

Introduction

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Human-Wildlife Conflict Transformation...Wildlife Health and Conservation in Action

Australia, California, Colorado, Washington D.C. metropolitan area...What do these places have in common? Though each is unique, the challenges – and opportunities – that arise specific to human-wildlife interactions are not. I speak from experience having lived, studied, and worked in each of these places. Though the wildlife may change – from Australian flying foxes (*Pteropus* spp.) to white-tail deer (*Odocoileus virginianus*), coyotes (*Canis latrans*) and black bears (*Ursus americanus*) - the types of concerns reported by people living alongside them remain remarkably consistent: Property damage, general nuisance, animal welfare, concern for public safety or human health... The list goes on. So, what does this observation tell us? We do not exist in isolation from other species. We are a PART of nature, not apart (separate) from nature. We interact within a shared environment, shared space, shared resources. Nature is all around us.

In California, what then is our vision for human-wildlife interactions, conflict mitigation, and coexistence with wildlife? Further, what are our responsibilities? As our perception of human responsibility and response to human-wildlife interactions has evolved, so too has the role of the California Department of Fish and Wildlife (CDFW). The CDFW serves as the lead state agency charged with helping to resolve human-wildlife conflict, public safety, and reported depredation. The CDFW also serves as the state agency contact for wildlife issues in all counties and communities; public education about wildlife conservation and public safety wildlife issues; participating in the development of strategies to monitor, assess, and manage wildlife disease; and responding to wildlife disease outbreaks (SWAP, 2015). People live increasingly in close contact with animals, both wild and domestic, as the human population expands along the wildland-urban interface and increases over time. This reality has led to increased human-wildlife interactions, and the potential for increased spread of endemic and emerging zoonotic diseases such as COVID-19.

On April 1, 2021, the CDFW Wildlife Investigations Laboratory officially became the CDFW Wildlife Health Laboratory (WHL). Using an “One Health” approach, interdisciplinary teams at the WHL, and their partners, investigate the complex interconnection between animals, people, and the environment. The CDFW recognizes the need for coordination and collaboration between diverse subject matter experts, including but not limited to veterinarians, researchers, geneticists, and social scientists. The WHL name change is one of many steps by the CDFW recognizing this approach as an increasingly critical strategy in California to “*achieve the best health outcomes for people, animals, and plants*” (Center for Disease Control and Prevention). Deeper understanding of human-wildlife interactions is central to this important work. Negative human-wildlife interactions can directly affect human and wildlife health and may result in loss of livelihood, reduced wellbeing, or in some instances, loss of life.

Human-wildlife conflict is contextual. One challenge – among many – when addressing this type of conflict is that human perception, attitudes, and tolerance towards wildlife fall along a diverse spectrum and can change over time. With this recognition, we must embrace the concept of biocultural diversity; that cultural and local community knowledge, identities, and traditions are interconnected with our natural resources. We cannot truly mitigate negative human-wildlife interactions without an awareness of the complex cultural, ecological, economic, and social factors that may inform how such interactions may be perceived and addressed.

Human-wildlife conflict has a cost. Negative interactions are often addressed via short-term mitigation measures (e.g., nonlethal deterrents, lethal control), but truly effective solutions require that we also understand and address the underlying causes (e.g., easy access to attractants). The solutions are not always permanent or simple. On a meta-level we must support a robust policy, statutory and regulatory framework that recognizes the interconnection between humans, wildlife, and the environment. California's 30×30 initiative (Executive Order N-82-20) is one such example. On a granular level, we must actively engage and work together with agency partners, local communities, and stakeholders to develop and support resources that encourage safe coexistence. We cannot avoid all undesirable human-wildlife interactions. However, we can create a framework whereby both human and wildlife needs are met.

Safe coexistence is possible. It can yield tangible, measurable benefits (e.g., ecological, economic, social, physical/emotional wellbeing). For those who question coexistence as an option - or solution - it is important to clarify its meaning. Coexistence is a commitment to understanding and valuing our connection with wildlife. What safe coexistence looks like in one community, may look very different in another. Coexistence requires an integrated strategy based on public education, outreach, (human) behavioral change, and proactive mitigation measures. There is power in recognizing human responsibility and our ability to make changes. Proactive measures may include nonlethal (e.g., deterrent devices, permanent exclusion) and lethal methods (e.g., targeted removal of offending animal, ethical hunting), depending on species, conflict type, and other factors. Coexistence is *not* the absence of lethal measures as an option. Practitioners, resource managers, and property owners must have knowledge of, and access to, diverse tools for effective conflict mitigation.

- We must adapt, evolve, and wholly embrace our role in the process.
- We must integrate and value indigenous knowledge, with institutional knowledge.
- We must recognize the barriers to effective mitigation– such as economic, cultural, or other factors that may limit people's options or access.
- We must shape and share messages, that are accessible, and resonate with local communities and the diverse publics about human-wildlife interactions.

Committing to effective, long-term approaches that support safe coexistence is, in effect, a commitment to wildlife conservation and biodiversity resiliency. We are called now to adapt how we recognize and approach the interconnectedness that exists between people, wildlife, and the environment. This Special Issue has never been more salient or timely in advancing the discussion and understanding of human-wildlife interactions. We will explore various interconnected themes across each section: Terrestrial Predator Interactions, Conflicts & Adaptive Management, Coexistence & Conservation, and the Human Dimensions of Wildlife Conservation. We hope you recognize the myriad factors that shape human-wildlife interactions in California, and value the diverse expertise and lived experiences of those contributing to this issue.

Introduction—continued

BETH PRATT, *California Regional Executive Director, National Wildlife Federation*

What We Talk About When We Talk About Coexistence

If a perfect poster-animal for human-wildlife coexistence ever existed, it's P-22, the famous mountain lion living under the Hollywood sign. Often called the 'Brad Pitt of the cougar world'—they are both ruggedly handsome, beloved around the globe, and challenged with their dating lives—P-22 made a miraculous journey and crossed two of the busiest freeways in the country to make a home in Griffith Park, where he has roamed since 2012, coexisting peacefully with the over 10 million visitors a year, and remaining largely unseen as befitting his species nickname, "ghost cat." Occasionally he makes an appearance on the Ring doorbell cam of one of the homes surrounding Griffith Park—the footage from these encounters is widely shared on social media with the same excited and reverent tones a devoted fan would use upon meeting Mr. Pitt.

This plight of this celebrity cat has been featured in *The New Yorker*, *Men's Journal*, *Teen Vogue*, *NPR*, *60 Minutes*, *The Guardian* (with my favorite headline, "Can there be a Hollywood Ending for the 'Brad Pitt' of mountain lions?") and many other news outlets around the globe—he's racked up over a billion media hits worldwide. P-22 has a museum exhibit, a clothing line, and a hip-hop song. The City of Los Angeles declared an official day in his honor, October 22, and over 8,000 people attend the annual P-22 Day Festival. P-22 possesses a Facebook page with over 16,000 followers, and even has a celebrity posse that has posed for a photo with him (well, his likeness in a life-size cardboard cutout) that includes James Cameron, Rainn Wilson, Sean Penn, and Shania Twain. Governor Gavin Newsom even tweeted out a selfie of himself with the cutout, saying: "P-22 will always have my heart."

The only thing he doesn't have is a girlfriend. He's the only cougar in Griffith Park, trapped by those same freeways he crossed. Tears at the heartstrings, right? Fans have even set up fake Tinder accounts for him in the quest for a love match.

I know at this point many reading this article are cringing or shaking their head, decrying anthropomorphism, this departure from science and research, and questioning my heresy.

(A reference in my defense: An article in *The New Yorker* profiling Rachel Carson related how she read Beatrix Potter and *The Wind and The Willows* in her childhood. Those early anthropomorphism-laden books didn't seem to detract from her impact as a biologist.)

In response, first, I am a scientist. Second, I have the receipts. Because of a lonely, dateless mountain lion, the second largest city in the country has shown an unprecedented acceptance to living among native wildlife. And people have donated over \$72 million and counting to build the world's largest wildlife crossing because the public wants to prevent the extinction of the Santa Monica Mountains cougars and continue to live alongside *Puma concolor* in the most densely populated region in the United States.

For all this fun and fame surrounding P-22, and beyond the "Who is Hotter: Brad Pitt or P-22?" contests on his Facebook page, this approach to coexistence is creating a new value system toward wildlife. This is California's cult of celebrity applied to the animal world, and put to good use, for these are reality shows worth watching because they can have significant impacts on conservation.

Author Jon Mooallem made this point full force in his TED talk “The strange story of the teddy bear and what it reveals.” He relayed how President Theodore Roosevelt in 1902, by sparing the life of a frightened black bear, inspired the Teddy bear, and changed the attitude across the country toward bears from that of terrifying monsters to an animal that children cuddled at bedtime. As Jon observes in his talk: *“In a world of conservation reliance, those stories have very real consequences, because now, how we feel about an animal affects its survival more than anything that you read about in ecology textbooks. Storytelling matters now. Emotion matters. Our imagination has become an ecological force.”*

The P-22 story has inspired a new coexistence paradigm. Further evidence: When our boy also infamously made a snack of a koala in the Los Angeles Zoo, what happened? The Zoo apologized for their fences being too short, and the public rallied to his defense with—‘he just thought it a strange raccoon’ excuse. As the New York Times reported, *“But far from prompting an outcry about public safety, the koala’s death has revealed a city at ease with wildlife in its midst, even potentially dangerous specimens. Opinion pieces opposing any effort to remove P-22 have appeared in local newspapers.”*

For those who think this approach only works on charismatic mega-fauna, I offer the 180 degree change of attitudes about another much-feared creature most people used to flee from in terror: bees. I grew up in the 1970’s when movies like *The Swarm* gave me nightmares. In today’s world, you see tweets like this one from @tracey_thorn: “I remember when I used to see a bee and go YIKES a bee. And now I’m all “wow a bee, hi! You okay there? Need anything? Can I get you a drink? A cushion? Want to borrow the car?”

Science is important. Science tells us how to coexist and we need to lead with the science for solutions. But it’s the stories, the inspiration, the capturing of the imagination that will ensure people embrace the coexistence ethic, learn the science and take action. So, the next time you host a workshop, present research, create a pamphlet, or post rules asking people to coexist, take a deep breath, get over that aversion to “anthropomorphizing” and also remember to tell a story. Help people meaningfully connect to the wild world and build a lasting relationship with wildlife, and coexistence (and a reduction in conflict) will follow.