Empathy Informed Recommendations for Discussing Carnivore Conservation

Report and Practitioner Guide

Emily Bernhardt
Empathy Network Strategist, Woodland Park Zoo

WOODLAND PARK ZOO

Table of Contents

Designed by: Katie Gibian, Woodland Park Zoo

Cover Photo: Woodland Park Zoo

Executive Summary

Conversations about carnivore conservation in North America can be difficult to navigate. Many carnivore species are considered charismatic megafauna and are emblematic of successful conservation efforts. However, they can also simultaneously be the focus of negative attitudes and harmful behaviors that directly impact conservation initiatives. While many of the human-wildlife interactions with carnivores are neutral, the negative interactions and, in some ways more importantly, the perceptions of negative interactions can have long-term ramifications on carnivore conservation efforts.[1]

This report focuses on three specific ways the role of carnivores in cultural narratives and stories have evolved over time, shaping the North American conservation landscape, and their impact on modern carnivore conservation efforts. The species of focus throughout the report are primarily grey wolves (*Canis lupus*) and grizzly bears (*Ursus arctos horribilis*), but is informed by research across other carnivore species such as coyotes *(Canis latrans)*, black bears *(Ursus americanus),* and mountain lions *(Puma concolor)* because these species:

1. *Are present in zoos throughout the Advancing Conservation through Empathy for Wildlife (ACE for Wildlife®) Network,*
2. *Are in the top twenty most popular animals for zoo visitors (bears are 6th and wolves are 18th),*[2]
3. *Were primary target species during the carnivore extirpation efforts of the 1600-1900s by European settlers in North America,*[3] *and*
4. *Continue to be species of conservation contention today.*

Carnivores, particularly grey wolves, have represented various societal and cultural themes throughout history in North America. This guide is not intended to provide an exhaustive analysis of all the ways carnivores are used as representations for societal or cultural dynamics. Three are the focuses of this guide:

1. **Carnivores as "Other."** Carnivores can represent those outside of a dominant, or desired dominant, group through various narratives. Three subthemes of "othering" have emerged throughout history: othering through dehumanization, othering through the creation of foreign threats, and political or ideological othering.

2. **A challenge to human dominion over nature.** Carnivore eradication became synonymous with "taming" or controlling the wilderness. By removing threatening animals from the landscape, or cordoning off areas specifically for wilderness, colonists created landscapes ideal for their needs. When a carnivore transgresses wilderness demarcating boundaries, they provide a glaring reminder of our inability to control nature.

3. **Erasure of ways of life.** Aided by demographic changes in the American West and value system shifts on a national level, land use and conservation in the American West has changed drastically in the past 50 years. This illuminates tensions between "old west" traditions and modern conservation priorities when efforts to preserve traditions and historically traditional values are framed as being at odds with conservation initiatives.

While they have been separated above, each theme often influences another. In creating conservation messages focused on large carnivores such as grizzly bears and grey wolves, zoos must take into consideration the various societal and cultural meanings that the species have, and that resistance to their conservation is often not as simple as a mere dislike of the animal. While the research is still new, there is data across studies and contexts that demonstrate that feeling empathy for wildlife can be a catalyst that helps an individual change their behaviors to benefit wildlife.[4] As a result of these findings, zoos and aquariums in the ACE for Wildlife Network are curious to explore the role that fostering empathy for wildlife can play in conservation campaigns that address complex environmental issues, such as human-wildlife conflict, with zoo and aquarium audiences. At their core, the topics of human-wildlife conflict and coexistence are "human problems," with factors like emotions, risk perceptions, cultural stigmas, morals, and social influence impacting conservation success. Zoo practitioners must have a deeper understanding of those factors, and how they appear in zoo audiences, to establish a common ground from which they can then effectively foster empathy for wildlife for conservation action.

Drawing from across disciplines, this guide aims to provide a greater understanding of the sociocultural and historical dynamics in the United States that inform the cultural narratives, perceptions of, and attitudes towards carnivores such as bears and wolves. It concludes with five recommendations for practitioners interested in engaging audiences on the topic of human-wildlife conflict:

1. **Identify and highlight shared fundamental values between your organization and community when crafting and sharing conservation messaging.** By starting from common ground, zoos can craft conservation messages and asks that are more likely to resonate with guests who may have different core values.

2. **Avoid conflict-framed messaging and opt for benefit-framed messaging instead.** Conservation educators must actively work to provide counternarratives to the dominant negatively framed carnivore messaging to reduce fear, increase respect, and effectively communicate how our actions can both reduce conflict with the species and benefit their long-term survival.

3. **Refer to animals as unique individuals by sharing their names, stories, names, and avoiding use of the word "it."** By recognizing the unique individuality of carnivores in the care of zoo professionals, through sharing their names, personality traits, and identifiable features with the public, we can help our visitors see animals as unique individuals with personality quirks, not unlike ourselves, whose wild counterparts are worth acting for.

4. **Create opportunities for visitors to accurately take the perspective of a wild carnivore.** By creating experiences that allow guests to take the perspective of an animal, zoos can educate their visitors about conservation in ways that are both engaging and informative.

5. **Be transparent that living alongside carnivore populations entails degrees of conflict.** Through the messaging and programs provided, zoo staff can help visitors and guests understand that not only does coexistence entail degrees of interaction with wildlife, but that successful coexistence is a multispecies effort.

Introduction

Negative interactions between humans and wildlife pose challenges to conservation initiatives worldwide.[5] Factors such as climate change, habitat conversion, species rehabilitation or reintroduction efforts, the increased popularity of doorbell cameras and home security systems, and altered species ranges are both increasing people's awareness of wildlife presence in their areas and contact with wildlife.[6] While most human-wildlife interactions (HWIs) are neutral, the impact, both real and potential, of negative interactions is not to be underestimated.[7] Negative interactions with wildlife can result in injury or death (for human or animal), property damage, financial losses, and/or transmission of zoonotic diseases. In addition to the safety threats that HWIs can pose, these interactions can challenge cultural perceptions of where animals should be and how they should behave.[8] Because of these factors, the topics of wildlife coexistence and carnivore conservation are often tense.[9]

Coexistence with carnivores can be a particularly challenging topic to navigate because carnivores often occupy a unique niche in our psyches. Because of their impressive size and behaviors, they are often simultaneously revered as charismatic megafauna, while also the focus of negative attitudes and behaviors that can compromise their conservation success.[10] The dichotomy is especially relevant for education-focused conservation organizations, such as zoos accredited by the Association of Zoos and Aquariums (AZA), to consider when creating interpretive materials, programs, and desired conservation actions for these species. Messaging that zoo guests receive during a visit is often created by staff who prioritize messages that align with their own personal values such as the protection of animals and nature.[11] This is unsurprising given the modern conservation missions of many zoological institutions. However, while messages framed in this way are engaging for those that already believe similarly, they may instead further polarize those who do not already share the same values.[12] Thus, as conservation challenges like coexisting with wildlife continue to remain relevant, it is becoming more important for zoos to consider peoples' attitudes and values towards wildlife, and the contexts that have informed those, in the creation of their conservation messaging.[13] One way in which we can gain a greater understanding of these contexts is examining the roles that carnivores have in various cultural narratives.

Zoos are not immune to the influence of, and may even perpetuate, various cultural narratives in their communities. Traditionally, zoos have focused their conservation initiatives and messaging on far away, or "exotic," ecosystems educating guests on topics such as elephant poaching in Africa or deforestation in Indonesia. While these are valuable conservation topics, they often lack local relevancy and may emphasize misconceptions that conservation is something that only happens in exotic places or that conservation problems in the United States have been solved.[14]

There are still actions that need to be taken to ensure the conservation of carnivore populations across the United States. Zoos with North American carnivores continue to have opportunities to promote conservation actions that are both designed for their audiences and benefit local animal populations. To ensure that those messages are impactful, zoo staff should understand the historical and sociocultural influences on people's attitudes and values towards, and perceptions of, carnivores. Doing so will help zoos more effectively engage the over 183 million annual visitors they have in the U.S.[15] Additionally, through their social media platforms, zoos can expand the reach of their messaging and mission beyond their in-person visitors to remain relevant as the social and cultural landscapes with regards to conservation continue to evolve.

Scope of the Document

This guide aims to address a question of interest within the ACE for Wildlife Network: *What is the role of fostering empathy for wildlife when addressing complex environmental issues (e.g., climate change, human-wildlife conflict) with zoo and aquarium audiences?* Complex environmental issues like human-wildlife conflict are at their core, "human problems," with factors like emotions, risk perceptions, cultural stigmas, morals, and social influence impacting conservation success.[16] The human dimension of conservation makes it important to focus on how cultural and societal narratives have used carnivores to uphold and perpetuate desired or dominant sociocultural dynamics historically, and in the present. Without an understanding of those dynamics, it can be difficult to approach tense interactions with guests on the topic of carnivore conservation through an empathetic lens. Drawing from literature and sources across disciplines, this guide aims to provide a greater understanding of the sociocultural and historical dynamics in the U.S. that contribute to perceptions of, and attitudes towards, large North American carnivores. To do so, three themes are briefly examined: Carnivores as "Other," Carnivores as a Challenge to Human Dominion over Nature, and Carnivores as Erasure of Ways of Life.

Grizzly bears and grey wolves are the primary species of focus in this guide, with grey wolves featuring most prominently. This focus is because the species are present in zoos throughout the ACE for Wildlife Network, are in the top twenty most popular animals for zoo visitors (bears = #6, wolves = #18),[17] and because these animals were primary target species during the large carnivore extirpation efforts of the 1600-1900s by European settlers.[18] While these colonial eradication efforts may seem to be a thing of the past, they continue to leave a lasting impression on the cultural perceptions of these species and the environments they depend on,[19] impacting the success of current coexistence or conservation efforts. After each of the three themes has been briefly interrogated, the guide concludes with recommendations that zoo practitioners can use when engaging audiences in conversations about the conservation of North American carnivore species. For a more in-depth analysis of the three themes, see "It's not About the Animal: Three Sociocultural Meanings of Carnivores Throughout American History" linked alongside this resource in the ACE for Wildlife Network resource library.

Carnivores as "Other"

By deeming a being an outsider, an "other," or an "it," it becomes easier to justify their exploitation, destruction, or commodification.[20] Carnivores can represent and/or be turned into a threatening "other" in a variety of ways. This section will summarize three key components of narratives in which carnivores represent a threatening "other": through dehumanization, through the creation of foreign adversaries, and through political or ideological othering.

Othering through Dehumanization

As species with global ranges, brown bears and grey wolves were historically found across North America and Europe.[21] In living alongside them, various cultures incorporated these animals into their myths and legends and shrouded them in superstition. However, in European cultures specifically, this differed greatly between grey wolves and brown bears. While conflict with both species occurred throughout European history, bears became unique "among other-than-human persons in being so honored throughout the circumpolar north"[22] through the myths and legends they were a part of that it is hypothesized their cultural value largely shielded them from the levels of persecution experienced by wolves.

Throughout the 15th and 18th centuries, wolves became shrouded in fear and superstition as the Werewolf Witch Trials swept across Europe, and the species quickly became associated with witchcraft and the devil.[23] During these trials, hundreds of people suspected of being werewolves or witches were executed, and wolves were often persecuted in similar brutal fashions.[24] These shared understandings of the threats the species posed to society would expand and evolve as European colonists arrived and settled in North America.

In New England in the late 1600s, wolves continued to represent devilry as they did in Europe, but this expanded as wolves came to represent what colonists perceived to be an unsafe and savage landscape in the unknown "New World."[25] Colonial perceptions of the landscape encompassed the human and non-human beings of the continent, as both represented barriers to be eliminated to create colonial settlements.[26] Quickly, colonial sentiments surrounding carnivores such as wolves (and eventually nature as a whole)[27] began to parallel their sentiments towards Indigenous peoples.[28]

Wolf became a term used to directly refer to the Indigenous peoples throughout New England. Cotton Mather, a Puritan clergyman made infamous through his role in the Salem Witch Trials, wrote and preached that Native Americans were "ravenous, howling wolves" motivated by "corrupt and ungoverned feelings [that made them] raging savages".[29] Through fear-inducing sentiments like these that stripped Native Americans of their humanity and moralized settler actions against them, discussion of carnivores on the landscape became an extension of colonization as it intertwined with the vocabulary used to justify the violent removal of Indigenous peoples.

Nearly 300 years later, headlines covering the Central Park Five case refer to the Black and Latino suspects as a "wolf pack," and the white woman attacked as their "prey."[30] The suspects continued to be described as "bloodthirsty," "animals," or "savages" in ongoing media coverage of the case. Coverage of the case stoked racial tensions in New York City and across the country and played into already prevalent racist stereotypes of Black youth.[31] It has been argued that the negatively framed, sensationalistic language used by the media

surrounding Central Park Five made it difficult for the case to have a truly fair trial.[32] All five teenagers were convicted and sentenced to several years in prison before their exoneration in 2002. This case serves as a modern example of how one group of people easily "others" another through dehumanizing language that associates them with feared carnivores, and the ramifications of such negatively framed language. It also highlights the intersectionality of oppressive systems that built many aspects of American culture and that those systems remain influential to discourse in modern America. Today, wolves and other carnivores continue to be used as metaphors for threats to the dominant culture or tradition or are symbolic of ideological differences between various groups.[33]

Today, wolves and other carnivores continue to be used as metaphors for threats to the dominant culture or tradition or are symbolic of ideological differences between various groups.

Othering through the Creation of Foreign Adversaries

A second evolution of Carnivores as Others highlights these perceived threats to tradition and ideological differences. This occurs when Carnivores as Other is used in arguments aimed at preserving various aspects of Americana. As a cultural concept, Americana is a nostalgia for motifs of an idealized American life.[34] Americana motifs often include romanticized depictions of the American West and life in small town America.[35] Carnivores, particularly wolves, often represent threats to Americana and traditional American values such as freedom or independence, human dominion over the environment, and self-governance.[36] Carnivores as Other rhetoric as threats to Americana is often seen when carnivores are reintroduced to an area through human intervention, or in the natural re-establishment of populations in an area where they have been absent.

This can be racialized when it frames predators as threats to security and national or local identity[37] and parallels common arguments in anti-immigration rhetoric. The reintroduction of wolves to Yellowstone National Park and central Idaho from a source population in Canada in the late 1990s serves as a case study for this and its ongoing impacts. Anti-wolf advocates reiterated rhetoric that Canadian wolves were "invasive," "non-native," and "foreign." They claimed the foreign wolves were a "different, bigger, more ferocious, diseased species" whose presence was a direct threat to the safety and livelihoods of people living in the Greater Yellowstone Ecosystem and ecosystem health.[38] This closely mirrors anti-immigration rhetoric that frames immigrants – particularly immigrants of color – as individuals who exhaust community resources, steal jobs, and pose threats to American safety and security.[39] Entities that aligned themselves with the anti-wolf argument, such as Save our Elk and the Idaho Anti-Wolf Coalition, created bumper stickers that read "Canadian Wolves…Illegal aliens in Idaho!" or "Canadian wolves: state sponsored terrorism."[40] Referring to wolves in this way continues in modern debates on wolf conservation.[41] By symbolically linking wolves and other carnivores to perceived adversaries of Americana, anti-wolf advocates transform an ecological conversation into an overtly political one. The conversation no longer becomes about empirical arguments for

The conversation no longer becomes about empirical arguments for what is best for an ecosystem, but instead a moral one informed by arguments of patriotism, nationalism, and what it means to be a "good" American.

what is best for an ecosystem, but instead a moral one informed by arguments of patriotism, nationalism, and what it means to be a "good" American.[42]

Political & Ideological Othering

Carnivores as Other can also be used to signify political or ideological differences. This is commonly seen in anti-wolf concerns that touch on topics such as federal oversight, the urban-rural divide, and anti-environmental/ist arguments. Often, these arguments stem from concerns over the impingement of American values such as freedom or privacy, or concerns about impingement of fundamental rights.[43] An example of this can be found in Thomas Heberlein's *Navigating Environmental Attitudes* that discusses a proposed wolf reintroduction initiative in New York state in the 1990s. Initial surveys showed that while the majority of the residents supported wolf reintroduction, a vocal minority opposed it. The vocal minority reframed the reintroduction as an infringement on shared community attitudes such as support for deer hunting (linked to the value of tradition) and a distaste of federal oversight (linked to values of freedom and independence). Quickly, the message spread that wolves were being "dumped" in an area with too few deer and they became a symbol of government control. The next time the biologists returned to the community, they found that attitudes had drastically shifted and public support for the reintroduction had dropped by 30 percentage points. Wildlife managers were never able to restore support for a reintroduction initiative, and efforts have been halted to this day.

Similar arguments can be seen in commentary surrounding the reintroduction of wolves to Yellowstone National Park and the proposed reintroduction of grizzly bears to the North Cascades National Park. Because carnivore reintroduction initiatives are often led by federal entities, carnivores often become political symbols that represent the threat of increased federal control. Additionally, because animals do not abide by human boundaries and often leave the reintroduction area onto private land, the animals come to signify government surveillance on private property and conspiracy to dissolve private property rights; especially when people cannot take action against animal(s) on their land.[44] Through this lens, the federal government is the "other" that poses a threat to aspects of Americana. As long as wolves remain a politicized symbol, scientists and conservation educators will continue to face the challenge of de-escalating the reputation and fear that surrounds the animal.[45]

The federal government is one of many "others" that this evolution of Carnivores as Other can encompass. Additional "others" can include geographic outsiders, or those that do not live in or near the areas carnivores inhabit, and environmentalists.[46] Justin Farrell illustrates a case of Carnivores as Other representing geographic outsiders and environmentalist interests in his book *The battle for Yellowstone: Morality and the sacred roots of environmental conflict*. In his analysis of pro-wolf public letters written to the United States Fish and Wildlife Service regarding wolves in Yellowstone National Park, Farrell noted that only 4% of the pro-wolf letters came from people living within the Greater Yellowstone Ecosystem. Meaning, 96% of pro-wolf letters received by the federal agency were written by individuals who live elsewhere in the country. Many resided in urban areas. The majority of the 96% of pro-wolf supporters would never have to deal with the potential negative consequences of wolves on the landscape, but their input remains influential to the government's decision. Thus, not only do those in carnivore reintroduction areas potentially feel under attack or surveillance from the federal government, but also from cultural outsiders like urbanites, "cultural elites," and environmental groups supporting carnivore reintroduction and conservation efforts. In rural areas where reverence for

tradition and Americana is strong, this exacerbates already present political tensions that exist on the urban/rural divide.[47]

Summary: Carnivores as Other

In considering the historical and current ways that Carnivores as Other has been used to inform conversations about and justify actions towards carnivores in the United States, it is clear that a polarizing and complex sociocultural landscape exists that must be effectively navigated by those working to conserve carnivore species.[48] Therefore, when considering one's resistance or dislike for a carnivore species, it should not be assumed that increased information on the species and/or their ecosystem services alone will change minds. Instead, conservationists must approach the resistance with curiosity to discern if the animal has come to subconsciously represent something deeper.

When considering one's resistance or dislike for a carnivore species, it should not be assumed that increased information on the species and/or their ecosystem services alone will change minds.

Carnivores as a Challenge to Human Dominion over Nature

The European cultures and values that came with colonists to North America emphasized man's dominion over nature.[49] Dominion over nature is a key tenet of the domination value system that "cultivates beliefs of human superiority and control over their social and environmental surroundings and that humans have a destiny and right to subjugate others, including wildlife, to benefit themselves."[50] This value system has strong roots in Judeo-Christian religions that many colonists practiced. Thus, for colonists in North America, exercising control over the environment was not just their way of surviving in a new place, it was doctrine. This allowed colonists to moralize narratives that justified the "necessity" for them to subjugate, alter, and destroy other peoples' ways of life and ecosystems across North America.[51]

As North American colonists pushed west through the 1800s, they continued to exercise dominion over nature through species eradication campaigns. By removing various species from the landscape, they created landscapes that were deemed suitable for the expansion of civilization. The species perhaps most associated with eradication efforts during westward expansion are the American bison (*Bison bison bison*) of the Great Plains. While the removal of large herbivores such as bison from the landscape aided in colonization efforts, it was not until carnivores were extirpated that land was considered tame and safe for settler inhabitance. Wolves have often been perceived as an ultimate threat to human safety and simultaneously as vermin fit to be eradicated.[52] By removing an animal that posed both "material and symbolic challenges"[53] to westward expansion and the creation of safe landscapes, colonists were continually able to reinforce their dominance over nature.

Removal of carnivores from a landscape created spaces for colonial settlements and altered food webs that reduced perceived competition between humans and carnivores for game species. Settlers were not only exercising dominion over nature in efforts to reduce depredations on livestock and build settlements, but to foster ungulate populations settlers could use for subsistence and game hunting.[54] Therefore, settlers

determined – based on their usefulness or relationship with humans – which species should remain on the landscape, and which should be eradicated. Again, Yellowstone National Park can be used as a case study for how carnivores demonstrate a threat to human dominion over nature, and the actions taken to neutralize the threat. To create a nature that visitors felt safe in, and to ensure that hunters found plenty of game animals, the state of Montana instituted a wolf bounty of $1 per pelt in 1884,[55] which equates to approximately $33 USD in 2025. In 1915, the acting superintendent of the park called wolves "a decided menace to the herds of elk, deer, mountain sheep, and antelope"[56] and by 1926, the last wolf was killed within the park,[57] bringing the wilderness one step closer to suiting settler desires. Similar processes were unfolding throughout the west. In the Pacific Northwest, over 3,000 grizzly bear pelts were shipped out of trading posts between 1827-1859 and by 1860, it is estimated only 350 bears remained across the Cascade Mountain range.[58] By the 1930s, grizzly bears occupied only 2% of their historic range[59] and wolf populations had dropped to 300-400 total individuals, both in the lower 48 states.[60]

The challenges a carnivore outside of wilderness boundaries poses are two-fold; a challenge to our perceptions of where wilderness should exist, and a challenge to the notion that we have control over it.

As land in the west was parceled out, national parks and similar wilderness spaces quickly became the primary habitats for the remaining populations of large carnivores. Carnivore populations in these spaces were often small, or in some cases nonexistent, due to the combination of historical persecution and habitat fragmentation. People became accustomed to the lack of predators in the 19th and 20th centuries. Their absence made for more productive agriculture and livestock production and removed an element of fear and danger from outdoor activities. However, by the mid-20th century, animals like grey wolves and grizzly bears became recognized as keystone species as Western scientists noticed the ecological ramifications of their absence from the landscape. In efforts to restore parcels of wilderness to their natural state, conservation work to restore carnivore populations began.[61] Reintroduction efforts often placed carnivores in social and ecological landscapes from which they had been absent for decades, resulting in sentiments of fear and vulnerability in communities in or near the reintroduction area, and polarization between conservationists and communities.[62] Since animals often do not adhere to the boundaries of wilderness areas, these feelings can become heightened at the prospect of if, and when, they cross those boundaries and onto private property. When this happens, carnivores challenge collective notions of what land is wild, and which is safe. Their presence makes them, and the land, unsafe to those in non-wilderness areas and often undermines trust in conservation efforts.[63] This applies to reintroduced individuals as well as naturally dispersing ones. Moreover, the challenges a carnivore outside of wilderness boundaries poses are two-fold; a challenge to our perceptions of where wilderness should exist, and a challenge to the notion that we have control over it. The very presence of carnivores outside of the boundaries we set is a glaring reminder that we do not.

In addition to reintroduction efforts and natural dispersal, carnivore populations across North America have become better adapted to living in human-dominated landscapes and are changing their species ranges because of climate change and habitat conversion.[64] This adaptation has led to an increase in human-wildlife-interactions across the United States in a variety of contexts.[65] History demonstrates that the precedents set by previous carnivore management practices will not be the ones that provide sustainable conservation solutions. While management of carnivores and natural landscapes has shifted in the past 200 years, many U.S.

wildlife agencies continue to manage wildlife through a domination framework, treating wildlife (and broader nature) as a resource for human use.[66] This framework continues to manifest through preferences to coexist with species that benefit human interests such as deer, elk, or livestock, and taking actions to protect those animals from real or perceived threats.[67] Research has also shown that holding or operating through a domination value system is a strong predictor of an individual's acceptability of using lethal methods to control carnivore populations.[68] On a national level, there is data that demonstrates a recent shift towards more mutualistic wildlife value orientations in which humans and wildlife are viewed as equals within a community.[69] Despite this, since tenets of a domination value system have historically heavily influenced conservation culture in America, it is important that conservation educators consider how perceptions of human dominion over nature impact not only the conservation messages they promote, but also potential resistance to conservation calls-to-action.

Carnivores as Symbols of Erasure of Ways of Life

This is connected to Carnivores as Other, in which carnivores represent threats to Americana in the form of geographical, ideological, or political outsiders. In that motif, the carnivore represents challenges to tradition. However, the resistance to carnivores may not always come from a fear of a challenge to tradition but instead come from fear of identity erasure. This section will focus primarily on how demographic shifts in areas traditionally associated with the "old west" and Americana (e.g., eastern Washington state, northern Rocky Mountain West) are influencing carnivore conservation conversations across the country.

While urban-to-rural migration became more obvious during the COVID-19 pandemic, Farrell (2015) identifies the 1970s as the decade in which the urban-to-rural migration, and its impacts, began to be noticed in traditionally "old west" landscapes. Old west landscapes are rural areas in which ways of life were "morally homogenous, defined by farming, ranching, mining, and timber production."[70] While ecologically extractive, these practices and ways of life made for a meaningful cultural identity; exemplified through iconography of the rugged cowboy or hardworking farmer. They also helped establish strong relationships to place as generations of families relied on the land, and each other, in small, relatively isolated, communities. For many old westerners, their relationship with the land is a key defining feature of their identity. This is in contrast with what Farrell calls the "new west." This term refers to a shift away from ecologically extractive ways of life and values that prioritize outdoor recreation and nature's aesthetic beauty. Features of a new west culture include increased population growth, the presence of environmental groups, outdoor recreation service industries, second homes, and increased tourism. Those that make up the new west shift often include "college educated telecommuters, retirees, and outdoor enthusiasts."[71] What brings each individual to a traditionally old west landscape differs, but common themes include a desire to be closer to nature and/or to escape life in the city.

With new west migrants come new values and understandings of how one should relate to or use nature, and moral codes associated with environmental actions. As a result, what is considered culturally or morally acceptable with regards to environmental actions are changing. Consideration of morals is incredibly important as conservation and associated actions have become increasingly morally coded.[72] What is happening in many western locations is indicative of a cohort effect, in which attitudes of a population change not because of individual changes in views, but because of an influx of people moving in or away.[73]

As previously discussed, many aspects of old west living have their roots in a domination value system and ideas of human dominion over nature. This view is in contrast with the value system of many new west

migrants, the mutualistic value system. This value system has its roots in egalitarianism and within it, wildlife is seen as having human-like qualities, deserving of rights and trusting relationships with humans, and is worthy of care and compassion.[74] People strongly aligned with a mutualistic value system are more receptive to supporting restrictions for humans in natural spaces (e.g., trail closures, habitat protection, etc.), are more likely to donate to conservation efforts, and tend to prioritize an idealized version of wildlife coexistence.[75] Because of the shared desire to be close to (and often preserve) nature, this value orientation system commonly manifests in actions of new west migrants through increased outdoor recreation and environmental activism. Practices associated with traditional old west livelihoods, such as clearing a forest for timber or grazing cattle on public lands, often clash with new west ecological values and ideologies. Thus, for those that closely align with a mutualistic value orientation system with regards to wildlife, it can be easy to view those that act or feel differently as inherently immoral when it comes to conservation related actions.

The COVID-19 pandemic shone a light on the urban-to-rural migration trend and its impacts on environmental conflicts. In the early months of the pandemic, the appeal of sparsely populated areas with easy access to the outdoors increased.[76] Additionally, as remote work became more commonplace, many workers found themselves able to relocate while retaining job security[77] or found themselves relocating after retirement.[78] Many of these domestic migrants were attracted to the Mountain West. The states of Idaho, Utah, and Nevada had the eighth, nineth, and tenth highest levels of domestic migration, respectively.[79] Most counties throughout western Montana experienced an increase in population by 2% or more from net domestic migration between July 2020 and June 2022.[80] Rapid population growth in Montana driven by people seeking proximity to nature led to the state gaining a second U.S. House of Representatives seat in 2021, demonstrating the political and social implications of domestic migration.[81]

Outdoor recreation also increased during the pandemic. Approximately 7.1 million more Americans enjoyed an outdoor activity in 2020 than in 2019: contributing to the largest one-year outdoor participation rate jump on record.[82] Increased visitation to national parks, including Grand Teton National Park, Rocky Mountain National Park, and Yellowstone National Park, during the pandemic created crowding and congestion as well as strain on surrounding communities and businesses.[83] The increased popularity of these outdoor spaces coupled with migration trends to the American West has created rapid and cascading changes throughout traditionally old west communities.

These dynamics across the American West have caused environmental tension between those in the old west guard and those in the new. These are, of course, broad sweeping categorizations that miss degrees of nuance; as some who may identify as being more traditionally old west may support carnivore conservation while some in the new west contingent may be strongly anti-predator. Nonetheless, they are useful categorizations for understanding the larger dynamics at play. The influx of new residents have challenged or altered many local traditions and livelihoods. They often view practices associated with ranching and farming, among other extractive industries, as outdated, morally wrong due to their environmental impact, and in some cases, even illegal. In response to this threat to identity, many who identify as the old west guard have increased their commitment to, and defense of, old west ways of life.[84] However, this phenomenon is not unique to the American West, particularly when it intersects with carnivore conservation efforts.

Thomas Heberlien's case study about the proposed wolf reintroduction in New York state can be helpful to examine through this lens as well. As that example demonstrated, carnivore conservation efforts do not need to be happening in an American West environment for carnivores to signify threats to tradition and identity.

Regardless of location, for rural communities where traditional American values hold strong, carnivores can represent the threatened erasure of their communities. Consequently, for those fighting to preserve their traditional ways of life and values, it inherently becomes a fight against carnivores like grey wolves and grizzly bears. Within the context of domination and mutualistic value orientations towards the environment, there is emerging evidence of a "cultural backlash" as areas historically domination value system oriented become more mutualistic value system oriented.[85] Thus, while carnivores often become the symbols of rural erasure in carnivore conservation conversations, the conservation debate has little to do with the carnivore species at hand. Instead, it has everything to do with perceptions of how the conservation efforts will impact and change the surrounding communities and whose values are deemed valid.

While carnivores often become the symbols of rural erasure in carnivore conservation conversations, the conservation debate has little to do with the carnivore species at hand. Instead, it has everything to do with perceptions of how the conservation efforts will impact and change the surrounding communities and whose values are deemed valid.

Recommendations for Putting Knowledge into Practice in a Zoo Setting

Given the complex dynamics that inform these three cultural narratives of carnivores, it is unrealistic to expect a single exposure to pro-carnivore conservation messages in a zoological setting to significantly shift opinions of an individual with staunchly anti-carnivore attitudes. Nor will they have a significant impact on someone who is already a passionate advocate for carnivore conservation. Instead, it is more realistic to focus on the impacts that carnivore conservation messages can have on those in the "movable middle." The moveable middle consists of individuals whose attitudes towards carnivores are easier to influence because their attitudes – whether positive, negative, or neutral – are not particularly strong.[86] By focusing on the moveable middle, conservation organizations like zoos can have broad influence on carnivore conservation by creating experiences that generate positive attitudes towards carnivores.

This section will outline five recommendations and their connections to empathy-informed techniques for increasing conservation behavior(s) for carnivores. These are research-informed recommendations based on the literature referenced throughout this report as well as the author's understanding of techniques that foster empathy for wildlife. Therefore, they are interpretations and applications of research findings as opposed to rigorously tested recommendations.

The recommendations are as follows:

1. Identify and highlight shared fundamental values between your organization and community when crafting and sharing conservation messaging.
2. Avoid conflict-framed messaging and opt for benefit-framed messaging instead.
3. Refer to animals as unique individuals by sharing their names, stories, names, and avoiding use of the word "it."
4. Create opportunities for visitors to accurately take the perspective of a wild carnivore.
5. Be transparent that living alongside carnivore populations entails a degree of conflict.

Identify and highlight shared fundamental values between your organization and community when crafting and sharing conservation messaging

Values are critical guiding beliefs about how the world operates and our relationships with others.[87] It is known that the messages delivered by zoo staff often prioritize personal values that emphasize the protection of animals and nature.[88] This is unsurprising, as zoo staff are likely drawn to their careers and workplace because they believe conservation is important and already engage in conservation-minded behaviors. For those who do not share these values, the messages they see or hear during a zoo visit may fall flat, polarize them on the species or topic in the message at hand,[89] or make them less likely to share the message with

others.[90] For example, by emphasizing values that are favored by a portion of stakeholders or community members as opposed to others, it is likely that contention over carnivore conservation will only be exacerbated.[91] Individuals that feel excluded by an opposing conservation message, are more likely to react negatively in conservation conflicts, which can lead to further polarization on conservation topics.[92] Additionally, people often overestimate the extremity of their perceived opponents' viewpoints. If the goal of a zoo's educational or conservation messages is to have them resonate with a large contingent of their visitors and/or have them shared in social circles, they should take steps to ensure the values at the core of the message(s) align with the values of the community.

By highlighting shared values between an organization and community in conservation messages, organizations can help to build public (and/or stakeholder) trust in their work.[93] This relational trust built from perceived shared values tends to be more resilient than when not.[94] Examples of values shared between a conservation organization and the broader community may include environmental stewardship, safety, and protection of human property. Determining where organizational values overlap with community or stakeholder values can be a time intensive process. This may mean randomly surveying zoo guests – or the wider community – on their wildlife value orientations and comparing the data with determined organizational values. Resources such as the sociocultural index map can provide a starting point for identifying the primary wildlife value orientation system at the state and county level.[95]

Understanding the values and identities of the community and/or stakeholders also helps zoo staff and volunteers to approach potentially tense conservation conversations with empathy instead of defensiveness.

Zoos can also appeal to shared identities in their conservation messages. Messages that appeal to shared identities, such as stewardship of the environment, or use identifiers such as demonyms (e.g., Montanans, Washingtonians, etc.), reduce unintentional othering and can appeal to moral obligations or community norms - ultimately making messages more effective at changing behavior.[96] Understanding the values and identities of the community and/or stakeholders also helps zoo staff and volunteers to approach potentially tense conservation conversations with empathy instead of defensiveness. A key component of feeling, or extending, empathy, is understanding. By taking the time to understand the identities, perspectives, and values of stakeholders and/or the community, conservationists can use empathy as a bridge to meet individuals where they are.

Avoid conflict-focused message framing and opt for benefit-focused framing

The framing of stories featuring or focused on carnivores covered by the media are largely negative regardless of the presence of conflict or harm in the story[97] or are framed to elicit strong emotional responses from readers.[98] Repeated negative framing of carnivores and their interactions with humans can inflate perceptions of risk associated with the species and have long-lasting consequences for conservation initiatives.[99] A specific type of negative framing, known as conflict framing, represents animals as consciously combatting people and emphasizes the dichotomization of humans and nature.[100] It often unconsciously attributes hostile intentions to animals regardless of scenario[101] and places the onus of behavior change onto the animals as opposed to people.[102] This framing is not only ubiquitous in public media, but scientific literature as well, influencing

conservation recommendations and frameworks.[103] Repeated exposure to negative framing leads to increased negative perceptions, which have greater impacts on attitudes than positive perceptions,[104] creating a vicious feedback loop that conservation educators must actively work to counter in their carnivore-focused messaging.

One of the ways zoo educators can break the cycle is by using benefit-focused framing in their carnivore conservation messages. This not only means communicating the ecological benefits the species has but also how an individual's actions can both reduce conflict and benefit animals and/or the ecosystem.[105] Take the action of storing food in a bear-proof cooler as the conservation action ask of visitors attending a keeper talk at a grizzly bear habitat. Framed through a conflict lens, the conservation action message may look something like: "S*tore your food in a bear-proof cooler to prevent a bear from damaging your campsite,*" or more bluntly, "A *fed bear is a dead bear.*" Through this framing, bears are made out to be wandering through the woods looking for campsites to damage, coolers full of food to open, and the human campers must be on the defense. After all, their lives and the lives of bears are at stake. When the action is benefit-framed, it may look something like this: "*By putting your food in a bear-proof cooler, you are helping keep bears in the North Cascades healthy and safe.*" In this message, bears and humans are merely together in the same environment, neither in inherent conflict with another, with one species taking action to keep both safe. The message can be edited in a variety of ways and remain benefit-framed, such as: "*By putting your food in a bear-proof cooler, you are helping to keep nature wild.*"

When fostering empathy for wildlife, particularly with non-charismatic or stigmatized species, reducing fear is a key component of bridging a connection between the audience and the animal and increasing an audience's knowledge of the animal.

Conflict- and benefit-focused messaging both require acknowledgement of animal agency. While the acknowledgement and observation of animal agency is a component of fostering empathy for wildlife,[106] benefit-focused messaging is more aligned with efforts to foster empathy for wildlife than conflict-focused messaging. This is because conflict-focused messaging often relies on fear as a behavioral motivator.[107] When fostering empathy for wildlife, particularly with non-charismatic or stigmatized species, reducing fear is a key component of bridging a connection between the audience and the animal and increasing an audience's knowledge of the animal. By reducing fear, interpreters are working to ensure a positive emotion is a conservation behavior motivator, as positive emotions and attitudes towards a species have been shown to increase species tolerance and impact conservation behaviors.[108] Techniques include sharing the ecological benefits of the species, interpreting species behaviors and comparing them to appropriate human behaviors,

and describing unique character traits of individual animals (if known). Applying an empathetic lens to benefit focused messaging allows us to simultaneously recognize an animal's agency, reduce fear of and increase respect for the species, and effectively communicate how our actions can both reduce conflict with the species and benefit their long-term survival.

Refer to animals as unique individuals by sharing their stories, names, and by avoiding using the word "it"

As illustrated in previous sections, carnivores were denigrated through the conscious use of "othering" language that provided justification for destructive and exploitative actions that demonstrated human's perceived dominion over nature. It becomes more difficult to exploit, destroy, or commodify a being with a name, a story, and unique traits. By recognizing the unique individuality of carnivores in the care of zoo professionals, through sharing their names, personality traits, and identifiable features with the public, we can help our visitors see the animals as unique individuals with personality quirks, not unlike ourselves, whose wild counterparts are worth taking action for.

It is known that sharing the names and stories of zoo animals with guests leads to increased empathy towards the animal,[109] and that increased levels of empathy for wildlife are correlated with conservation action behaviors.[110] These practices help zoo-goers connect with animals and identify them as unique individuals. It has also been demonstrated that the ability of the public to identify individual wild animals can lead to increased conservation action.[111] P-22, a mountain lion that lived in Griffith Park in Los Angeles, serves as an example. Public affinity for P-22 increased awareness of the lack of habitat connectivity for mountain lions in southern California and increased tolerance for his presence in the area. It also "fueled a social media campaign (#SaveLACougars) and multiagency funding initiatives needed to obtain approval to build one of the largest urban wildlife crossings in the USA."[112]

Grizzly 399, the famous and globally beloved bear who lived in Grand Teton National Park in Wyoming, can also provide insight into the benefits individualizing animals can have for conservation. Like with P-22, the public's ability to identify and follow the life of Grizzly 399 helped raise awareness of the challenges to survival that grizzlies in the Greater Yellowstone Ecosystem face. Her recognizability in Grand Teton National Park and the surrounding communities in Teton County led to the expansion of the "bear conflict priority area" and the requirement of bear-resistant trash cans to the entirety of the county.[113] Following her death by vehicle collision, the Grand Teton National Park Foundation established the 399 Memorial Fund. This permanent fund is "dedicated to advancing bear conservation and education" in the national park and surrounding region.[114]

People not only were able to physically identify P-22 and Grizzly 399, but they recognized them as unique individuals – with preferences, personalities, and stories. The ability to recognize animals as individuals beyond physical identification requires some level of a belief in animal mind – or that animals are sentient negotiators of the spaces they occupy.[115] This acknowledgement of individuality is an established practice for fostering empathy for wildlife that can broaden interest in species-level conservation and lead to conservation action.[116] It should be noted, however, that the public's ability to recognize individual animals within a population may not always have positive outcomes and can create unintended conservation challenges. Grizzly 399's recognizability often led to tourist "bear-jams" hundreds of people strong, with many engaging in "poor behavior" in their effort to see her.[117] Her celebrity status also influenced actions that wildlife management agencies could or could not take when she came into conflict with people. When she acted in ways that would result in euthanasia or relocation for most bears, such as attacking a hiker in 2007 or getting into human food sources with her cubs, Grand Teton National Park and the United States Fish and Wildlife Service did not take action due to concerns of a "PR nightmare."[118] Thus the public ability to recognize and connect with individual animals can create tension between wildlife management interests that focus on conservation at the population or species level, and those of a public who have developed a parasocial relationship with an individual animal.

Through sharing the names of animals in human care, zoos can help their guests connect with individual animals in a controlled setting and provide opportunities for guests to expand those sentiments into actions that benefit species level conservation efforts.

While zoos may not contend with the same challenges as wildlife management agencies in sharing the names of the carnivores that they care for, the same rationale has historically been used across both fields for not naming (or sharing the names of) animals. The ability to recognize individual animals in a population is important for behavioral research and management purposes.[119] However, those working with animals have traditionally been cautioned against naming them out of concerns of anthropomorphism and that naming animals makes it easier to develop a relationship and narrative around them that may impact "objective" science.[120] The positive power of story and narrative – informed by an ability to recognize individuals within the narrative – should not be underestimated with regards to influencing conservation attitudes, actions, and policies.[121] Through sharing the names of animals in human care, zoos can help their guests connect with individual animals in a controlled setting and provide opportunities for guests to expand those sentiments into actions that benefit species level conservation efforts. Outside of a zoo setting, conservationists should carefully consider the costs and benefits of sharing the name and/or story of individual study animals in their efforts to conserve the species at hand.

Create opportunities for visitors to accurately take the perspective of a wild carnivore

Perspective taking is a particularly valuable effective empathy practice because it requires someone to truly exercise the cognitive and/or affective components of empathy. Accurate perspective taking moves someone beyond their own experiences and requires them to consider alternative viewpoints, existences, and ways of experiencing the world. Getting people to accurately take the perspective of animals is difficult, but not impossible. By creating experiences that allow guests to take the perspective of an animal, zoos can educate their visitors about conservation in ways that are both engaging and informative.

An example of an informative and engaging educational program that utilized perspective taking and increased participants' attitudes towards carnivores was a participatory education program called Sharing Space: Living with Coyotes.[122] This program took place in a community outside a Canadian national park. The information

in the program targeted participants' attitudes towards, fear of, likelihood of, and control over encountering coyotes. Participants were able to take the perspective of wild coyotes in a portion of the program called "Be a coyote," in which participants were given GPS datapoints of collared coyotes living in the nearby national park. After learning about the behavior and natural history of coyotes, program facilitators prompted participants to use the data points of each coyote to create a story about what they might be doing and why. In doing this activity, participants were required to combine their newfound knowledge of coyotes, the movement data of real individual animals, and their understanding of the area to create a narrative that explains the GPS points. Through this, they had to consider what it may be like as a coyote to live in and navigate the landscape they share to create an accurate story. The authors found that following the program, participants had more favorable attitudes towards coyotes, less fear towards coyotes, and reduced perceptions of the likelihood they will have an aggressive interaction with a coyote than they did before the program. Participants also had an increased sense of control over human-coyote interactions as a result of attending the program. Sharing Space: Living with Coyotes demonstrates the power a participatory educational program that utilizes perspective taking can have on shifting attitudes and perceptions towards carnivores. In an effort to foster empathy for carnivores, zoos should consider how they can encourage guests to accurately take an animal's perspective to advance understanding of how animals move through and between natural or human-modified spaces.

Be transparent that living alongside carnivore populations entails degrees of conflict

Conversations and perceptions about coexisting with carnivores are often framed as existing on a continuum from conflict to coexistence.[123] At the coexistence end of that continuum, it is often assumed that there is no conflict between humans and wildlife. Through this framing, coexistence risks becoming a conservation buzzword despite the word offering an opportunity for a new way of living in, or with, the world and an alternative conservation ethos.[124] In the United States, the traditional way of achieving coexistence with nature was through conflict mitigation. This was achieved through lethal removals of wildlife, or through the creation of protected areas, until levels of human-wildlife conflict reached near zero.[125] It's no wonder then that when

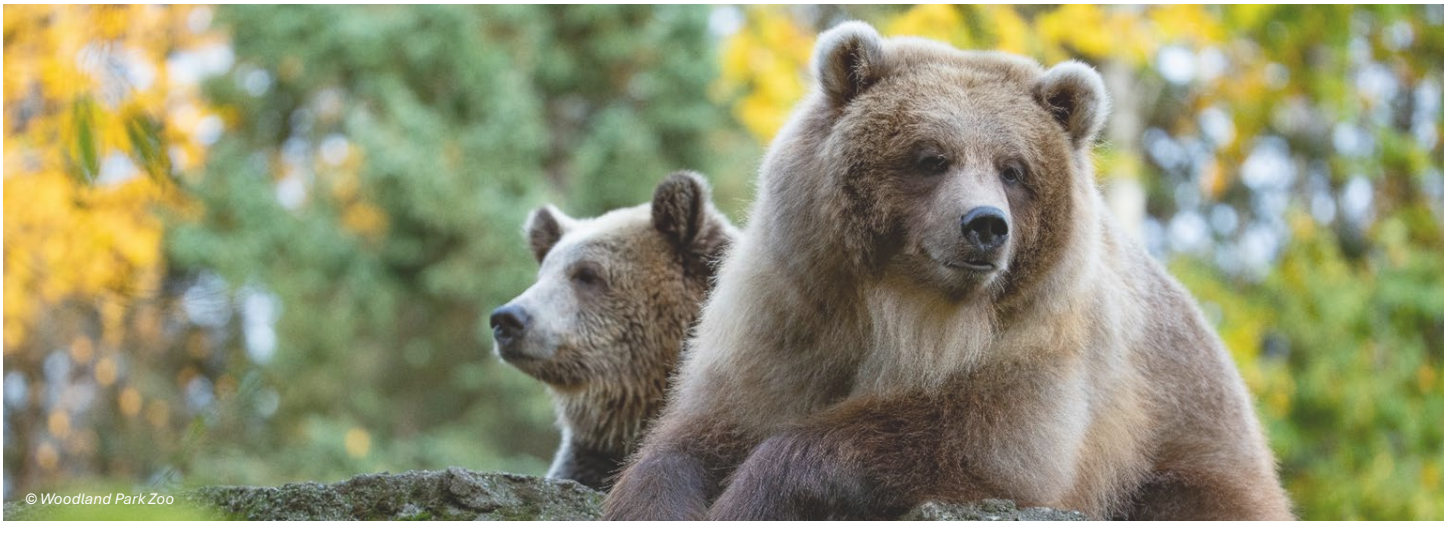
conflict occurs today, whether in a rural or urban setting, there are often calls or actions for lethal removal or relocation of the animal, [126] as these actions are in line with historical cultural precedents for wildlife coexistence.

Coexistence is co-adaptation, a process through which "humans and carnivores are able to change their behavior, learn from experience, and pursue their own interests with respect to each other." [127] This entails a recognition of not only human choice and agency, but our responsibility in creating environments that facilitate positive learning and choice for our animal neighbors. We are not the only ones that must change our behavior in a landscape to achieve coexistence, animals must as well. Depending on the species, much like human processes of learning, animal learning can occur socially or culturally. [128] In the planning of our environments and living spaces, we can create opportunities that facilitate animal learning in ways that will reduce conflict and contribute to shared survival. Just like any learning process, mistakes will be made, and conflict will inevitably occur.

…the use of effective empathy practices suggests that the user acknowledges or understands that animals have the cognitive abilities necessary to navigate environments in ways that suit their best interests.

As educators and conservationists, zoo staff are well positioned to help shift predominant public expectations of entirely conflict-free wildlife coexistence. By using established effective empathy practices, [129] zoo staff are already recognizing animals as "sentient negotiators of space" [130] with choice, agency, and unique personalities. Because of this recognition, the use of effective empathy practices suggests that the user acknowledges or understands that animals have the cognitive abilities necessary to navigate environments in ways that suit their best interests. [131] For example, if human food is readily available near where a bear is living, they will continue to come back. If, however, food is no longer available, it is in their best interests to look elsewhere away from human dwellings.

Thus, in coupling the effective empathy practices with knowledge of animal behavior, zoo staff can foster empathy for wildlife by highlighting the ways that humans and animals live on a landscape and can learn to share it together. This shifts the present sentiment from humans and animals being at odds with each other on a landscape to being communities learning to live alongside each other. [132] Through this process, zoo staff can help break down perceptions of the human-nature dichotomy and human dominion over nature.



Conclusion

Globally, the interactions between humans and wildlife pose conservation challenges.[133] While many human interactions with carnivores are neutral, the negative interactions and, more importantly, the perceptions of negative interactions can have long-term ramifications on carnivore conservation efforts.[134] To contribute to a question of interest within the ACE for Wildlife Network – *what is the role of fostering empathy for wildlife when addressing complex environmental issues (e.g., climate change, human-wildlife conflict) with zoo and aquarium audiences?* – this guide focused on three ways the role of carnivores in cultural narratives and stories have evolved over time, shaping the North American conservation landscape, and how they impact modern carnivore conservation and coexistence efforts. Examining carnivores as "Others," a Challenge to Human Dominion over Nature, and the Erasure of Ways of Life, illustrates some of the complex human dimensions of carnivore conservation. These narratives demonstrate that in North America, carnivores have represented barriers to the colonization of the continent, challenged historical understandings of control over the natural world, and can represent threats to quintessential pieces of American identity.

Through a deeper understanding of those complexities, practitioners can be better equipped to navigate the nuances of tense conversations and interactions regarding carnivore conservation or coexistence efforts. Understanding these complexities allows practitioners to not only approach tense conversations with empathy for those who may disagree with various aspects of carnivore conservation efforts, but also to discern which methods may be more effective at fostering empathy for wildlife for conservation change.

Through identifying and highlighting shared fundamental values between organizations and community, opting for benefit-focused messaging, referring to animals as unique individuals, providing opportunities for accurate perspective taking, and being transparent that living alongside any type of wildlife entails degrees of conflict, zoo practitioners can not only promote relevant conservation actions and messages in an ever-evolving social and cultural conservation landscape, but do so through an empathetic approach. After all, the conservation messages, actions, and initiatives championed by a zoo do not exist in a vacuum. Their success is impacted by the societal, moral, and cultural systems that influence the perspectives people bring with them into zoo gates and the likelihood that conservation actions are taken outside of them. In understanding the historical precedents for current carnivore conservation management and public sentiments, zoo practitioners can use empathy as a bridge to meet guests or community members where they are at and advance the collective conservation mission of zoos and aquariums nationwide.

Appendix A Key Terms

Attitudes: Favorable or unfavorable dispositions towards something. See Navigating Environmental Attitudes by Thomas Heberlein for more.

Beliefs: A cognitive component of attitudes. Beliefs do not need to be empirically true to be a significant contributor to an attitude. See the book Navigating Environmental Attitudes by Thomas Heberlein for more.

Coexistence: Coexistence with regards to carnivores is a "dynamic but sustainable state in which humans and large carnivores co-adapt to living in shared landscapes where human interactions with carnivores are governed by effective institutions that ensure long-term carnivore population persistence, social legitimacy, and tolerable levels of risk" (Carter & Linnell, 2016 page 575).

Domination value system: With regards to wildlife, "cultivates beliefs of human superiority and control over their social and environmental surroundings and that humans have a destiny and right to subjugate others, including wildlife, to benefit themselves" (Dietsch et al., 2019 page 23).

Empathy: As defined by Young et al. in their 2018 paper, the ACE for Wildlife Network recognizes empathy as a "stimulated emotional state that relies on the ability to understand, and care about the experiences or perspectives of another person or animal."

Mutualistic value system: With regards to wildlife, this value system has roots in egalitarianism and within it, wildlife is seen as having human-like qualities, deserving of rights and trusting relationships with humans, and is worthy of care and compassion. See Manfredo et al., 2009 and Dietsch et al., 2019 for more.

Value system: A set of established values, norms, or goals that exist in a society and guide decision making. See Merriam Webster for more.

References

Akerman, S. (2019). Best practices for building empathy through live animal encounters. *Journal of Museum Education*, *44*(1), 89–95. https://doi.org/10.1080/10598650.2018.1496388

Alderson, R. (2015, June 9). *The language of fantasy: The enduring appeal of americana*. It's nice that. https://www.itsnicethat.com/features/the-language-of-fantasy-the-enduring-appeal-of-americana

Anderson, R. M., Charnley, S., Epstein, K., Gaynor, K. M., Martin, J. V., & McInturff, A. (2023). The socioecology of fear: A critical geographical consideration of human-wolf-livestock conflict. *Canadian Geographies / Géographies Canadiennes*, *67*(1), 17–34. https://doi.org/10.1111/cag.12808

Ardoin, N.M, Bowers, A.W., Burnet, M.M., & Sherman, W. (2025a). Building empathy for wildlife in zoos and aquariums: What we know about inspiring conservation action and caring. The Social Ecology Lab at Stanford University and Woodland Park Zoo.

Ardoin, N. M., Bowers, A. W., Burnet, M. M., & Sherman, W. (2025b). Comparing empathy for wildlife across the animal kingdom. The Social Ecology Lab at Stanford University and Woodland Park Zoo.

Arbieu, U., Chapron, G., Astaras, C., Bunnefeld, N., Harkins, S., Iliopoulos, Y., Mehring, M., Reinhardt, I., & Mueller, T. (2021). News selection and framing: The media as a stakeholder in human–carnivore coexistence. *Environmental Research Letters*, *16*(6), 064075. https://doi.org/10.1088/1748-9326/ac05ef

Arnold, B. (2024, April 12). *Death threats inundate Sublette County residents, officials as Wolf Abuse Investigation proceeds*. Jackson Hole News & Guide. https://www.jhnewsandguide.com/news/environmental/local/death-threats-roll-in-as-wolf-abuse-investigation-proceeds/article_7efd56c0-f838-11ee-8864-9b143ce44301.html

Association of Zoos and Aquariums. (n.d.). *Zoo and aquarium statistics*. AZA. https://www.aza.org/zoo-and-aquarium-statistics

A very beary police blotter: Grizzly 399 edition. Jackson Hole News & Guide. (2024, December 12). https://www.jhnewsandguide.com/news/cops_courts/a-very-beary-police-blotter-grizzly-399-edition/article_eac0fa3e-b358-11ef-880b-8fcdd68dc255.html

Ballantyne, R., Hughes, K., Packer, J., & Lee, J. (2023). Does values-based interpretation make a difference? testing impacts on visitors' environmental learning and reported adoption of environmentally responsible behaviors. *Visitor Studies*, *26*(2), 181–201. https://doi.org/10.1080/10645578.2023.2218791

Baruch-Mordo, S., Breck, S. W., Wilson, K. R., & Broderick, J. (2011). The carrot or the stick? Evaluation of education and enforcement as management tools for human-wildlife conflicts. *PLoS ONE*, *6*(1), e15681. https://doi.org/10.1371/journal.pone.0015681

Beggen, K., & York, R. (2025). Colonizing canis lupus: Wolf management as a settler colonial project. *Rural Sociology*. https://doi.org/10.1111/ruso.70009

Berry, E. (2023). *Wolfish: Wolf, self, and the stories we tell about fear*. Flatiron Books.

Berry, E. (2019, April 5). *Why do we fear wolves?* Literary Hub. https://lithub.com/why-do-we-fear-wolves/

Birdsong, M. H., Metcalf, A. L., Metcalf, E. C., Nesbitt, H. K., & Gude, J. A. (2024). The influence of social identity on attitudes toward wildlife. *Conservation Biology*, *38*(4), e14243. https://doi.org/10.1111/cobi.14243

Bombieri, G., Nanni, V., Delgado, M. D. M., Fedriani, J. M., López-Bao, J. V., Pedrini, P., & Penteriani, V. (2018). Content analysis of media reports on predator attacks on humans: Toward an understanding of human risk perception and predator acceptance. BioScience, 68(8), 577–584. https://doi.org/10.1093/biosci/biy072

Boonman-Berson, S., Turnhout, E., & Carolan, M. (2016). Common sensing: Human-black bear cohabitation practices in Colorado. *Geoforum*, *74*, 192–201. https://doi.org/10.1016/j.geoforum.2016.06.010

Borkfelt, S. (2011). What's in a name?—Consequences of naming non-human animals. *Animals*, *1*(1), 116–125. https://doi.org/10.3390/ani1010116

Brett, L. M. (1915) Report of the acting Superintendent of the Yellowstone National Park to the Secretary of the Interior, 1915. Montana History Portal. https://www.mtmemory.org/nodes/view/104754

Brown, J. (n.d.). The French werewolf panic: A lesson in mass hysteria. *History Defined*. April 25, 2025, https://www.historydefined.net/the-french-werewolf-panic/

Bruskotter, J. T., & Wilson, R. S. (2014). Determining where the wild things will be: Using psychological theory to find tolerance for large carnivores. *Conservation Letters*, *7*(3), 158–165. https://doi.org/10.1111/conl.12072

Can, Ö. E. (2025). *The things they don't tell you about human-wildlife conflicts. Transdisciplinary human-wildlife conflict & resolution*. Lecture from a course taken through The Center for Wildlife Studies https://www.centerforwildlifestudies.org/.

Carter, N. H., & Linnell, J. D. C. (2016). Co-adaptation is key to coexisting with large carnivores. *Trends in Ecology & Evolution*, *31*(8), 575–578. https://doi.org/10.1016/j.tree.2016.05.006

Cassidy, B. (2024, October 30). *Grizzlies are coming back to Washington State, and some people can't bear it.* Scientific American. https://www.scientificamerican.com/article/grizzly-bears-will-finally-return-to-washington-state-humans-arent-sure-how/

Central Park Horror - Wolf pack's prey. (1989, April 21). *Daily News*. Retrieved from https://www.newspapers.com/article/daily-news-wolf-packs-prey/47430299/?locale=en-US.

Cohen, A. (2018, July 3). *What Americana means (and doesn't) in 2018: From Childish Gambino to "Roseanne."* How music & pop culture are reclaiming Americana 2018. https://www.refinery29.com/en-us/2018/07/203439/americana-music-celebrities-national-identity-trump

Coleman, Jon. (2006). Vicious: Wolves and Men in America. The Western Historical Quarterly. 37. 10.2307/25443338.

Coman, I. A., Cooper-Norris, C. E., Longing, S., & Perry, G. (2022). It is a wild world in the city: Urban wildlife conservation and communication in the age of COVID-19. *Diversity*, *14*(7), 539. https://doi.org/10.3390/d14070539

Corbin, B. [from old catalog (with The Library of Congress). (1900). *Corbin's advice; or, The wolf hunter's guide; tells how to catch 'em and all about the science of wolf hunting*. Bismarck, N.D., The Tribune co. http://archive.org/details/corbinsadviceorw00corb

Dahl, J. (2018, October 10). *We were the wolf pack: How New York City tabloid media misjudged the Central Park jogger case*. Poynter. https://www.poynter.org/newsletters/2011/we-were-the-wolf-pack-how-new-york-city-tabloid-media-mangled-the-central-park-jogger-case/

Davis, E. (2021, January 4). *Study: Americans moved west, south in 2020*. U.S. News & World Report. https://www.usnews.com/news/best-states/articles/2021-01-04/americans-moved-west-and-south-in-2020-amid-coronavirus-pandemic-study-finds

Davis, J.C., Cromartie, J., Farrigan, T., Genetin, B., Sanders, A., & Winikoff, J.B. (2023). *Rural America at a glance: 2023 edition* (Report No. EIB-261). U.S. Department of Agriculture, Economic Research Service. https://doi.org/10.32747/2023.8134362.ers

Dickie, G. (2023). *Eight bears: Mythic past and endangered future*. W.W. Norton & Company.

Dietsch, A., Manfredo, M., Sullivan, L., Bruskotter, J., & Teel, T. (2019). A multilevel, systems view of values can inform a move towards human–wildlife coexistence. In *Human–Wildlife Interactions: Turning Conflict into Coexistence* (pp. 20–44). essay, Cambridge University Press.

Dimke, C., Lee, M. C., & Bayham, J. (2021). COVID-19 and the renewed migration to the rural west. *Western Economics Forum*, *19*(1), 89–102.

Ernst, J., Underwood, C., Wojciehowski, M., & Nayquonabe, T. (2024). Empathy capacity-building through a community of practice approach: Exploring perceived impacts and implications. *Journal of Zoological and Botanical Gardens*, *5*(3), 395–415. https://doi.org/10.3390/jzbg5030027

Farrell, J. (2015). *The Battle for Yellowstone: Morality and the sacred roots of environmental conflict*. Princeton University Press.

Fiasco, V., & Massarella, K. (2022). Human-wildlife coexistence: Business as usual conservation or an opportunity for transformative change? *Conservation and Society*, *20*(2), 167. https://doi.org/10.4103/cs.cs_26_21

Foerster, T. A., Mars, M. M., Torres, R. M., & Sias, P. M. (2022). Human-wildlife conflict mitigation and the self-efficacy of wildlife professionals in non-formal education and outreach. *Human Dimensions of Wildlife*, *27*(3), 220–235. https://doi.org/10.1080/10871209.2021.1910881

Frank, B. (2015). Human–wildlife conflicts and the need to include tolerance and coexistence: An introductory comment. *Society & Natural Resources*, *29*(6), 738–743. https://doi.org/10.1080/08941920.2015.1103388

Frank, B., Glikman, J. A. (2019). Human–wildlife conflicts and the need to include coexistence. In *Human-wildlife interactions: Turning conflict into coexistence* (pp. 1–19). essay, Cambridge University Press.

Frost, R. (2023). *Did more people move during the pandemic?* Joint Center for Housing Services of Harvard University. https://www.jchs.harvard.edu/sites/default/files/research/files/harvard_jchs_pandemic_mobility_frost_2023.pdf

Ghosh, A. (2022). *The nutmeg's curse: Parables for a planet in crisis*. Hachette UK Distribution.

Gonzales, J. (2025, March 27). *American dreaming: Rise of traditionalism among Gen Z reflects subconscious desires*. The Arizona State Press. https://www.statepress.com/article/2025/03/rise-of-americana-culture

Grand Teton National Park Foundation. *The legacy of Grizzly 399 and the future of bear conservation.* (2025, August 13). https://www.gtnpf.org/the-legacy-of-grizzly-399-and-the-future-of-bear-conservation/

Greater Yellowstone Coalition (n.d.). *A timeline of the Yellowstone wolf reintroduction*. greateryellowstone.org https://greateryellowstone.org/yellowstone-wolf-reintroduction

Hall, J. (2024, December 11). *Money flowed into the valley because of Grizzly 399. That's not expected to change*. Jackson Hole News & Guide. https://www.jhnewsandguide.com/special/money-flowed-into-the-valley-because-of-grizzly-399-thats-not-expected-to-change/article_3290c8ae-b290-11ef-8545-9f0dc8edaef2.html

Hancock, L. (2003). Wolf pack: the press and the central park jogger case. *Columbia Journalism Review*, (January/February), 38–42.

Hannon, A. (2021, Nov 11). *Technology is reshaping how we interact with wildlife*. The Journal. Retrieved October 18, 2024, from https://www.the-journal.com/articles/technology-is-reshaping-how-we-interact-with-wildlife/

Heberlein, T. A. (2012). *Navigating environmental attitudes*. Oxford University Press.

Houston, M. J., Bruskotter, J. T., & Fan, D. (2010). Attitudes toward wolves in the United States and Canada: A content analysis of the print news media, 1999–2008. Human Dimensions of Wildlife, 15(5), 389–403. doi:10.1080/10871209.2010.507563

Hughes, C., Foote, L., Yarmey, N. T., Hwang, C., Thorlakson, J., & Nielsen, S. (2020). From human invaders to problem bears: A media content analysis of grizzly bear conservation. *Conservation Science and Practice*, *2*(4). https://doi.org/10.1111/csp2.176

Hunold, C., & Mazuchowski, M. (2020). Human–wildlife coexistence in urban wildlife management: Insights from nonlethal predator management and rodenticide bans. *Animals*, *10*(11), 1983. https://doi.org/10.3390/ani10111983

Johansson, M., Flykt, A., Frank, J., & Støen, O.-G. (2019). Controlled exposure reduces fear of brown bears. *Human Dimensions of Wildlife*, *24*(4), 363–379. https://doi.org/10.1080/10871209.2019.1616238

Kansky, R., & Kidd, M. (2024). Putting yourself in an animal's shoes—Empathy and intangible benefits drive tolerance towards wildlife in Namibian communal conservancies. *Biological Conservation*, *293*, 110588. https://doi.org/10.1016/j.biocon.2024.110588

Kansky, R., & Knight, A. T. (2014). Key factors driving attitudes towards large mammals in conflict with humans. *Biological Conservation*, *179*, 93–105. https://doi.org/10.1016/j.biocon.2014.09.008

Kareiva, P., Attwood, S. K., Bean, K., Felix, D., Marvier, M., Miketa, M. L., & Tate-Pulliam, E. (2022). A new era of wolf management demands better data and a more inclusive process. *Conservation Science and Practice*, *4*(11), e12821. https://doi.org/10.1111/csp2.12821

Kohls, L. R. (1984). *The values Americans live by*. Meridian House International.

Kurth, K. A., Malpeli, K. C., Clark, J. D., Johnson, H. E., & Van Manen, F. T. (2024). A systematic review of the effects of climate variability and change on black and brown bear ecology and interactions with humans. *Biological Conservation*, *291*, 110500. https://doi.org/10.1016/j.biocon.2024.110500

Lamb, G. (2023, January 7). *The "mythical wolf" and the politics of wolf conservation in the U.S.* Medium. https://medium.com/thewildones/the-mythical-wolf-and-the-politics-of-wolf-conservation-in-the-u-s-472b904a4915

Larkin, A. (2022). Media coverage of the 1989 Central Park jogger case. *Communications Undergraduate Journal Dublin City University*, 1, 3–7. https://doi.org/https://cujournal.ie/article/id/10/

Linnell, J. Kovtun, E., & Rouart, I., (2021). *Wolf attacks on humans: An update for 2002–2020*.

Linnell, J. D. C., & Alleau, J. (2016). Predators that kill humans: Myth, reality, context and the politics of wolf attacks on people. In F. M. Angelici (Ed.), *Problematic Wildlife* (pp. 357–371). Springer International Publishing. https://doi.org/10.1007/978-3-319-22246-2_17

Linnell, J. D. C., Andersen, R., Andersone, Z., Balciauskas, L., Blanco, J. C., Boitani, L., Brainerd, S., Beitenmoser, U., Kojola, I., Liberg, O., Løe, J., Okarma, H., Pedersen, H. C., Promberger, C., Sand, H., Solberg, E. J., Valdmann, H., & Wabakken, P. (2002). *The fear of wolves: A review of wolf attacks on humans*. Stiftelsen for Naturforskning og Kulturminneforskning.

Lischka, S. A., Teel, T. L., Johnson, H. E., Larson, C., Breck, S., & Crooks, K. (2020). Psychological drivers of risk-reducing behaviors to limit human–wildlife conflict. *Conservation Biology*, *34*(6), 1383–1392. https://doi.org/10.1111/cobi.13626

Lukas, M. (2018). *The Rhetoric of Wolves* (thesis).

Luna, J. K. (2023). Why are there African huts at the zoo? The racialized spectacle of conservation. *Environmental Sociology*, *9*(4), 427–444. https://doi.org/10.1080/23251042.2023.2218950

Manfredo, M. J., Berl, R. E., Teel, T. L., & Bruskotter, J. T. (2021). Bringing social values to wildlife conservation decisions. *Frontiers in Ecology and the Environment*, *19*(6), Article 6. https://doi.org/10.1002/fee.2356

Manfredo, M. J., Bruskotter, J. T., Teel, T. L., Fulton, D., Schwartz, S. H., Arlinghaus, R., Oishi, S., Uskul, A. K., Redford, K., Kitayama, S., & Sullivan, L. (2017). Why social values cannot be changed for the sake of conservation. *Conservation Biology*, *31*(4), 772–780. https://doi.org/10.1111/cobi.12855

Manfredo, M. J., Teel, T. L., & Henry, K. L. (2009). Linking society and environment: A multilevel model of shifting wildlife value orientations in the western United States. *Social Science Quarterly*, *90*(2), 407–427. https://doi.org/10.1111/j.1540-6237.2009.00624.x

Manfredo, M. J., Urquiza-Haas, E. G., Don Carlos, A. W., Bruskotter, J. T., & Dietsch, A. M. (2020). How anthropomorphism is changing the social context of modern wildlife conservation. *Biological Conservation*, *241*, 108297. https://doi.org/10.1016/j.biocon.2019.108297

Marchini, S., Ferraz, K. M. P. M. B., Foster, V., Reginato, T., Kotz, A., Barros, Y., Zimmermann, A., & Macdonald, D. W. (2021). Planning for human-wildlife coexistence: Conceptual framework, workshop process, and a model for transdisciplinary collaboration. *Frontiers in Conservation Science*, *2*, 752953. https://doi.org/10.3389/fcosc.2021.752953

Martell, J. E. M., & Rodewald, A. D. (2024). Wildlife values can inform strategic conservation communication efforts. *Human Dimensions of Wildlife*, 1–19. https://doi.org/10.1080/10871209.2024.2346100

Minarchek, M. J., Skibins, J. C., & Luebke, J. F. (2021). The impact of interpretive messaging and animal handling on visitors' perceptions of animal welfare and empathic reactions. *Journal of Interpretation Research*, *26*(1), 24–42. https://doi.org/10.1177/10925872211042936

Murphy, J. "Sunny." (2022, June). *The "decolonization" of conservation*. *YouTube*. Retrieved June 16, 2022, from https://www.youtube.com/watch?v=IRwHsoX3cYY.

Niemiec, R. M., Sekar, S., Gonzalez, M., & Mertens, A. (2020). The influence of message framing on public beliefs and behaviors related to species reintroduction. *Biological Conservation*, *248*, 108522. https://doi.org/10.1016/j.biocon.2020.108522

Nyhus, P. J. (2016). Human–wildlife conflict and coexistence. *Annual Review of Environment and Resources*, *41*(1), 143–171. https://doi.org/10.1146/annurev-environ-110615-085634

Outdoor Foundation (2021). 2021 Outdoor participation trends report. https://commerce.mt.gov/_shared/brand/Tourism-Grants/Docs/2021-Outdoor-Participation-Trends-Report.pdf

Packer, J., Ballantyne, R., Hughes, K., Sneddon, J., & Lee, J. (2022). Differences between Zoo/Aquarium staff and visitors' values, beliefs, and pro-environmental behaviors: Consequences for environmental communication. *Visitor Studies*, *25*(1), 85–103. https://doi.org/10.1080/10645578.2022.2032927

Petersen, J. K., Winkler, R. L., & Mockrin, M. H. (2024). Changes to rural migration in the COVID-19 pandemic. *Rural Sociology*, *89*(1), 130–155. https://doi.org/10.1111/ruso.12530

Peterson, M. N., Birckhead, J. L., Leong, K., Peterson, M. J., & Peterson, T. R. (2010). Rearticulating the myth of human–wildlife conflict. *Conservation Letters*, *3*(2), 74–82. https://doi.org/10.1111/j.1755-263X.2010.00099.x

Pooley, S., Bhatia, S., & Vasava, A. (2021). Rethinking the study of human–wildlife coexistence. *Conservation Biology*, *35*(3), 784–793. https://doi.org/10.1111/cobi.13653

Powell, D. M., Meyer, T. G., Dorsey, C., & Vernon, R. (2024). What types of animals should be in the future zoo? Thoughts from United States residents and zoo and aquarium staff. *Journal of Zoological and Botanical Gardens*, *5*(2), 157–178. https://doi.org/10.3390/jzbg5020011

Rank, S., Nageotte, N. L., Pletcher, N., & Jackson, M. (2023). Educating the public about illegal wildlife trade: Commonalities in investigating messages for visitors. *Journal of Museum Education*, *48*(3), 315–328. https://doi.org/10.1080/10598650.2023.2166732

Rice, N. (2011, November 23). *The forgotten North Cascades grizzly bear*. High Country News. https://www.hcn.org/issues/43-19/the-forgotten-north-cascades-grizzly-bear/#:~:text=Fisher%20Creek%20Basin%20in%20North,deep%20in%20the%20Pasayten%20Wilderness.

Richards, J. C., Miller, Z. D., Norvell, R., & Smith, J. W. (2024). Integrating moral norms and stewardship identity into the theory of planned behavior to understand altruistic conservation behavior among hunters in southwestern Utah (USA). *Human Dimensions of Wildlife*, 1–21. https://doi.org/10.1080/10871209.2023.2299870

Roper, W. (n.d.). *Covid-19 is pushing Americans out of cities and into the country*. World Economic Forum. https://www.weforum.org/stories/2021/01/rural-life-cities-countryside-covid-coronavirus-united-states-us-usa-america/

Samuels, I. (2021, April 26). *Rapid population growth gives Montana 2nd US house seat*. AP News. https://apnews.com/article/montana-census-2020-747de9091fc5108e47dd5b97e06642a6

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, 1–65. https://doi.org/10.1016/s0065-2601(08)60281-6

Seattle Aquarium (2019). Best practices in developing empathy toward wildlife.

Skogen, K., & Krange, O. (2003). A wolf at the gate: The anti-carnivore alliance and the symbolic construction of community. *Sociologia Ruralis*, *43*(3), 309–325. https://doi.org/10.1111/1467-9523.00247

Slagle, K., Bruskotter, J. (2019). Tolerance for wildlife: A psychological perspective. In *Human-Wildlife Interactions: Turning Conflict into Coexistence* (pp. 85–106). essay, Cambridge University Press.

Smith, P., Mann, J., & Marsh, A. (2024). Empathy for wildlife: The importance of the individual. *Ambio*, *53*(9), 1269–1280. https://doi.org/10.1007/s13280-024-02017-4

Spagnuolo, O. S., Lemerle, M. A., Holekamp, K. E., & Wiesel, I. (2022). The value of individual identification in studies of free-living hyenas and aardwolves. *Mammalian Biology*, *102*(4), 1089–1112. https://doi.org/10.1007/s42991-022-00309-4

Spence, M. D. (2000). *Dispossessing the Wilderness: Indian Removal and the Making of the National Parks*. Oxford University Press.

Sponarski, C. C., Vaske, J. J., Bath, A. J., & Loeffler, T. (2016). Changing attitudes and emotions toward coyotes with experiential education. *The Journal of Environmental Education*, *47*(4), 296–306. https://doi.org/10.1080/00958964.2016.1158142

Stanton, L. A., Wilkinson, C. E., Angeloni, L., Benson-Amram, S., Schell, C. J., & Young, J. K. (2023). Animal behavior, cognition, and human–wildlife Interactions in urban areas. *Urban Biodiversity and Equity*, 177–202. https://doi.org/10.1093/oso/9780198877271.003.0011

Straka, T. M., Miller, K. K., & Jacobs, M. H. (2020). Understanding the acceptability of wolf management actions: Roles of cognition and emotion. *Human Dimensions of Wildlife*, *25*(1), 33–46. https://doi.org/10.1080/10871209.2019.1680774

Sutherland, C. (2024, December 12). *Grizzly 399 inspired policy change, yet work remains*. Jackson Hole News & Guide. https://www.jhnewsandguide.com/special/grizzly-399-inspired-policy-change-yet-work-remains/article_dad76c2c-b2a7-11ef-b3a8-fb0f2f7c911b.html

U.S. Department of the Interior. (n.d.). *History of wolf management*. National Parks Service. https://www.nps.gov/yell/learn/historyculture/wolf-management.htm

U.S. Department of the Interior. (2022, December 13). *Overcrowding in parks*. https://www.doi.gov/ocl/overcrowding-parks

U.S. Fish & Wildlife Service. (n.d.). *Grizzly Bear (Ursus arctos horribilis)*. FWS.gov. https://www.fws.gov/species/grizzly-bear-ursus-arctos-horribilis

Volski, L., McInturff, A., Gaynor, K. M., Yovovich, V., & Brashares, J. S. (2021). Social effectiveness and human-wildlife conflict: Linking the ecological effectiveness and social acceptability of livestock protection tools. *Frontiers in Conservation Science*, *2*, 682210. https://doi.org/10.3389/fcosc.2021.682210

WDFW deputy director approves lethal removal in Sherman Wolf Pack Territory. Washington Department of Fish & Wildlife. (2025, October 9). https://wdfw.wa.gov/species-habitats/at-risk/species-recovery/gray-wolf/updates/wdfw-deputy-director-approves-lethal-removal-sherman-wolf-pack-territory

Wilkinson, C. E. (2023). Public interest in individual study animals can bolster wildlife conservation. *Nature Ecology & Evolution*, *7*(4), 478–479. https://doi.org/10.1038/s41559-023-02009-9

Wilson, J. (2015, March 17). *Wolves in eastern Oregon are returning home – and it's started a culture war*. The Guardian. https://www.theguardian.com/travel/2015/mar/17/wolves-eastern-oregon-return-home

Wynne, C. D. (2006). What are animals? Why anthropomorphism is still not a scientific approach to behavior. *Comparative Cognition & Behavior Reviews*, *2*. https://doi.org/10.3819/ccbr.2008.20008

Whyte, K. (2018). Settler colonialism, ecology, and environmental injustice. *Environment and Society*, *9*(1), 125–144. https://doi.org/10.3167/ares.2018.090109

Young, A., Khalil, K. A., & Wharton, J. (2018). Empathy for animals: A review of the existing literature. *Curator: The Museum Journal*, *61*(2), 327–343. https://doi.org/10.1111/cura.12257

Young, J. K., Ma, Z., Laudati, A., & Berger, J. (2015). Human–carnivore interactions: Lessons learned from communities in the American west. *Human Dimensions of Wildlife*, *20*(4), 349–366. https://doi.org/10.1080/10871209.2015.1016388

Endnotes

[1] Bombieri et al., 2018; Stanton et al., 2023
[2] Powell et al., 2023
[3] Anderson et al., 2023; Bruskotter & Wilson, 2014; Kareiva et al., 2022
[4] Ardoin et al., 2025a
[5] Nyhus, 2016
[6] Bruskotter & Wilson, 2014; Foerster et al., 2022; Frank & Glikman, 2019; Hannon, 2021; Kareiva et al., 2022; Lischka et al., 2020
[7] Bombieri et al., 2018; Stanton et al., 2023
[8] Anderson et al., 2023; Boonman-Berson et al., 2016; Hunold & Mazuchowski, 2020; Kurth et al., 2024; Lischka et al., 2020
[9] Arnold, 2024
[10] Arbieu et al., 2021; Bombieri et al., 2018; Dickie, 2023; Niemiec et al., 2020; Powell et al., 2024
[11] Packer et al., 2022
[12] Ballantyne et al., 2023; Birdsong et al., 2024; Dietsch et al., 2019
[13] Rank et al., 2023
[14] Luna, 2023
[15] Association of Zoos and Aquariums
[16] Dietsch et al., 2019; Farrell, 2015; Heberlein, 2012; Rank et al., 2023; Straka et al., 2020
[17] Powell et al., 2024
[18] Anderson et al., 2023; Bruskotter & Wilson, 2014; Kareiva et al., 2022
[19] Ghosh, 2022; Luna, 2023
[20] Ghosh, 2022
[21] Berry, 2023; Dickie, 2023
[22] Dickie, 2023, page 6
[23] Berry, 2019; Brown, n.d.; Linnell et al., 2002
[24] Berry, 2019; Berry, 2023
[25] Berry, 2023; Coleman, 2006; Farrell, 2015; Linnell et al., 2002
[26] Beggen & York, 2025
[27] Spence, 2000
[28] Beggen & York, 2025; Ghosh, 2022; Luna, 2023
[29] Corrigan, 2020
[30] Berry, 2019; Berry, 2023; Central Park horror – wolf pack's prey
[31] Dahl, 2018; Hancock, 2003
[32] Dahl, 2018; Larkin, 2022
[33] Anderson et al., 2023; Skogen & Krange, 2003; Young et al., 2015
[34] Alderson, 2015; Cohen, 2018; Gonzales, 2025
[35] Farrell, 2015
[36] Kohls, 1984; Linnell & Alleau, 2016
[37] Farrell, 2015; Lukas, 2018
[38] Lukas, 2018, page 95
[39] Quinonez, 2018
[40] Farrell, 2015; Lukas, 2018
[41] Wilson, 2015
[42] Farrell, 2015; Lukas, 2018
[43] Berry, 2023; Farrell, 2015; Heberlein, 2012; Young et al., 2015
[44] Farrell, 2015
[45] Linnell & Alleau, 2016
[46] Farrell, 2015; Frank & Glikman, 2019; Kareiva et al., 2022; Young et al., 2015
[47] Skogen et al., 2013; Young et al., 2015
[48] Niemiec et al., 2020; Young et al., 2015
[49] Beggen & York, 2025; Ghosh, 2022; Luna, 2023
[50] Dietsch et al., 2019, page 23. A value system is a set of established values, norms, or goals that exist in a society and guide decision making. See Merriam Webster for a full definition or resources that informed this document such as Navigating Environmental Attitudes by Thomas Heberlein and papers authored by Dr. Michael Manfredo cited in this report.
[51] Whyte, 2018
[52] Linnell & Alleau, 2016; Lukas, 2018; Murphy, 2022; Karieva et al., 2022
[53] Anderson et al., 2023, page 4
[54] Dietsch et al., 2019
[55] Greater Yellowstone Coalition, n.d.
[56] Brett, 1915
[57] U.S. Department of Interior, History of Wolf Management, n.d.
[58] Rice, 2011
[59] U.S. Fish and Wildlife Service, Grizzly bear, n.d.
[60] Kareiva et al., 2022
[61] Kareiva et al., 2022; Linnell et al., 2021
[62] Anderson et al., 2023; Cassidy, 2024; Farrell, 2015; Young et al., 2015
[63] Anderson et al., 2023
[64] Anderson et al., 2023; Foerster et al., 2022; Kurth et al., 2024; Lischka et al., 2020; Pooley et al., 2021

[65] Frank & Glikman, 2019; Kurth et al., 2024; Lischka et al., 2020
[66] Manfredo et al., 2017; Niemiec et al., 2020
[67] Dietsch et al., 2019
[68] Straka et al., 2020
[69] Manfredo et al., 2020
[70] Farrell, 2015, page 67
[71] Ibid.
[72] Can, 2025; Farrell, 2015
[73] Heberlein, 2012
[74] Manfredo et al., 2009; Dietsch et al., 2019
[75] Dietsch et al., 2019; Manfredo et al., 2009; Martell & Rodewald, 2024; Straka et al., 2020
[76] Dimke, 2021; Petersen et al., 2024; Roper, n.d.
[77] Davis et al., 2023
[78] Davis et al., 2021
[79] Frost, 2023
[80] Davis et al., 2023
[81] Samuels, 2021
[82] Outdoor Foundation, 2021
[83] U.S. Department of Interior, 2022
[84] Farrell, 2015
[85] Anderson et al., 2023; Manfredo et al., 2017; Volski et al., 2021; Young et al., 2015
[86] Heberlein, 2012
[87] Schwartz, 1992
[88] Packer et al., 2022
[89] Ballantyne et al., 2023; Birdsong et al., 2024; Dietsch et al., 2019
[90] Niemiec et al., 2020
[91] Bruskotter & Wilson, 2014
[92] Birdsong et al., 2024
[93] Slagle & Bruskotter, 2019; Volski et al., 2021
[94] Slagle & Bruskotter, 2019
[95] Manfredo et al., 2021, see graphics on page 358
[96] Birdsong et al., 2024; Richards et al., 2024
[97] Coman et al., 2022
[98] Hughes et al., 2020
[99] Arbieu et al., 2021; Bruskotter & Wilson, 2014
[100] Fiasco & Massarella, 2022; Hughes et al., 2020; Peterson et al., 2010; Pooley et al., 2021
[101] Frank & Glikman, 2019; Peterson et al., 2010
[102] Baruch-Mordo et al., 2011
[103] Pooley et al., 2021
[104] Kansky & Knight, 2014
[105] Bruskotter & Wilson, 2014; Lischka et al., 2020
[106] Ardoin et al., 2025b; Seattle Aquarium, 2019
[107] Anderson et al., 2023; Johansson et al., 2019; Linnell & Alleau, 2016; Linnell et al., 2021
[108] Birdsong et al., 2024; Kansky & Kidd, 2024
[109] Akerman, 2019; Minarchek et al., 2021
[110] Ardoin et al., 2025a; Ernst et al., 2024; Kansky & Kidd, 2024; Smith et al., 2024
[111] Smith et al., 2024
[112] Wilkinson, 2023, page 1
[113] Sutherland, 2024
[114] Grand Teton National Park Foundation, 2025
[115] Boonman-Berson et al., 2016
[116] Ardoin et al., 2025a
[117] Hall, 2024
[118] A very beary police blotter, Grizzly 399 edition, 2024; Sutherland, 2024
[119] Spagnuolo et al., 2022
[120] Borkfelt, 2011; Wynne, 2006
[121] Lamb, 2023; Wilkinson, 2023
[122] Sponarski et al., 2016
[123] Frank, 2015; Frank & Glikman, 2019; Marchini et al., 2021
[124] Fiasco & Massarella, 2022
[125] Fiasco & Massarella, 2022; Volski et al., 2021
[126] Baruch-Mordo et al., 2011; Washington Department of Fish & Wildlife, 2025
[127] Carter & Linnell, 2016, page 577
[128] Pooley et al., 2021
[129] Young et al., 2018
[130] Boonman-Berson et al., 2016, page 193
[131] Burnet et al., 2024
[132] Pooley et al., 2021
[133] Nyhus, 2016
[134] Bombieri et al., 2018; Stanton et al., 2023