knoxville, Tennessee, USA. https://trace.tennessee.edu/utk_gradthes/2506. Accessed 20 Jan 2025.

————, F.T. VAN MANEN, AND M.R. PELTON. 2003. Survival of nuisance American black bears released on-site in Great Smoky Mountains National Park. Ursus 14(2):210–214.

EDWARDS, C. 2023. Aversive conditioning of grizzly bears produces high probabilities of retreat from human–bear conflict locations. Thesis, University of Alberta, Edmonton, Alberta, Canada. https://www.bing.com/ck/a?!&&p=be2ca89e2f7a3bdae6306e37b549a8c58755cbe38543dc631681cade9092f279JmltdHM9MTczNzMzMTIwMA&ptn=3&ver=2&hsh=4&fclid=006be54b-1242-6d0f-2624-f05f13b36cf3&psq=Edwards%2c+C.+2023.+Aversive+conditioning+of+grizzly+bears+produces+high+probabilities+of+retreat+from+human%e2%80%93bear+conflict+locations.+Thesis%2c+University+of+Alberta&u=a1aHR0cHM6Ly9lcmEubGlicmFyeS51YWxiZXJ0YS5jYS9pdGVtcy83ZjJhMWEyNi0yMmEwLTQxZTMtOWNlNC0zOThiODhhMzk0ZTAvZG93bmxvYWQvZmFkMDhmY2UtZDVmZC00ODAyLWI2ZmEtYjc0NDQzYzAzMzBl&ntb=1. Accessed 20 Jan 2025.

ENSERINK, M., AND G. VOGEL. 2006. The carnivore comeback. Science 314:746–749. https://doi.org/10.1126/science.314.5800.746

GILLIKIN, M.N., R.E. URBANEK, C. OLFENBUTTEL, AND C.G. DUKES. 2021. Spatial analysis of rehabilitated American black bears to assess conflict potential. Ursus 32:e15. https://doi.org/10.2192/URSUS-D-20-00025.2

GUNTHER, K.A., K.M. ATKINS, T.C. WYMAN, AND E.G. REINERTSON. 2024. Grizzly bear and American black bear interactions with people in Yellowstone National Park. Ursus 35:article e16. https://doi.org/10.2192/URSUS-D-24-00001

————, K. TONNESSEN, P. DRATCH, AND C. SERVHEEN. 2004. Management of habituated grizzly bears in North America: Report from a workshop (presentation). Transactions of the North American Wildlife and Natural Resources Conference 69:106–117. https://wildlife-management-institute.myshopify.com/products/transactions-of-the-69th-north-american-wildlife-and-natural-resources-conference

————, K.R. WILMOT, S.L. CAIN, T. WYMAN, E.G. REINERTSON, AND A.M. BRAMBLETT. 2018. Managing human-habituated bears to enhance survival, habitat effectiveness, and public viewing. Human–Wildlife Interactions 12(3):373–386. https://doi.org/10.26077/83cn-mh23

HERRERO, S. 1985. Bear attacks: Their causes and avoidance. Lyons and Burford, New York, New York, USA.

————, T. SMITH, T.D. DEBRUYN, K. GUNTHER, AND C.A. MATT. 2005. From the Field: Brown bear habituation to people—Safety, risks, and benefits. Wildlife Society Bulletin 33(1):362–373. https://doi.org/10.2193/0091-7648(2005)33[362:FTFBBH]2.0.CO;2

HOMSTOL, L., S. RAYMOND, C. EDWARDS, A.N. HAMILTON, and C.C. ST. CLAIR. 2024. Aversive conditioning increases short-term wariness but does not change habitat use in black bears associated with conflict. PLoS ONE 19(1): e0295989. https://doi.org/10.1371/journal.pone.0295989

HONEYMAN, J., AND S. MICHEL. 2018. Managing bears across multi-jurisdictional boundaries (presentation). Pages 78–80 in J. Dalton, editor. Proceedings of the 5th International Human–Bear Conflicts Workshop. 26–28 March 2018, Gatlinburg, Tennessee, USA. https://www.bearbiology.org/download/5th-international-human-bear-conflicts-workshop-proceedings/#. Accessed 20 Jan 2025.

HOPKINS, J.B., S. HERRERO, R.T. SHIDELER, K.A. GUNTHER, C.C. SCHWARTZ, AND S.T. KALINOWSKI. 2010. A proposed lexicon of terms and concepts for human–bear management in North America. Ursus 21:154–168. https://doi.org/10.2192/URSUS-D-10-00005.1

HRISTIENKO, H., AND J.E. MCDONALD, JR. 2007. Going into the 21st century: A perspective on trends and controversies in the management of the American black bear. Ursus 18:72–88. http://doi.org/10.2192/1537-6176(2007)18[72:GITSCA]2.0.CO;2

INTERNATIONAL ASSOCIATION FOR BEAR RESEARCH AND MANAGEMENT (IBA), MANAGEMENT COMMITTEE (MC). 2024. Results of the 2022 survey of black bear management in the United States and Canada. https://www.bearbiology.org/publications/management-resources/. Accessed 1 Feb 2025.

JOPE, K.L. 1983. Habituation of grizzly bears to people: A hypothesis. Proceedings - International Conference on Bear Research and Management 5:322–327. https://doi.org/10.2307/3872557

KRETSER, H.E., P.D. CURTIS, AND B.A. KNUTH. 2009. Landscape, social, and spatial influences on perceptions of human–black bear interactions in the Adirondack Park, NY. Human Dimensions of Wildlife 14(6):393–406. https://doi.org/10.1080/10871200903055318

LACKEY, C.W., S.W. BRECK, B.F. WAKELING, AND B. WHITE. 2018. Human–black bear conflicts: A review of common management practices. Human–Wildlife Interactions Monographs 2:1–68. https://www.fishwildlife.org/application/files/4015/9716/5808/Human_Black_Bear_Conflicts__A_Review_of_Common_Management_Practic.pdf. Accessed 20 Jan 2025.

LANDRIAULT, L.J., G.S. BROWN, J. HAMR, AND F.F. MALLORY. 2009. Age, sex and relocation distance as predictors of return for relocated nuisance black bears *Ursus americanus* in Ontario, Canada. Wildlife Biology 15:155–164. https://doi.org/10.2981/07-084

LEIGH, J., AND M.J. CHAMBERLAIN. 2008. Effects of aversive conditioning on behavior of nuisance Louisiana black bears. Human–Wildlife Conflicts 2(2):175–182. https://doi.org/10.26077/frgt-yq55

LISCHKA, S.A., T.A. TEEL, H.E. JOHNSON, AND K.R. CROOKS. 2019. Understanding and managing human tolerance for a large carnivore in a residential system. Biological Conservation 238:108189. https://doi.org/10.1016/j.biocon.2019.07.034

LYNCH, M. 2020. The cycle of killing habituated bears continues. The Adirondack Almanack. https://www.adirondackalmanack.com/2020/07/fed-bear-is-a-dead-bear.html. Accessed 1 Feb 2025.

MA, D., B. ABRAHMS, J. ALLGEIER, T. NEWBOLD, B.C. WEEKS, AND N.H. CARTER. 2024. Global expansion of human–wildlife overlap in the 21st century. Science Advances 10:eadp7706. https://doi.org/10.1126/sciadv.adp7706

MATT, C. 2012. Appendix 1: Terms used in bear–people conflict management. Pages 64–66 in Proceedings of the 4th International Human–Bear Conflicts Workshop Summary, 20–22 March 2012, Missoula, Montana, USA. https://humanbearconflicts.org/wp-content/uploads/2022/02/4th-human-bear-conflict-workshop-summary.pdf. Accessed 20 Jan 2025.

MAZUR, R. 2010. Does aversive conditioning reduce human–black bear conflict? Journal of Wildlife Management 74(1): 48–54. https://doi.org/10.2193/2008-163

MERKLE, J.A., P.R. KRAUSMAN, N.J. DECESARE, AND J.J. JONKEL. 2011. Predicting spatial distribution of human—black bear interactions in urban areas. Journal of Wildlife Management 75(5):1121–1127. https://doi.org/10.1002/jwmg.153

PENTERIANI, V. 2023. Conflict animals or conflict people—That is the question. Human–Wildlife Interactions 17(1): 134–137. https://doi.org/10.26077/0cmj-pe63

POOLEY, S., M. BARUA, W. BEINART, A. DICKMAN, G. HOLMES, J. LORIMER, A.J. LOVERIDGE, D.W. MACDONALD, G. MARVIN, S. REDPATH, C. SILLERO-ZUBIRI, A. ZIMMERMANN, AND E.J. MILNER-GULLAND. 2016. An interdisciplinary review of current and future approaches to improving human–predator relations. Conservation Biology 31:513–523. https://doi.org/10.1111/cobi.12859

RODE, K.D., D.C. DOUGLAS, T.C. ATWOOD, G.M. DURNER, R.R. WILSON, AND A.M. PAGANO. 2022. Observed and forecasted changes in land use by polar bears in the Beaufort and Chukchi Seas, 1985–2040. Global Ecology and Conservation 40:e02319. https://doi.org/10.1016/j.gecco.2022.e02319

SCHARHAG, J. 2018. Non-fatal black bear attack associations, and manager perceptions of risk, litigation, and policy (presentation). Page 78–80 in J. Dalton, editor. Proceedings of the 5th International Human–Bear Conflicts Workshop, 25–29 March 2018, Gatlinburg, Tennessee, USA.

https://www.bearbiology.org/download/5th-international-human-bear-conflicts-workshop-proceedings/#. Accessed 20 Jan 2025.

SCHIROKAUER, D.W., AND H.M. BOYD. 1998. Bear–human conflict management in Denali National Park and Preserve, 1982–94. Ursus 10:395–403. http://www.jstor.org/stable/3873150

SEORAJ-PILLAI, N., AND N. PILLAY. 2017. A meta-analysis of human–wildlife conflict: South African and global perspectives. Sustainability 9:34. https://doi.org/10.3390/su9010034

SHIDELER, R. 2018. Is it addiction? Food-conditioning in grizzly bears of Alaska's north slope. (presentation). Pages 59–62 in J. Dalton, editor. Proceedings of the 5th International Human–Bear Conflicts Workshop, Gatlinburg, Tennessee, USA. https://www.bearbiology.org/download/5th-international-human-bear-conflicts-workshop-proceedings/#. Accessed 20 Jan 2025.

SIEMER, W.F., T.B. LAUBER, R.C. STEDMAN, J.E. HURST, C.C. SUN, A.K. FULLER, N.A. HOLLINGSHEAD, J.L. BELANT, AND K.F. KELLNER. 2023. Perception and trust influence acceptance for black bears more than bear density or conflicts. Frontiers in Conservation Science 4:1041393. https://doi.org/10.3389/fcosc.2023.1041393

SMITH, T.S., S. HERRERO, AND T.D. DEBRUYN. 2005. Alaskan brown bears, humans, and habituation. Ursus 16(1):1–10. https://doi.org/10.2192/1537-6176(2005)016[0001:ABBHAH]2.0.CO;2

SPENCER, R., R.A. BEAUSOLEIL, AND D.A. MARTORELLO. 2007. How agencies respond to human–black bear conflicts: A survey of wildlife agencies in North America. Ursus 18(2):217–229. https://doi.org/10.2192/1537-6176(2007)18[217:HARTHB]2.0.CO;2

STENHOUSE, G.B., A.T.A. LARSEN, C.J.R. MCCLELLAND, A.E. WILSON, K. GRAHAM, D. WISMER, P. FRAME, AND I. PHOEBUS. 2022. Grizzly bear response to translocation into a novel environment. Wildlife Research 49(6):540–556. https://doi.org/10.1071/WR21060

TREE, I. 2024. Inside the bold quest to rewild Europe. National Geographic 246(05):104–131.

WARRIER, R., B.R. NOON, AND L.L. BAILEY. 2021. A framework for estimating human–wildlife conflict probabilities conditional on species occupancy. Frontiers in Conservation Science 2:679028. http://doi.org/10.3389/fcosc.2021.679028

WHITE, J.P., W.H. STIVER, M.K. STEINBERG, AND J.R. CISSELL. 2022. Comparing management techniques used on conflict American black bears in Great Smoky Mountains National Park. Ursus 33:e12. http://doi.org/10.2192/URSUS-D-21-00008.R

WHITTAKER, D., AND R.L. KNIGHT. 1998. Understanding wildlife responses to humans. Wildlife Society Bulletin 26:312–317. https://api.semanticscholar.org/CorpusID:82738296. Accessed 20 Jan 2025.

WIECZOREK HUDENKO, H. 2012. Exploring the influence of emotion on human decision making in human–wildlife conflict. Human Dimensions of Wildlife 17(1):16–28. http://doi.org/10.1080/10871209.2012.623262

ZAJAC, R.M., J. BRUSKOTTER, R.S. WILSON, AND S. PRANGE. 2012. Learning to live with black bears: A psychological model of acceptance. Journal of Wildlife Management 76(7):1331–1340. https://doi.org/10.1002/jwmg.398

Received: February 27, 2024
Accepted: December 11, 2024
Associate Editor: S. Miller