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FOR IMMEDIATE RELEASE

NEW STUDY ARGUES CLIMATE CHANGE MUST BE INCORPORATED INTO HIGHWAY CROSSING PLANNING TO BENEFIT WILDLIFE NOW AND INTO THE FUTURE

Truckee, CA, November 19, 2024 — A new publication by Conservation Science Partners scientists and collaborators addresses a critical gap surrounding highway wildlife crossings: the need to expressly consider the impacts of climate change. Published in *Frontiers in Ecology and the Environment*, the paper underscores that wildlife crossings are crucial to reducing wildlife mortality and enhancing habitat connectivity—not to mention ensuring driver safety—and yet rarely is climate change considered in their planning and prioritization. The paper synthesizes the science surrounding wildlife crossings and climate adaptation, offers expert-informed recommendations for incorporating climate considerations, and demonstrates the importance of doing so through a case study in southwestern Colorado.

The Colorado case study puts those recommendations into action by empirically prioritizing candidate wildlife crossing locations to explicitly account for how climate change may shift wildlife movements—in this case, elk migration. CSP Senior Scientist and paper co-author Dr. Justin Suraci led this modeling effort with a novel approach to map where elk migration routes are likely to shift in the future—and thus where they are likely to intersect with roadways—by accounting for projected changes in temperature, precipitation, vegetation cover, land-use, and traffic. These models revealed which candidate wildlife crossing locations are likely to support elk movement both today and in a warmer future. The results suggest possible targets for initial climate-informed wildlife crossing investments.

“Our findings show that we can identify places for reducing wildlife-vehicle collisions now that are also likely to remain effective as environmental conditions change,” says Suraci. “By planning with climate change in mind, we can create long-term solutions for both animals and people.”

The expert-informed recommendations that underpin the Colorado case study emerged from a working group of over a dozen climate, wildlife, and road ecology experts convened in 2022. These experts drafted a consensus statement urging government officials at all levels to consider climate change when planning and prioritizing structures that ensure safe passage for fish and wildlife under and over highways. As appetite grows and funding opportunities emerge for protecting movement corridors and constructing wildlife crossings—for example, through the $350 million Wildlife Crossing Pilot Program funded under the Bipartisan Infrastructure Law—there is heightened need and opportunity for developing infrastructure that is sited and designed in ways that account for the impacts of climate change.

Building on the success of the Colorado case study, CSP and collaborators from ECO-resolutions and The Pew Charitable Trusts are now working with other states like Nevada to support their connectivity planning efforts in a manner that expressly accounts for climate change impacts. CSP Senior Scientist and co-author Dr. Caitlin Littlefield says: “We are energized by the success of our work in Colorado and Nevada and are excited to extend this framework across the country to protect wildlife and drivers and enhance the resilience of our ecosystems and infrastructure in a warming world.”

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Founded in 2012, CSP is a 501(c)(3) nonprofit scientific collective established to provide advanced quantitative research and planning services for conservation-oriented projects. CSP connects the best minds in conservation science to solve environmental problems in a comprehensive, flexible, and service-oriented manner. To learn more, visit www.csp-inc.org.

Quotes for media from authors

“As Federal, Tribal, State, and local decision makers begin to replace their highest priority transportation assets over the next decade-plus, they will be presented with opportunities to improve those facilities in ways that enhance terrestrial and aquatic connectivity, while at the same time making them more resilient and sustainable in the face of our changing climate and increased risk of extreme weather. This coming wave of infrastructure investment offers a once-in-a-lifetime opportunity to prototype and integrate the next-generation of climate-smart wildlife crossings into America’s 21st century transportation network.”

- Renee Callahan, executive director of ARC (Animal Road Crossing) Solutions, an interdisciplinary partnership working to reweave habitats severed by roads

“With the increasing frequency of extreme weather events that overwhelm and damage highway drainage culverts and small bridges, oversizing such structures to better accommodate future flooding events can also present opportunities to create cost-effective wildlife passage structures that promote habitat connectivity and climate change resilience for wildlife and highway infrastructure alike.”

- ***Norris Dodd, wildlife connectivity specialist and practitioner with AZTEC Engineering Group***

“With the recent infusion of federal infrastructure funding we have a once-in-a-generation opportunity to upgrade the nation’s transportation systems to be resilient and durable. These recommendations provide the specific guidance for making strategic investments in climate-informed infrastructure with long-lasting benefits for wildlife and ecosystems as well as human communities and economies.”

- ***Julia Kintsch, principal and senior ecologist at ECO-resolutions***

“If we don’t consider the currently changing climate and its impacts at ecologically relevant scales when designing roadway mitigation for wildlife, then we risk missing an important opportunity to plan synergistically, addressing multiple environmental threats at the same time.”

- ***Renee Seidler, executive director of the Jackson Hole Wildlife Foundation***

“Science is critical to informing where and how Americans build future infrastructure in the face of climate change. Wildlife crossings are one of the most important tools available for helping nature adapt, and to maximize the effectiveness of crossings for humans and wildlife alike, policymakers and planners must take future climate scenarios into account.”

- ***Matt Skroch, director with The Pew Charitable Trusts’ U.S. conservation project***

"Plants and animals have been moving across the landscape to adapt to changing climates for millions of years. By building wildlife road crossing structures the right way in the right places, we can make sure that successful climate migration continues into the future, so we don't lose

species that run into otherwise lethal highway barriers.
- ***Dr. Ron Sutherland, chief scientist at Wildlands Network***

“Leaders and practitioners can work to identify the areas where wildlife and fish need to move that are bisected by roads, and where those movements will be critical to adapting to climate change. Our efforts to create a more resilient transportation system in the face of climate change work hand and hand with creating a more connected natural world that too can withstand future changes.”
- ***Dr. Patricia Cramer, director of the Wildlife Connectivity Institute***

“Wildlife crossings are a win-win for people and nature - they help restore the ability of wildlife to move freely across the landscape while keeping motorists safe from collisions. Incorporating climate change considerations into the design of these structures is another win-win, helping ensure our infrastructure investments are resilient to climate impacts while accounting for the even greater movement needs of wildlife as they adapt to rapidly changing landscapes.”
- Dr. Meade Krosby, senior scientist at the Climate Impacts Group, University of Washington