

**CHALLENGES AND OPPORTUNITIES TO
FACILITATE WILDLIFE MOVEMENT
AND IMPROVE MIGRATION CORRIDORS**

HEARING
BEFORE THE
SUBCOMMITTEE ON FISHERIES,
WATER, AND WILDLIFE
OF THE
COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE
ONE HUNDRED EIGHTEENTH CONGRESS
FIRST SESSION
NOVEMBER 14, 2023

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COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED EIGHTEENTH CONGRESS

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C O N T E N T S

	Page
NOVEMBER 14, 2023	
OPENING STATEMENTS	
Padilla, Hon. Alex, U.S. Senator from the State of California	1
Lummis, Hon. Cynthia M., U.S. Senator from the State of Wyoming	2
WITNESSES	
Bonham, Charlton H., California Department of Fish and Wildlife	3
Prepared statement	8
Response to an additional question from Senator Cardin	15
West, Madeleine, Director, Center for Public Lands, Theodore Roosevelt Con- servation Partnership	20
Prepared statement	22
Response to an additional question from Senator Cardin	28
King, Richard, Chief Game Warden, Wyoming Department of Fish and Game	30
Prepared statement	32
Response to an additional question from Senator Cardin	39
ADDITIONAL MATERIAL	
Statements from:	
Pew Charitable Trusts	61
Western Governors' Association (WGA)	64

CHALLENGES AND OPPORTUNITIES TO FACILITATE WILDLIFE MOVEMENT AND IMPROVE MIGRATION CORRIDORS

TUESDAY, NOVEMBER 14, 2023

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON FISHERIES, WATER, AND WILDLIFE,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:33 p.m. in room 406, Dirksen Senate Office Building, Hon. Alex Padilla (chairman of the subcommittee) presiding.

Present: Senators Padilla, Lummis, Carper, Ricketts, Boozman, Sullivan.

OPENING STATEMENT OF HON. ALEX PADILLA, U.S. SENATOR FROM THE STATE OF CALIFORNIA

Senator PADILLA. Good afternoon, everybody. This hearing will come to order. Welcome to the third hearing this Congress of the Senate Environment and Public Works Subcommittee on Fisheries, Water, and Wildlife and the first hearing this year focused specifically on protecting wildlife.

Before I set the stage for the topic of today's hearing, I will do one housekeeping item at the top. The time is just after 2:30 in the afternoon now. At four o'clock, there is a Rules Committee hearing, so somewhere a few minutes after four o'clock, I may excuse myself for a few minutes to cast a vote in the Rules Committee and then make my way back to the hearing. I appreciate Senator Lummis or whoever may hold the gavel for those few minutes while I come and go.

Back to the topic of today's hearing, every day, every month, and every season in America, animals across the Country cross roads and highways, hop fences, and barriers and navigate human-made obstacles in order to survive. As our Country continues to grow both in population and in development, so do interactions between wildlife and humans. Yet, all too often, that can mean traditional wildlife corridors for migration are being cutoff by human-made barriers and that the biodiversity of the land around us is coming under threat.

So, today, we will be examining the challenges and opportunities to facilitating wildlife movement and improving migration corridors across the Country. In California, we certainly do love our wildlife, and not just because we are the most biodiverse State in the Nation.

We regularly hear stories of a new critter that has captured the hearts of Californians and the public's imagination, whether a surf-board-stealing sea otter off the coast of Santa Cruz or a band of newts so beloved they have attracted a newt brigade of volunteers to help them cross the road safely.

It is the awe that we felt when the Yurok Tribe reintroduced the once nearly extinct and sacred California condor, or the passion with which the Tolowa Dee-ni' Nation works to protect the Roosevelt elk in order to reduce human-elk conflicts.

Perhaps none have reached the level of fame of the beloved P-22, the mountain lion here behind me, the iconic mountain lion of Griffith Park who was known for wandering around the Hollywood Hills. Born in the Santa Monica mountains of Southern California, P-22 had to cross two major freeways to get to his eventual home in Griffith Park, and even then, he became increasingly isolated by the habitat around him, severely fragmented by human development.

A cultural icon of the Los Angeles area, photographed by the Hollywood sign, adorned on tee-shirts and honored in the Natural History Museum of Los Angeles County, Angelenos' hearts broke when last December, P-22 tragically passed away after being hit by a car. But the fascination surrounding P-22 helped spur a movement that led to the construction of the historic Wallis Annenberg Wildlife Crossing, which, when complete, will allow more mountain lions to safely cross ten lanes of Highway 101 and connect to their needed habitat.

The truth is, while they might not all attract the same following as P-22, stories like this happen every single day across America, whether for daily or seasonal migration or being pushed away by a climate in crisis, wildlife face barriers to migration that threaten their lives and, in turn, threaten the vibrant biodiversity of our Nation and our outdoor recreational culture.

To be completely truthful, the interruption of wildlife corridors and lack of adequate crossings threaten human lives, as well. Drivers in the United States face a 1 in 127 chance of hitting an animal in their lifetime, a statistic that increases to as high as 1 in 38 for drivers in West Virginia, for example.

It is estimated that wildlife involved in crashes kills more than 150 drivers every year in America, with millions of auto claims made for animal collisions on top of that, and whether from vehicle repairs, medical expenses, towing or cleanup, crashes cost between \$8 billion to \$12 billion annually. We pay an enormous human toll when we fail to provide adequate crossings.

Today, I am looking forward to having a bipartisan discussion about the ways we can improve habitat connectivity, boost biodiversity, and the resilience of our ecosystems and protect human lives. That can come in the form of investing in physical infrastructure and habitat connectivity projects like overpasses, underpasses, culverts, and more.

To do that, we need better data gathering, with technology like GPS collars to better understand where, when, and how animals are migrating throughout the year and where the highest risk of vehicular collisions exists.

It can also mean advancing nature-based solutions, like protecting some of our last remaining wilderness areas and improving management of the landscapes that species migrate across. Because wildlife migration will never be neatly confined to within one State, one county, or a city's borders, we know that we will have to work collaboratively across local, State, and tribal boundaries to share data, advance partnerships, and improve connectivity.

In the past, this committee has come together in a bipartisan way to approve \$350 million to the Department of Transportation to fund wildlife crossing projects and reduce wildlife vehicle collisions. While we still await the implementation of that funding, we have proven that there is a bipartisan interest to make progress, and, as I think we will learn more about today, to think even bigger than just individual wildlife crossings to boost wildlife connectivity across the Country. Often, we just need a roadmap to know what we should do next, and I am grateful to all of our witnesses for coming together to provide just that. I look forward to hearing from each of you today.

With that, let me hand it over the Ranking Member Lummis to make her opening statement.

**OPENING STATEMENT OF HON. CYNTHIA LUMMIS,
U.S. SENATOR FROM THE STATE OF WYOMING**

Senator LUMMIS. Thank you, Chairman Padilla. One of the really fun things about having you as the Chairman and getting to be the Ranking Member with you is, of course, California is the most populous State, mine is the least, but how similar the problems are.

Yours are more exacerbated by dealing with the amount of traffic that confronts your wildlife populations, and we have tremendous issues with regard to State ownership of land, Federal ownership of land, private ownership, tribal ownership, you know. It is just so fun to work with you on this committee, so I appreciate you.

I want to thank each of the witnesses for agreeing to be here today.

Wyoming is a haven for big game species: bison, elk, moose, pronghorn, mule deer, and many others whose habitat varies by season. Wildlife migration corridors allow these big game species to move between seasonal ranges, of which there are many in Wyoming. In many cases, a herd's migration route will encompass a mix of, as I said, Federal, State, tribal, and private property, which makes their management a challenge that must be addressed with a collaborative spirit.

It is very evident in Wyoming, and we, I think, have done a really good job of creating a template for how these issues can be addressed. Wildlife corridors can span hundreds of miles in one direction, I am sure that is true in California as well, like elk and mule deer that travel between the greater Yellowstone ecosystem down to the red desert and back each year, so that means going from the Teton Range that goes up into Yellowstone and Grand Teton National Park.

Down through the Bridger Teton National Forest, I have a farm that abuts the Bridger National Forest, so I see a lot of these animals passing through. Then it runs down to residential areas near Pinedale, Wyoming, then to the checkerboard lands near the Upper

Green River Basin. Checkerboard means the Union Pacific, and so there is Federal land mixed in with UP land and private land along the railroad. That includes State and private lands and Federal lands.

Then, it ends up on Bureau of Land Management land in southern Wyoming. If you travel between Pinedale, Wyoming and Jackson, you will see overpasses for the antelope, because they don't like to go through a culvert. You will see underpasses under the roads for deer, because they don't want to go over.

I think we have done a really good job, especially along that particular migration corridor, of addressing these issues. That has meant working with the National Parks Service, U.S. Forest Service, Bureau of Land Management, State and private lands. Identifying and maintaining these corridors really takes collaboration among all stakeholders, and that has got to be even more difficult in California with your big populations.

That is why I am so pleased we will be able to hear today from Richard King. Richard, thank you so much for coming. Richard is the Chief Game Warden and Chief of Wildlife Division at the Wyoming Department of Game and Fish.

Mr. King has worked at the Wyoming Game and Fish for 21 plus years, and his expertise in on-the-ground wildlife management will enhance today's conversation, because he has worked directly on the issues that I just discussed.

In 2018, then Secretary Ryan Zinke over at the Department of the Interior signed Secretary Order 3362, which directs Interior's agencies to work with western States to enhance and improve the quality of migration corridors. The order rightfully keeps States in the driver's seat, as States have primacy over their wildlife. It also calls for the respect of private property rights, ensuring the continuation of a voluntary-based program.

That is how I believe it should be done. I used to be involved with the Western Governors' Association. These issues come up at WGA a lot. California is a member of the Western Governors' Association, so we work with all the western States on some of these issues.

Wyoming continues to lead the way in collaborating with Federal land managers, private land owners, and other stakeholders to complete important habitat conservation work in a voluntary, incentive-based manner. In 2020, Wyoming Governor Mark Gordon signed the Wyoming Mule Deer and Antelope Migration Corridor Protection Executive Order. This order, in conjunction with the Wyoming Game and Fish Commission's hard work, implements a designation process for migration corridors with public input and the best available science.

I am proud of the Wyoming model, which relies on collaboration rather than coercion to benefit our State's big game species. We must continue to recognize the leadership role played by States while also respecting the rights of private landowners. As you said, Chairman Padilla, providing some funding through the Highway Bill, especially for States that have tremendous issues with regard to collisions between wildlife and vehicles is also an important part of this.

Thanks again to our witnesses. I look forward to hearing your opening statements and our discussions afterwards.

Senator PADILLA. Thank you.

Now, I would like to turn to our witnesses. I will introduce them, and they will proceed with their testimony.

First, I am proud to introduce Chuck Bonham, who serves as Director of the California Department of Fish and Wildlife. California's habitat and wildlife diversity is unequaled by any other State, so Chuck's testimony and knowledge will be invaluable to us as we consider how to improve connectivity.

Second, we will hear from Madeleine West, who serves as Director of the Center for Public Lands at the Theodore Roosevelt Conservation Partnership, having previously worked for the Western Governors' Association. Madeleine has spent a lot of time working closely with State wildlife agencies, hunting and fishing organizations, and private landowners on wildlife migration.

Third, we will hear from Richard King, who, as you just heard, serves as Chief Game Warden at the Wyoming Game and Fish Department. He has served at the Department for an impressive 25 years, and I am glad to have Mr. King with us today, given Wyoming's strong leadership in protecting migration and advancing partnerships.

Senator LUMMIS. You know, Mr. Padilla, he is our Joe Pickett. Do you know who Joe Pickett is?

Senator PADILLA. Remind me.

Senator LUMMIS. C.J. Box, who is an author from Wyoming, who has written numerous books about a game warden by the name of Joe Pickett, and it is a series of books about a Wyoming game warden, and he is a nationally acclaimed author. I will give you a copy of one of his books. Anyway, Richard is Wyoming's Joe Pickett.

Senator PADILLA. Very good.

Senator LUMMIS. Without the flaws.

[Laughter.]

Senator PADILLA. So that is just building suspense for his testimony.

[Laughter.]

Senator PADILLA. We will begin with Mr. Bonham.

**STATEMENT OF CHARLTON H. BONHAM, DIRECTOR,
CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE**

Mr. BONHAM. Thank you, Chair, Ranking Member, Senator. My name is Chuck Bonham, and I am the Director of the California Department of Fish and Wildlife, which I think is the greatest job in the world.

I boiled my testimony down to two words today. The first is connectivity, which is the underpinning of nature. All of life needs connection. As people, we need it, like our social connections in a chaotic world. Nature needs it too, but across the United States, we face a challenge where wildlife is losing the ability to migrate.

From our largest animals, bears and lions, down to our smallest and everything in between, the reality is, all wildlife needs the ability to move: small mammals, birds, amphibians, invertebrates, plants, and reptiles. In California, we have 60 species of reptiles

and amphibians, like the Mohave desert tortoise, the Arroyo toad, they need the freedom to move.

That idea of freedom of movement applies to our fish, as well, iconic salmon and steelhead swimming upstream, running through culverts, bumping into barriers. Connectivity gives them the freedom to roam and produces benefits: gene flow, seasonal migration, pollination, foraging.

In a scrambled world because of climate disruption, animals and plants face three basic choices. They can adapt, they die, or they can move. We, as people, have the opportunity to give them that movement through our decisions. Make no mistake, one huge cause of wildlife mortality is vehicle collisions. This is a glaring people problem, too, yet smart investments in our infrastructure can solve this problem.

Then my second word for today: fixable. This is a fixable problem, underscore fixable. The data speaks for itself. You do a corridor project, pick a State, Oregon, Wyoming. After the project, the collision rates drop dramatically, 80 to 90 percent. Our department in California has learned from other States.

Mr. King in Wyoming was one of the first to forge an alliance between their game department and transportation. Arizona is doing innovative work on this. The same thing is happening on the Federal front, where recently, the Association of Fish and Wildlife Agencies, along with the Native American Fish and Wildlife Society and entities in Wyoming hosted convenings to talk about doing these projects with tribal rights in mind and landowner property rights in mind. It is doable; it is fixable.

Your leadership has ensured the Bipartisan Infrastructure Law is providing \$350 million annually through the Wildlife Crossings Pilot Program. In California, we are matching that investment and exceeding it. Just my little old department, one State department, is spending \$90 million in the last 2 years to design and build crossings and fix fish barriers.

When you factor in our transportation agency Caltrans, that number jumps exponentially in the investments we are making in California. We have gotten new laws that requires to inventory the corridor problems across our State highway system and create market incentives, where my department, through permitting, can grant to a developer or transportation agency, a mitigation credit when they include a corridor in their development. That is true voluntary, market-based resolution of a long-running problem.

We see examples on the ground from Los Angeles, as the Senator mentioned in his opening remarks, to Riverside County, way up into the Redwood Forest, back down in the Mohave Desert, along the coastal zone near San Diego. These are projects that pop out as things people care about and want dealt with and is fixable.

California is like other place. We have unrivaled diversity in every way: our people, our economy, and our wildlife. We actually have more types of animals and plants in California than any other State. Sadly, though, we also face the highest rate of imperiled species compared to all the other United States. A reason is the lack of freedom to roam: connectivity, my first word. My second word, it is fixable, we just to take these kinds of lessons to heart. We need to allocate the time, the energy, secure the funding, harness

our people power, put our creativity on collaboration, the utilization of partnerships for science, for mapping, for engineering, design and permitting.

These projects allow us to future-proof California, other places in the west, so the angler can know salmon in the river, the hunter can know bighorn sheep, and our people can know more mountain lions wandering under the Hollywood sign in California.

Thank you for your time. I look forward to questions.

[The prepared statement of Mr. Bonham follows:]

**U.S. Senate Committee on Environment & Public Works, Fisheries, Water, and Wildlife
Subcommittee
November 14, 2023, Hearing on Wildlife Corridors
Witness Testimony - Charlton H. Bonham
California Department of Fish and Wildlife, Director**

Thank you, Subcommittee Chair, Senator Padilla and Ranking Member, Senator Lummis, other Subcommittee members, and staff for the opportunity to submit this testimony into the record for your hearing on November 14, 2023, which is examining challenges and opportunities to facilitate wildlife movement and improve migration corridors.

My name is Chuck Bonham and I have the privilege to serve as the Director of the California Department of Fish and Wildlife. Our department traces its origin back over 150 years to the Board of Fish Commissioners created in the California Constitution, making us one of the earliest state or federal wildlife agencies in the United States and today is one of the largest with over 3,000 employees and an approximately \$1 billion budget. I draw on my tenure over the last twelve years as the longest-serving Director of this department to conclude that the topic of your hearing is one of the most important in the country, the West, and in California for the health and future of wildlife.

California is like no other place. Unrivalled diversity exists in every way and every corner of the state, from its communities to its economy, across geography, and within its innovative people power.

Nature in California is no different. One reason California is so unique is its natural wealth. We are home to more types of animals and plants than any other state in the Union. California also has the most species that occur nowhere else but in the Golden State. These measurements help define the scientific term biodiversity – meaning the variety of life in a particular place. This term – biodiversity – can also be applied to different scales of life from regions to watersheds, genes, species, and ecosystems. Imagine areas of exceptional plant and animal life spread throughout California's varied iconic landscapes – the Mojave Desert, the Redwood Forests, the Sierra, to the California Current off our Pacific Coast – and it is easy to appreciate why California is one of the most biodiverse places in the world and one of only a few noted global biodiversity hotspots.

At the same time, California sadly has the highest number of imperiled animal and plant species. This reality was recently crystallized in a March 2022 New York Times' publication outlining where biodiversity is most at risk in America. There are many reasons, most notably the effects of climate disruption and habitat loss or fragmentation.

The central focus of today's hearing and my testimony is encapsulated in one word – connectivity. Connectivity is the underpinning of both biodiversity and nature, and the challenges wildlife face.

All of life needs connection. This fact is true for people where social connections are an antidote to a chaotic world. Science tells us people need connection and that there are many benefits from human, social connectivity. Science tells us the natural world

**U.S. Senate Committee on Environment & Public Works, Fisheries, Water, and Wildlife
Subcommittee
November 14, 2023, Hearing on Wildlife Corridors
Witness Testimony - Charlton H. Bonham
California Department of Fish and Wildlife, Director**

needs it too. Just like for humans, plants and animals reap vast benefits from connectivity.

Increasing connectivity is a critical strategy for addressing habitat loss and fragmentation, a top threat to biodiversity. Connectivity refers to the degree that organisms or natural processes can move unimpeded within and between habitats – both terrestrial and aquatic. Across the United States, wildlife is losing the ability to move and migrate as habitat conversion and built infrastructure disrupt or impede migration corridors.

In California, the challenges and solutions for wildlife migration and movement corridors have names and are grounded in examples, places, and communities that provoke passion. Our state's citizens care deeply about wildlife. Californians' views about wildlife are as diverse as every other aspect of the state.

For some, a mountain lion can gain international recognition as P-22 did once he made the cover of National Geographic in an iconic photo below the Hollywood sign wandering the Santa Monica Mountains trapped within a network of roads and highways, sparking a movement led by individuals like Beth Pratt at the National Wildlife Federation, state and federal agencies, Tribes, and philanthropic partners such as the Wallis Annenberg Foundation all leading to the construction of the world's largest wildlife crossing over 10 lanes of highway in Los Angeles. However, connectivity benefits more than just large mammals. It also supports small mammals, birds, amphibians, invertebrates, plants, and reptiles. The reality is all kinds of wildlife are affected by the lack of movement corridors, including in California more than 60 species of reptiles and amphibians such as the Mojave Desert tortoise, arroyo toad, blunt-nosed leopard lizard and more. Something similar plays out for our highly migratory fish like salmon and steelhead as they swim back up our rivers through culverts, over barriers, and running into dams. This upstream migration comes at the end of a journey as remarkable and captivating as any in nature, where salmon and steelhead are born in California's rivers, swim downstream to the sea, and after spending time growing in the Pacific Ocean magically return to the place they were born.

In 2022, the last year for which the California Department of Fish and Wildlife has data, approximately 1.9 million hunting and fishing licenses were sold, which is more than the total population of at least a dozen different states in the United States. The angler knows salmon and steelhead and trout face migration barriers that greatly shape their continued existence in California's rivers and streams. The hunter knows that majestic large animals like bighorn sheep need the ability to migrate across large landscapes to survive. All of California's 39 million citizens likely intuitively would understand what it means for wild animals to have freedom to roam regardless of their respective relationships to nature.

**U.S. Senate Committee on Environment & Public Works, Fisheries, Water, and Wildlife
Subcommittee
November 14, 2023, Hearing on Wildlife Corridors
Witness Testimony - Charlton H. Bonham
California Department of Fish and Wildlife, Director**

Connectivity provides freedom to roam and allows our species, that know no political or jurisdictional boundaries, to utilize landscapes with reduced impediments primarily caused by human made linear infrastructure such as roads, canals, and railroads. Species frequently will attempt to cross infrastructure leading to direct mortality. Additionally, lack of connectivity significantly affects natural processes. Processes like gene flow, seasonal migration, pollination, foraging, predator-prey dynamics, and even nutrient cycling.

This ability to move within and between habitats is also one of the most essential life strategies we as people can preserve for the animal kingdom's adaptation to climate disruption. Climate change has scrambled the world for many plants and animals resulting in some species shifting their range, altering the timing of key life strategies, or exhibiting differences in tolerance to heat. At the end of the day, animals and plants are left with three basic reactions – they can adapt, they die, or they can move. Ensuring that they have the freedom to move is our collective job.

Moreover, make no mistake about one fact. A huge cause of wildlife mortality is vehicle collision. This glaring fact is also a people problem.

The University of California, Davis runs one of the only centers focused on the nexus between wildlife and vehicle conflict. Its Road Ecology Center used observations of reported traffic incidents and animal carcasses in a special report in 2019 to estimate the total annual cost of reported (large) wildlife-vehicle collisions in California for 2018 to be at least \$232 million and the cost to society over the prior four years to be over \$1 billion. That is not good for people nor for businesses, for public safety, and certainly not for wildlife, big or small.

Yet, smart investments in infrastructure can solve this problem and shrink the risk to people and wildlife. This problem is fixable. The data speaks for itself. It tells a positive story.

For example, estimates indicate wildlife passage features reduced vehicle-wildlife collisions in several western states. By 85% in Oregon along U.S. 97. By 81% in Wyoming along Highway 30. By 90% in Colorado along Highway 9. By 98% in Utah along I-15. In this regard state, federal, Tribal, and private partnerships that modernize infrastructure ensuring wildlife corridors are good investments with a great return. California, and many areas across the United States, are at a pivotal point where we must continue to aggressively pursue mitigating the impact of development and climate disruption on our species. This includes doing the immediate and necessary mitigation to lessen impacts from humans, drought, extreme heat, and wildfire.

We must also increasingly take our effort and investments to a much more impactful scale. The California Department of Fish and Wildlife has listened and learned from

**U.S. Senate Committee on Environment & Public Works, Fisheries, Water, and Wildlife
Subcommittee
November 14, 2023, Hearing on Wildlife Corridors
Witness Testimony - Charlton H. Bonham
California Department of Fish and Wildlife, Director**

other western states on ideas and partnerships to advance wildlife migration and movement corridors. Our partnerships are essential with the United States Fish and Wildlife Service, federal and state transportation agencies, the Association of Fish and Wildlife Agencies, Tribes, and many others. The level of energy and enthusiasm for wildlife migration and movement corridors makes this work solution-based, and, frankly, as much a non-partisan natural resources issue as any that exists.

Examples of this leadership exist in different corners of the country, such as Wyoming where in 2017 the Wyoming Game and Fish Department and Wyoming Department of Transportation came together with many interested stakeholders to develop a long-term planning initiative to identify and prioritize projects that reduce wildlife-vehicle collisions. In Arizona, where the Game and Fish Commission just recently adopted a resolution recognizing the importance of wildlife connectivity and the need to avoid, minimize, and offset impacts to wildlife and wildlife habitats. North Dakota is continuing investments to monitor the success of installed undercrossings along Highway 85, which has shown that many animals have successfully navigated the underground passages hundreds of times.

The same is true on the federal front. The Department of the Interior has collaborated with the Association of Fish and Wildlife Agencies, the Wyoming Wildlife and Natural Resource Trust, Native American Fish and Wildlife Society, and the National Fish and Wildlife Foundation to host convenings about restoration of wildlife corridors and habitat connectivity in a way that supports Tribes, local communities, state wildlife agencies, and honors private landowner rights. Just this spring of 2023, the Department of the Interior announced another round of grants across nine states to secure key corridors.

Other federal funding programs for connectivity and wildlife crossings exist at agencies such as the Department of Transportation and the Federal Highway Administration (FHWA). The Wildlife Crossings Pilot Program (WCPP) is a crucial program because it focuses on establishing safe passages for wildlife across roadways, seeks to mitigate the impact of transportation infrastructure on natural environments, and decreases wildlife vehicle collisions across America. WCPP's plan to protect both people and wildlife is supported by the Bipartisan Infrastructure Law (BIL), which provided \$350 million annually in funding through FY 2026. We just need more of that program, more programs like it, and all associated processes to move faster.

Time and money to build infrastructure and modernize it is a key challenge. Moving faster and smarter to strategically leverage federal support through FHWA programs means increasing collaboration with state wildlife agencies, because much of the research, planning, and coordination that has already been done related to identifying animal migration patterns and crossings is at this state level.

**U.S. Senate Committee on Environment & Public Works, Fisheries, Water, and Wildlife
Subcommittee
November 14, 2023, Hearing on Wildlife Corridors
Witness Testimony - Charlton H. Bonham
California Department of Fish and Wildlife, Director**

There is synergy between federal and state wildlife agency efforts in this arena. All state wildlife agencies work on state wildlife action plans. Wildlife corridors play prominent roles in those state authorities to conserve and manage species. Moreover, Secretarial Orders at the Interior Department instruct federal agencies to work in close partnership with Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming to enhance and improve the quality of big-game winter range and migration corridor habitat on Federal lands in partnership with those states. This synergy has real-world practical benefits when state and federal and Tribal wildlife agencies collaborate to complete analysis detailing corridor maps, stop-overs, winter ranges, and other wildlife characteristics so that migration can be considered by state and federal transportation officials when working to maintain wildlife migrations in the Western States.

Similar efforts have been taken in California with several groups led by the California Department of Fish and Wildlife and the California Department of Transportation (Caltrans) who have begun identifying and reporting on priority fish passage and wildlife movement barriers. Moreover, over the last several years the California Legislature has appropriated additional funds and focused on improving collaboration between state agencies to assist in understanding and mitigating impacts to fish and wildlife, modernize infrastructure, increase permitting streamlining, and increase wildlife connectivity.

As examples, in 2005, Senate Bill 857 mandated that Caltrans locate, assess, and remediate fish passage barriers on the state highway system for any project using state or federal transportation funds. More recently, in 2021, Senate Bill 790 created new permitting options to improve the mitigation incentives for developers and transportation agencies to receive credits for connectivity projects. In 2022, Assembly Bill 2344 required Caltrans, in consultation with the California Department of Fish and Wildlife and other appropriate agencies, to establish an inventory of connectivity needs on the state highway system where the implementation of wildlife passage features could reduce wildlife-vehicle collisions or enhance wildlife connectivity.

Additional examples of this bold leadership at the project level exist in different corners of California. In Los Angeles, completing the 210-foot-long and 175-foot-wide Wallis Annenberg Wildlife Crossing on Highway 101 at Liberty Canyon will modernize heavily used transportation infrastructure, better protect the public safety by reducing animal vehicle collisions, and serve as an essential action to protect local mountain lion populations from extinction. This is the legacy of the famous P-22 lion's life.

Similarly in Riverside County, the Clinton Keith Wildlife Crossing Project was completed in 2017 that provides a safer, natural passage for butterflies, birds, insects, deer, coyotes, mountain lions, foxes, roadrunners, and rodents, including the Quino checkerspot butterfly, a federally listed endangered species. Elsewhere in the state, Caltrans is

**U.S. Senate Committee on Environment & Public Works, Fisheries, Water, and Wildlife
Subcommittee
November 14, 2023, Hearing on Wildlife Corridors
Witness Testimony - Charlton H. Bonham
California Department of Fish and Wildlife, Director**

leading collaborative efforts to address hundreds of barriers to fish migration, like culverts. Tribes and others are leading efforts to remove antiquated dams, such as on the Klamath River where the removal of four dams along the California and Oregon border will improve river health for salmon by restoring access to over 420 miles of habitat for the first time in a century.

California is moving to protect bighorn sheep and other wildlife along the Interstate 15 corridor where research done by Oregon State University, the California Department of Fish and Wildlife, and the National Park Service has demonstrated the impacts that hardened infrastructure can have on fragmenting habitat and disrupting the migration of sheep along the Mojave Desert mountaintops. This scientific research also identified the crucial spots within this transportation corridor needing connectivity. Now a partnership between many including transportation agencies, the private electric rail development connecting Las Vegas, Nevada, and Los Angeles (Brightline West), and wildlife agencies is using this information and collaboration to create solutions and is poised to construct three overcrossings for the highway and high-speed train line in 2024.

These projects are united in their ability to future-proof California, rethink our relationships with people and nature, and take dramatic, world-leading actions to implement nature-based solutions that connect our fragmented habitats and prepare us for a changing climate. The common characteristic of each type of habitat connectivity project is allowing species to persist and utilize landscapes during their life histories so that California remains a biodiversity hotspot. Wildlife habitat connectivity is a primary action to create species resiliency in the face of climate change impacts.

California is committed to, and has shown, its commitment to connectivity. In the last two years alone, California has committed \$90 million toward connectivity planning and implementation for wildlife crossings and millions more in support of projects addressing fish passage just through the California Department of Fish and Wildlife. This number is considerably higher when factoring in Caltrans and California Wildlife Conservation Board funding.

California has also invested in the needed science and data to support connectivity efforts and inform future development planning. The California Department of Fish and Wildlife maintains several critical databases that gather spatial data on fish, wildlife, vegetation, and habitats from across the state, and then synthesizes this information into thematic maps to help inform discussions on the conservation of biodiversity, habitat connectivity, and climate change resiliency. The department released "*Restoring California's Wildlife Connectivity 2022*" prioritizing the roadways, railways, and other infrastructure in the state with the greatest need to create wildlife movement.

**U.S. Senate Committee on Environment & Public Works, Fisheries, Water, and Wildlife
Subcommittee
November 14, 2023, Hearing on Wildlife Corridors
Witness Testimony - Charlton H. Bonham
California Department of Fish and Wildlife, Director**

Connectivity projects take time and require persistent collaboration. They take bold investments in planning, implementation, and monitoring, including the necessary resources to support the leadership and engagement needed to move these projects forward. This hard work can and must be done. We just have to do it on a much bigger scale and at a faster pace through more partnerships. And, here, "we" means all of us. The California Department of Fish and Wildlife takes pride in our state's rich biodiversity while being steadfastly and soberly aware of the serious job ahead when California has more rare and imperiled species than any state with more than 30% threatened with extinction.

I thank the Subcommittee Chair and Ranking Member for hosting this important hearing and the opportunity to provide my testimony. With your leadership solutions can be advanced to improve habitat connectivity facilitating wildlife migration and movement corridors across public, tribal, and private lands. I am absolutely convinced that the future of the fish and wildlife we love depends on it.

Through continued bipartisan collaboration amongst the states, their departments, the federal government, Tribes, and the many communities s passionate about connecting our habitats, we can safeguard our ecosystems, ensure that all living things can move freely, and preserve the amazing biodiversity of the United States.

**Senate Committee on Environment and Public Works
Subcommittee on Fisheries, Water and Wildlife
Hearing Entitled "Challenges and Opportunities to Facilitate Wildlife Movement
and Improve Migration Corridors"
November 14, 2023
Questions for the Record for Mr. Chuck Bonham**

Ex-Officio Chairman Carper:

- 1. State wildlife agencies are responsible for managing species across an entire state while working with many different stakeholders and landowners – a lofty task with limited resources. Would you talk about the challenges your agency has faced with finding the resources for habitat connectivity programs – particularly given lots of competing conservation priorities?**

Humans and the world we inhabit are interconnected. California's biodiversity is home to nature found nowhere else on Earth. These ecosystems sustain our communities, support our economy, provide for our recreation, and anchor our history, culture, and traditions. Yet, California's incredible nature is under threat.

To meet this moment, in 2020, Governor Newsom issued Executive Order N-82-20 to conserve 30% of California's Lands and Oceans by 2030 (30 x 30) and issued the Pathways to 30 x 30 report in 2022, including key strategies to achieve these goals. While some conservation priorities may be competing, many priorities are synergistic to increasing connectivity, as well as supporting our economy. The concept of connecting these lands to facilitate plant and animal movement across landscapes is a top-level priority that requires unique focus and resources. Challenges for habitat connectivity programs include planning, design, permitting, and partnership costs. But these challenges can be overcome. It starts with making connectivity a top priority.

For example, recent legislation in California has created a partnership between the California Department of Fish and Wildlife (Department) and the California Department of Transportation (CalTrans) to identify important areas to create wildlife passage. These legislative actions have brought staffing resources to the Departments to evaluate the needs, but not necessarily the funding to build and maintain these structures. However, it is possible for the budget and appropriation actions of state and federal government to align with the planning efforts of wildlife agencies. For example, in the last two years, California has committed \$90 million toward connectivity planning and implementation for wildlife

crossings and millions more in support of projects addressing fish passage just through the California Department of Fish and Wildlife. This number is considerably higher when factoring in Caltrans, our state transportation agency. The Biden Administration's investment of \$359 million nationwide through the Bipartisan Infrastructure Law into the Wildlife Crossings Pilot Program at the Federal Highway Administration is another example. As I said in my testimony, we just need more of those types of programs and all associated processes to move faster to forge state, federal, and private funding streams. Wildlife Connectivity projects cost. But it is a cost that generates an immense return on the investment.

In addition to the structures themselves, the lands they connect are critical.

Fundamentally, connectivity requires the conservation of key lands to facilitate movement and often requires the acquisition of an easement or fee title. This may present the following challenges:

- Optimizing private and non-governmental organizations and state and federal agency funding programs through partnerships.
- Promoting willing landowner involvement in collaborative conservation transactions. A project to conserve lands to aid connectivity can only move forward when the current landowner is a willing seller.
- Acquisition processes are lengthy (years) and generally require a third-party appraisal for valuation purposes.
- Increasing the ability to fund the operating and maintenance activities needed to sustain viability of connectivity projects. Funds for acquisition, design, and construction are typically the first focus in completing a project, often leaving funds for maintenance not available or not at sufficient levels. Lands holders may be less supportive of managing lands when operating and maintenance funds are not available.

a. Do you have more resources specifically for game species than for non-game species?

Ongoing direct appropriations to the Department for the conservation and management of Game Species are greater than for nongame. Game species have several dedicated accounts that are collected by the sale of hunting licenses which are in-turn invested back into programs for those species. Additionally, those funds are often matched with Pittman-Robertson Federal Aid in Wildlife Conservation grants to states, which are the most significant ongoing federal funds currently available.

State law directs those funds largely to land management and hunting-related programs and specifies that funding for non-game should come from appropriations from the General Fund, which are more periodic and typically species specific. These existing funding mechanisms are largely not at a scale to implement connectivity projects themselves and are rather used to conduct the scientific investigations needed to manage game populations, which aids in identifying connectivity needs.

As mentioned in my testimony, the Department and the Wildlife Conservation Board have received significant funding in recent years to implement wildlife connectivity projects in California. Together we have invested about \$90M in the last 2 years. These funds, however, have been largely one-time appropriations.

- 2. In today's hearing, our witnesses have shared detailed maps for big game showing how elk and deer move across large landscapes, but we have heard less about smaller, non-game species. Delaware – and really every state – has a number of salamanders, frogs and snakes, for example, that need to move across their habitat during their life cycle. Would you talk about what we know about wildlife corridors for non-game species?**

The Department continues to advance its knowledge and information regarding nongame species and has provided notable examples of efforts to increase connectivity of these more cryptic species, but more attention is needed. Long-term programs for species such as deer and elk, along with migrating waterfowl and other game, have yielded a wealth of information in how these species use the landscape and traditionally have been used as surrogates for habitat protection. In addition to the dedicated funds driving efforts on game species previously mentioned, these animals can wear larger Global Positioning System (GPS) transmitters, lending themselves to high quality data on movements across the landscape.

However, recent advances in many areas of technology from genetics to the Motus Wildlife Tracking System (Motus) are rapidly yielding new science to understand the needs of smaller and more cryptic nongame species. In the last two years the Department has deployed 18 Motus stations on our lands with plans to expand that number to 40. Motus is an automated wildlife tracking network connected by multiple receiving stations that utilizes a radio telemetry system enabling wildlife scientists and managers to track movements of highly mobile species, including birds, bats, and flying insects, as well as more localized movements of

species like amphibians, reptiles, and small mammals. The Department and a variety of partners are working hard to expand this network across the state and western North America to further refine the network's resolution. Additionally, the Department has developed and maintains several critical databases that support connectivity efforts and that serve to inform future development planning. One example is our Terrestrial Habitat Connectivity database that measures how well habitats (*i.e.*, vegetation types and structure and geologic and water features) in the landscape are connected to allow for the flow of ecological processes and animal movement. Together, these features can determine which species can live and survive in the area, which extends beyond big game species. While trained scientists and technological advances are available, funding to expand and maintain these efforts has not been adequate.

California is proud of its commitment to connectivity for all species, including non-game. We are home to the Chileno Valley Newt Brigade in the San Francisco Bay Area who helps newts, frogs, and salamanders migrate across local roads. As another example that I mentioned in my testimony, the Clinton Keith Wildlife Crossing Project in Riverside County, California provides a safer, natural passage for butterflies, birds, insects, deer, and many other species, including the Quino checkerspot butterfly, a federally protected endangered species.

a. How can Congress support additional research and programs for these types of wildlife species?

Dedicated noncompetitive federal funding for nongame species that allows for the establishment of a program less reliant on temporary funding is critical. This means investing in the development of staff, protocols, and technology. Funds for these types of projects could come from Congressional action. Wildlife connectivity projects are bipartisan as the hearing aptly illustrated. Examples of possible action include the proposed Recovering America's Wildlife Act (RAWA). This bill at last read would provide approximately \$1.3 billion to states and another \$97.5 million to Tribal wildlife conservation efforts. Continued effort to support this initiative with specificity to connectivity needs and clear direction towards species recovery, habitat restoration, and acquisition would be beneficial. Other more specific considerations include:

- Leverage existing high-quality data sources. For example, cameras monitoring areas where connectivity concerns are present are ubiquitous across North America. Cameras record movement independent of species and generate large amounts of data for non-hunted and non-game species. Support and continued research in machine learning models and other tools (e.g., Wildlife Insights) to manage, analyze and share camera trap data would be beneficial. Another example is sound recorders that record indiscriminately, often used in Motus stations. These datasets are currently often underutilized for non-game species due to lack of personnel and funding to deploy, maintain, and analyze the data.
- Direct scientific data to be shared when federal funds are utilized for research purposes, to allow analysis for multiple species by multiple entities.
- Promote investment in remote monitoring protocols and technologies for more cryptic species such as salamanders, snakes and frogs. While GPS attached devices attached to larger bodied animals have been commonplace for some time, these methods are not as mature yet for these types of species.
- Direct partner agencies within the federal government to aid in connectivity efforts. This includes supporting the analytical planning and development of wildlife structures, and the acquisition of conservation easements or land in fee title.
- Direct greater collaboration with Native American Tribal Nations in the planning, design, and implementation of connectivity projects.

Senator PADILLA. Thank you.
Ms. West.

**STATEMENT OF MADELEINE WEST, DIRECTOR, CENTER FOR
PUBLIC LANDS, THEODORE ROOSEVELT CONSERVATION
PARTNERSHIP**

Ms. WEST. Good afternoon, Chairman Padilla, Ranking Member Lummis, members of the subcommittee. I am Madeleine West, Director of the Center for Public Lands at the Theodore Roosevelt Conservation Partnership.

Our mission is to ensure all Americans have quality places to hunt and fish. We work with partners to develop and advance policies at the State and Federal level that benefit fish and wildlife habitat. Wildlife corridor conservation is therefore core to our mission. Collaborative efforts to study how, why, and where a variety of wildlife species move and migrate are underway in many parts of the Country. My testimony focuses largely on big game species in the west, as that is where the majority of our work has been focused.

Across the west, herds of elk, mule deer, pronghorn, big horn sheep, moose, and bison make seasonal movements year after year from their summer ranges to their winter ranges and back again. Healthy, robust big game herds contribute to a way of life for many in the west, and they contribute to a \$454 billion national outdoor recreation economy, particularly in rural communities, often close to public land utilized for hunting and other forms of recreation, but it is not only about economics.

Big game species directly contribute to a critical ecological food chain by serving as prey for apex predators like mountain lions and bears, and habitat utilized by big game is also habitat that supports a diverse suite of species, such as waterfowl, riparian and aquatic species, even pollinators. By making sure those habitats are conserved and connected, we give a multitude of species greater ability to adapt and be resilient to the effects of prolonged drought, harsher winter climates, and a cycle of invasive annual weeds and wildfire that we so often see in my part of the Country.

It is because of these broad ecological benefits that support for the conservation of big game migration corridors has persisted across three Presidential administrations continues to earn support from a bipartisan collection of western Governors. Back in 2008, the Western Governors' Association, with leadership from the State of Wyoming in particular, commenced a multi-year effort that brought together State, Federal, and tribal agencies, private landowners, industries, and nongovernmental organizations for the purpose of prioritizing the conservation of wildlife corridors.

At that time, the Obama administration provided resources to the States to support this locally driven, bottom up approach. Then, as Senator Lummis noted, in 2018, the Trump Administration doubled down on this work with the signing of the Department of the Interior's Secretarial Order 3362 that focused on three distinct big game species and 11 of the western States. The order created several programs that provide grant funding and added capacity to State agencies, landowner organization, and NGO's for research and conservation projects.

Then, after the Biden Administration began, the Department of the Interior explicitly embraced the Secretarial Order, consistently included this issue in their early priorities, actively continued to implement programs and support funding, and expanded those programs to Tribal governments and private landowners.

Today, current programs focused on big game in the west garner broad support and offer a model for how the Federal Government can support State and tribal-led wildlife corridor conservation efforts more broadly across the Country. We believe this work should persist over time and be effectively scaled up to include additional wildlife species and geographies.

Demand for each of these programs is high, with requests far exceeding available funding levels, yet these programs are discretionary and funding levels are sourced from reprogrammed funds, making them unreliable and inconsistent. Dedicated and consistent Federal funding would be very valuable.

Importantly, it is critical that coordination between Federal, State, and Tribal agencies, as well as private landowners, and hunting, fishing, and conservation organizations continue and be fostered.

In closing, we stand ready to work with Congress to advance this issue. Thank you very much, Mr. Chairman. I look forward to answering questions.

[The prepared statement of Ms. West follows:]

**Testimony of Madeleine West
Center for Public Lands Director, Theodore Roosevelt Conservation Partnership**

**Senate Environment and Public Works Committee
Subcommittee on Fisheries, Water, and Wildlife**

“Opportunities to Conserve Wildlife Movement and Corridors Through Partnerships”

November 14, 2023

Good afternoon, Chairman Padilla, Ranking Member Lummis, and members of the Subcommittee. I appreciate the opportunity to represent the Theodore Roosevelt Conservation Partnership (TRCP) at today’s hearing. I am Madeleine West and I serve as the Director of the Center for Public Lands at the TRCP, a coalition of 63 hunting, fishing, outdoor recreation, landowner, and scientific organizations that was founded in 2002. At the TRCP, we are dedicated to ensuring the places where Americans love to hunt and fish are conserved and the species upon which we depend as hunters and anglers are managed at sustainable levels. The conservation of wildlife corridors and seasonal habitats is therefore core to our mission and has been a significant focus of our work for over a decade. And we are not alone. The TRCP works closely with state wildlife agencies and Governor’s offices, primarily in the West, federal agencies, non-governmental hunting and fishing and conservation organizations, and private landowners—all of whom have invested significant time and resources in the collection of data and research to better understand how, why and where wildlife move across the landscape, and apply that best available science to make smart decisions in support of the conservation of species within their jurisdictional authorities.

Across all corners of the country, wildlife migrate seasonally in search of adequate cover and food sources to support their full life cycle needs. Depending on the species type, those migrations may be far or they may be short. Wildlife also make daily movements that, while smaller in scale, have an impact on overall survival. The Theodore Roosevelt Conservation Partnership, and our partners in the hunting, fishing and conservation community, have primarily focused on the seasonal migration patterns of big game species in the Western U.S., and that is where the majority of my remarks today will focus. But collaborative efforts to study how, why and where a variety of wildlife species move and migrate—and actions to conserve those movement corridors—are underway in many parts of the country.

Today I will touch on the history of the broad partnerships that advance wildlife habitat and corridor conservation, particularly in the West, and the bipartisan support for specific programs that incentivize collaborative, bottom-up approaches to conservation.

Relevancy of Wildlife Corridor Conservation to Hunting, Fishing and Conservation Organizations

All across the Western U.S., herds of elk, mule deer, pronghorn, big horn sheep, moose and bison make seasonal movements year after year from their summer ranges to their winter ranges and back again—passing down migratory knowledge from one generation to the next. Healthy, robust big game herds contribute to a way of life for many in the West, and they contribute to a \$454

billion national outdoor recreation economy (U.S. Bureau of Economic Analysis, 2021), particularly in rural communities that are close to public land utilized for hunting and other forms of recreation. Economics—the economics of hunting and fishing, and also of wildlife watching—is one reason why state and federal agencies have invested in the conservation of migration corridors for big game species across the West for decades. But it's not only about economics.

Big game species themselves directly contribute to a critical ecological food chain by serving as prey for apex predators like mountain lions and bears. Without the ability for big game to migrate seasonally, wildlife abundance would decline and ecosystem balance could be disrupted. The seasonal habitat utilized by big game is also habitat that supports a diverse suite of other species, such as sage grouse, grassland birds, pollinators, and riparian and aquatic species. By making sure those seasonal habitats are connected, through the conservation of migration routes, we are ensuring that a multitude of species have a greater ability to adapt and be resilient to changes now and into the future—changes like prolonged drought, harsher winter conditions, and habitat conversion due to the spread of non-native weeds and the increased wildfire risk they cause.

Given all the benefits of conserving big game migration corridors and seasonal habitats, it's not a surprise that this conservation issue has received broad bi-partisan support. Conservation actions that allow migration corridors to remain open, such as the removal of fencing in critical locations or the addition of fencing in other areas to guide wildlife to safe highway crossings, are essential to maintain this ecological process that has occurred for millennia.

History of Bipartisan Support for Wildlife Movement Corridors

State wildlife agencies have statutory authority and responsibility to manage wildlife species within their borders for the benefit of the public today and into the future. In service of this mission, state wildlife agencies have historically collected data and conducted research to better understand the needs of each species and management approaches to support their existence at viable population levels. In 2008, a bipartisan group of 19 Western Governors, through the Western Governors' Association, recognized that wildlife do not obey political boundaries and identified the need for improved collaboration across jurisdictional boundaries to better understand how species migrate across distances large and small. This commenced a multi-year effort that brought together state agencies, federal agencies, Tribal wildlife agencies, private landowners, industries, and non-governmental hunting, fishing and conservation organizations for the purpose of prioritizing the conservation of wildlife movement corridors, crucial seasonal habitats that those corridors connect, and areas necessary to provide connectivity for a variety of species to move across political jurisdictions to meet their life cycle needs. A significant focus of the discussion was on long, cross-jurisdictional corridors, however the scope of the effort applied to all wildlife species under state management. During this time, resources were provided by the Obama Administration to state agencies and local collaborative efforts to support this locally driven, bottom-up approach.

An emphasis on the importance of conserving wildlife movement corridors and crucial seasonal habitat was elevated by the Trump Administration with the signing of Department of the Interior (DOI) Secretarial Order 3362, [*Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors*](#), in 2018. Secretarial Order 3362 focused on three distinct big game species—pronghorn, mule deer, and elk—across 11 Western states (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming)

and directed agencies within the Department of the Interior to take specific steps to coordinate with states to enhance and improve the quality of seasonal winter range and migration corridors. The Secretarial Order created staff positions and instituted a suite of programs and financial incentives to support local efforts to improve data collection, conduct research, and complete on-the-ground conservation projects.

This funding proved to be a major catalyst to advance work on big game wildlife movement corridors across the West, and it built off work previously initiated by western governors. It also came at a pivotal time when significant advancements in GPS technology catapulted knowledge about how, why, and where big game migrate seasonally from the metaphorical dark ages into modern times. The emphasis on this work by the Trump Administration also reinvigorated coordination between the 11 Western states—resulting in a [policy resolution](#) from the bipartisan Western Governors’ Association and establishment of a [migration-specific committee](#) by the Western Association of Fish and Wildlife Agencies; prioritized efforts within Department of the Interior agencies that resulted in key staffing positions including regional liaisons across the West; and renewed engagement from private landowners, and hunting, fishing and conservation organizations.

The Secretarial Order, and the funding support it created, is embraced by a broad spectrum of the hunting and fishing community because of the relevance of big game migration corridors and important seasonal habitats to our missions, and because of the deference it gives to states and Tribes as the managers of those species. It also has received broad support from the wider conservation community because, while being limited to big game, healthy habitats that support big game also support a suite of other wildlife species, and improve watershed health along with associated water supplies vital for animals and people.

So, when the Biden Administration began in 2021, DOI explicitly embraced the Secretarial Order with the endorsement of state and Tribal agencies, private landowner organizations, and the hunting and fishing and conservation community. The Biden Administration consistently included this issue in their early priorities and actively continued to implement programs and support staffing and funding streams initiated by the previous administration. In April 2022, DOI announced a first-of-its-kind agreement between the U.S. Fish and Wildlife Service (USFWS) and the Native American Fish and Wildlife Society to coordinate support and engagement to meet conservation needs, such as improving wildlife corridors and connectivity. The Biden Administration also expanded their focus beyond DOI. First announced in 2022, the U.S. Department of Agriculture (USDA) initiated a new program to incentivize big game corridor conservation efforts on private lands. USDA’s Migratory Big Game Initiative first utilized existing Farm Bill programs to target voluntary conservation efforts in areas important for big game corridors in Wyoming. The program has since expanded into Montana and Idaho and is an example of the way federal agencies and funding can significantly support conservation actions that make a real difference for wildlife.

Support for wildlife corridor conservation has persisted across three presidential administrations and has continued to earn support from a bi-partisan collection of Governors in the West. This speaks to the value this work offers to the American public and is evidence that it is a broadly supported, bipartisan issue.

Existing Federal Programs That Support Wildlife Corridor Conservation

The following popular programs and associated funding were established through Secretarial Order 3362 starting in 2018. Implementation has focused on the areas of emphasis in the Secretarial Order—three big game species and priority areas within 11 Western states—and work has recently been broadened to include Tribes. These initiatives offer a model for how the federal government can support state and Tribal-led wildlife corridor conservation efforts more broadly across the country.

- [Western Big Game Seasonal Habitat and Migration Corridors Fund](#) – Administered by the National Fish and Wildlife Foundation, this competitive grant program aims to conserve critical winter range and migration corridors for pronghorn, mule deer and elk in priority areas within 11 Western states outlined through Secretarial Order 3362. The Bureau of Land Management, USFWS and U.S. Forest Service have contributed approximately \$3 million for each funding cycle, augmented by additional private funds.

Five rounds of grants have been announced under this program since 2019, which cumulatively awarded \$15.6 million across 66 projects, leveraging \$72.3 million in matching contributions to generate a total conservation impact of more than \$87.9 million. The projects funded state and Tribal agencies, private landowners and non-governmental organizations to conduct projects such as habitat treatments to reduce invasive annual weeds, retrofit fences to be more wildlife friendly and increase connectivity, and conservation easements. The program consistently receives more applications than it has resources to fund.

- [State Research Grants](#) – DOI provided discretionary research grants to 11 Western state fish and wildlife agencies through the [USFWS Science Applications program](#) for the purpose of addressing gaps in scientific knowledge. Approximately \$3 million was provided in grants to states to address their priority needs. States have indicated there is a continued need for support.
- [Partners for Fish and Wildlife Program](#) – The Partners for Fish and Wildlife Program managed by USFWS has a successful history of developing partnerships and leveraging resources for projects that benefit people, communities and fish, wildlife and habitats. Through this program, USFWS provided approximately \$1.5 million to support voluntary, private landowner conservation projects within the 11 Western states relevant to SO 3362.
- [U.S. Geological Survey \(USGS\) Corridor Mapping Team](#) – SO 3362 prompted USGS to establish the Corridor Mapping Team—a collaboration between USGS and participating state and federal wildlife management agencies, as well as numerous Tribes. USGS has provided a range of \$300,000-500,000 annually to increase state and Tribal wildlife agency capacity to consistently map big game migrations and seasonal ranges throughout the West. When approved by the state or Tribal agency, these maps have been published through the Ungulate Migrations of the Western United States report series. Three Volumes of the series to date have detailed and mapped the migrations and seasonal ranges of 152 ungulate herds across the majority of the region.

Additionally, the following programs, created after Secretarial Order 3362 was issued, meaningfully advance wildlife corridor conservation and also share broad support:

[USDA Migratory Big Game Initiative](#) – Initiated in 2022, USDA provided \$15 million to help willing landowners and their partners conserve private lands for the benefit of migratory big game populations in Wyoming through the Environmental Quality Incentives Program and the Agricultural Conservation Easement Program, in addition to rental payments to producers who enroll in the Grasslands Conservation Reserve Program. This funding supported projects such as removal of fencing that blocked wildlife movement, treatment of invasive weeds that reduce forage quality for wildlife, or voluntary conservation easements that prevent habitat fragmentation. The program was expanded in 2023 to include Montana and Idaho and an additional \$21.4 million was provided.

[Federal Highway Administration \(FHWA\) Wildlife Crossing Pilot Program](#) – The Infrastructure Investment and Jobs Act of 2021 authorized \$350 million total for federal fiscal years 2022 through 2026 for FHWA to administer this competitive grant program for the purpose of reducing wildlife-vehicle collisions while improving habitat connectivity for terrestrial and aquatic species. The scope of this program is broader than big game, and eligible entities are state, regional or local transportation authorities, Tribal agencies, and federal land management agencies nationally. In April 2023, FHWA issued the first Notice of Funding Opportunity and is prepared to award over \$111 million in this initial round of funding.

Building from the conservation successes these federal programs have catalyzed specific to big game in the West, the TRCP believes they could be efficiently scaled up to accommodate broader wildlife species and additional state and Tribal jurisdictions. Currently, the programs’ purposes are discretionary and subject to support from future administrations. Further, from the beginning, funding levels have been discretionary and sourced from reprogrammed funds—meaning that funds to pay for this work are being pulled away from other agency priorities. Reprogramming will only continue to occur so long as staff at the Departments and agencies prioritize this work—an approach that does not provide reliable and consistent funding. It should come as no surprise then that funding levels for SO 3362 programs have declined over the past six years since their inception. This leaves state and Tribal agencies, private landowner groups, non-governmental organizations—the recipients of these programs—unable to plan for long-term conservation projects and priorities that will most benefit wildlife, and which require reliable funding levels to sustain.

Opportunities to Enhance Conservation Successes for Wildlife Corridors

1. Consistent programmatic direction: The TRCP and many of our partners support clear Congressional direction for federal agency programs that support the research, mapping, and conservation of wildlife corridors. The programs listed above have demonstrated the ability to drive conservation outcomes for a subset of big game species in a subset of the country, and we believe this should persist over time. With clear direction from Congress, and an expanded scope of additional wildlife species and geographies, we feel confident that positive conservation results would be realized and that this action would be met with strong support.
2. Dedicated funding: Federal funding to incentivize and increase capacity for state and Tribal

agencies, private landowners and non-governmental organizations has dramatically advanced conservation actions for big game species in the West, and any funding provided through federal programs should be dedicated and consistent. Funding to date, even for this narrow subset of species and geographies, has been well below demonstrated demand and need, and has been reprogrammed from other sources—an unreliable and inconsistent approach. Additionally, each year the current programs have been subject to discretionary funding levels, which limit the ability of grantees to effectively plan for future projects, maintain ongoing research projects and effectively plan for multi-year projects.

3. Increased coordination: Given the varied partners that must coordinate effectively to advance wildlife corridor conservation efforts it is critical that coordination between federal, state and Tribal agencies, as well as private landowners and hunting, fishing and conservation organizations continue and be fostered. Funding through the programs listed above plays a large role to increase coordination. Federal coordination must also occur internally to ensure all relevant Departments and agencies play a support role. Since wildlife do not obey political jurisdictions and land ownership patterns, there are many federal jurisdictions that can have a positive impact on wildlife corridors from public land management at DOI and USDA, to voluntary private land incentive programs within USDA, to a variety of transportation infrastructure programs administered by the U.S. Department of Transportation.

Conclusion

In closing, I thank Chairman Padilla, Ranking Member Lummis, and members of the Subcommittee for calling attention to the important opportunity to conserve wildlife movement corridors and crucial seasonal habitats. This is truly an opportunity to institutionalize programs and policies that have demonstrated success and share broad bipartisan support. The TRCP and our partners in the hunting and fishing community stand ready to work with Congress to advance solutions that will realize this opportunity and build off decades of past work.

Senate Committee on Environment and Public Works
 Subcommittee on Fisheries, Water and Wildlife
 Hearing Entitled *“Challenges and Opportunities to Facilitate Wildlife Movement and
 Improve Migration Corridors”*
 November 14, 2023
 Questions for the Record for Ms. Madeleine West

Ex-Officio Chairman Carper:

1. In today’s hearing, our witnesses have shared detailed maps for big game showing how elk and deer move across large landscapes, but we have heard less about smaller, non-game species. Delaware – and really every state – has a number of salamanders, frogs and snakes, for example, that need to move across their habitat during their life cycle. Would you talk about what we know about wildlife corridors for non-game species?

Broad efforts to understand the migration and movement of wildlife species, and consistently map those movements, have been largely focused on big game species for two primary reasons: funding and technology. Funding for research and data collection within state wildlife agencies largely comes from agency revenues generated by hunting and fishing licenses. Most states lack dedicated funding for the management of non-game species, which means that data collection and research is often cost prohibitive. Additionally, the advancement of GPS collars as a data collection method have led to a more widespread and consistent data collection and mapping effort for big game. The technology to allow smaller GPS trackers for smaller, non-game species, like [golden eagles](#) for example, does exist, but has not been widely utilized to date. This new technology is significantly more expensive than the larger GPS devices currently used for big game, and its application is more time consuming for smaller, non-game species than for larger animals. Where it may take a day to trap and install GPS collars on 10-12 deer a single eagle could take dozens of hours of dedicated staff time.

There are efforts underway to map the migration and movements of non-game species, but they are much more localized than any of the work to date on big game species. The broadest dataset I am aware of is the study of many different migratory bird species. Migratory birds make a long and perilous journey across North America every year. Similar to big game, these birds depend on crucial breeding, stopover, and wintering sites for their survival. And just like big game, conservation of the essential habitat needed for avian migration is crucial to the survival of migratory birds.

There is a wealth of data available on the paths that migratory birds take, from [eBird](#) to tracking and banding data, and organizations like [National Audubon Society](#) and the Migratory Bird Joint Ventures have advanced efforts to identify important habitats for avian breeding, nesting, migration, and stopover areas. Yet this data has not been fully standardized and applied across jurisdictions.

Efforts I am aware of for smaller, shorter roaming species are extremely localized and often resource constrained. Many result in partnerships between community volunteers, local non-

profits and local academic institutions. One such example I am aware of is [a local collaboration](#) between NGOs, community members and the state transportation department to record the spring seasonal movements of salamanders in a town in Vermont.

- a. How can Congress support additional research and programs for these types of wildlife species?

Increased resources to state and tribal agencies with broad jurisdiction to manage game and non-game species would go a long way to driving the expansion of data collection and research to inform their movement and migration patterns. Congress could authorize and expand existing programs that support research and data collection for big game, initiated under Department of the Interior Secretarial Order 3362, to accommodate additional species in their scope. Dedicated and consistent funding to these programs would ensure that ongoing research and data collection efforts persist over time. Congress could also take action to provide a dedicated funding stream to state fish and wildlife agencies for the management and conservation of non-game species, similar to the successful way that game species receive dedicated funding under the Pittman-Robertson Wildlife Restoration Program. Additional resources would allow for the application of new GPS technology to better understand where and how species move and migrate, provide additional capacity for staff time to deploy this new technology, and would foster collaboration and consistent methods across wildlife management agencies.

Senator PADILLA. Thank you.
Mr. King.

**STATEMENT OF RICHARD KING, CHIEF GAME WARDEN,
WYOMING DEPARTMENT OF FISH AND GAME**

Mr. KING. Good afternoon, Chairman Padilla, Ranking Member Lummis, and members of the committee. My name is Richard King, aka Joe Pickett, and I am Chief Game Warden with Wyoming Game and Fish Department.

Each summer, millions of people visit Wyoming's portion of the greater Yellowstone ecosystem, making stops Grand Teton and Yellowstone National Park. These visitors are blessed with the opportunity to see a rich diversity of native wildlife on their summer ranges and can observe mule deer and prong horned does with newborn fawns and cow elk with their less-than-graceful calves among a backdrop of the snow-covered Teton Range. These does and cows capitalize on lush, protein-rich foods that this high country environment delivers, and in turn, provides the nourishment their offspring need to grow quickly.

As quickly as the green wave hits this high country environment, winter returns, bringing snow and cold temperatures in a challenging environment, triggered by increasing snow and decreasing temperatures, migratory big game begin to move out along routes learned over generations. These routes will take them to lower elevation winter ranges, where forage is abatable on south-facing slopes and wind-swept ridges, although their odds of survival are largely determined by the fat stores they bring with them from their summer buffet.

Along their routes to winter ranges, they will make short stops to rest in areas of high-quality habitat. These stopover areas may be relatively small and used only for a short duration, but are weighted heavily in the equation of survival. Some of the mule deer observed in Grand Teton in July will migrate through the private land of a fourth-generation dry land farmer in Teton County, Idaho. Some will migrate to the 2.2 million acre Wind River Reservation, where tribal wildlife managers welcome the return and oversee the well-being of this natural resource, just as their ancestors have for thousands of years. Some of the deer will move through Yellowstone National Park, the Shoshone National Forest and eventually find winter refuge on many small parcels of private property, just outside of the fast-growing community of Cody, Wyoming.

Regardless of their final destination, migrating deer will cross highways and other roads with rapidly increasing traffic volumes, exposing people to greater and greater risk of a collision.

In Wyoming, our biologists, working closely with scientist at the University of Wyoming and elsewhere have entered the era of big data, and we can now describe the routes used by migratory wildlife in detail. This ability to trace these movements allows us to visualize the importance of State, Federal, tribal, and private land. The intact migrations we observe in Wyoming today reflect the habitat stewardship that has occurred and continues to occur on these lands.

Former Governor Mike Sullivan described Wyoming as a small town with unusually long roads. I would add that Wyoming is a small town with unusually long migrations, and Wyoming's approach to policy starts with the recognition that our strong sense of community shapes the way we work together. Governor Mark Gordon's Migration Corridor Executive Order, which supports conservation of migration habitat while recognizing private landowner rights and multiple use opportunities, was created after carefully listening to and incorporating the ideas of private landowners, industry partners, including oil and gas producers, and scientists who have devoted their intellect to the study of animal movement.

Nearly a century ago, Aldo Leopold observed that conservation will ultimately boil down to rewarding the private landowner, who conserves the public interest. Wyoming is finding abundant opportunities to team up with private landowners whose working lands provide a critical linkage in the migration chain. Through our partnership with the USDA, for example, we know that voluntary, incentive-based programs with built in flexibility and agility to meet individual landowners needs is paramount.

The intact landscapes that support migration provide important ecological functions and benefit a wide diversity of wildlife, from predators to pollinators. The management abundance and quality of our wildlife resources are deeply intertwined with important components of the State's economy, including agriculture and tourism.

The study of animal migrations in Wyoming allows us to prioritize conservation efforts and highlights the need to focus our attention on working lands. These working lands are integral in maintaining landscapes where animals can move freely between important habitats, and landowners in Wyoming are eager to help conserve the ecological functions their lands provide. Conservation opportunities on working lands require strong relationships, and State and Federal and private resources applied in a flexible and agile manner.

I greatly appreciate your interest in wildlife conservation and the opportunity to share some of Wyoming's experience with you. Thank you, and I look forward to our discussion.

[The prepared statement of Mr. King follows:]



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Prepared for the U.S. Senate Committee on Environment and Public Works, Subcommittee on Fisheries, Water, and Wildlife

Challenges and Opportunities to Facilitate Wildlife Movement and Improve Migration Corridors

Testimony of Richard King
 Chief Game Warden/Chief of the Wildlife Division
 Wyoming Game and Fish Department

November 14, 2023

Wyoming is home to rich and diverse wildlife resources, valued by an equally proud and diverse constituency. Much of our wildlife habitats remain as they were in the 1800s, providing wide open spaces and wild country for iconic western big game species like mule deer, moose, pronghorn antelope and elk. These resources directly influence the quality of life of Wyoming citizens and encourage visitors across the nation, deepening the belief that wildlife and their habitats are worthy of conservation efforts. I am thankful to committee members for the opportunity to provide testimony on Wyoming's migration program and the importance of partnerships, science, policy and management actions.

Today, I offer the perspective of a Wyoming wildlife manager that works closely with private, state, federal and tribal land managers to conserve and protect wildlife. Our unique, open landscapes allow wildlife to move freely between seasonal ranges, providing protection and forage during spring and summer seasons and food to survive the harsh Wyoming winters. Wyoming values these wildlife migration patterns and is a leader in the research and implementation of migration management and conservation activities. Public passion for wildlife migration and an increase in new funding opportunities, paired with access to the latest science and technology has encouraged widespread conservation work.

Big game migration is important

Science shows us that long distance migrants are more productive, healthy and successful raising their young. Migration between winter ranges with less snow and higher elevation summer ranges with more productive forage resources enables survival and is fundamental to the health of Wyoming's big game populations. In addition, the management, abundance and quality of our wildlife resources are deeply intertwined with important components of the State's economy, including agriculture and tourism. Intact landscapes also benefit a wide diversity of wildlife from predators to pollinators. When one part of this system is reduced or removed the entire system can easily unravel.

Wyoming's model for success: using science and partner collaboration

Aside from southern Africa, the Greater Yellowstone Ecosystem (GYE) is one of the only places on Earth where long distance migrations of multiple species still follow the historical migration patterns of their ancestors. At just over 3,400 square miles, the GYE core is formed by Yellowstone National Park, but includes a diversity of federal, state, tribal and private lands that, collectively, support these populations. Wildlife use the landscape without knowledge of political or land ownership boundaries (Fig. 1) so we must collaborate across land jurisdictions to have success. Tribes have understood these dynamic migratory systems for generations. The Department routinely partners with tribal governments to improve landscape connectivity and shared management capacity.

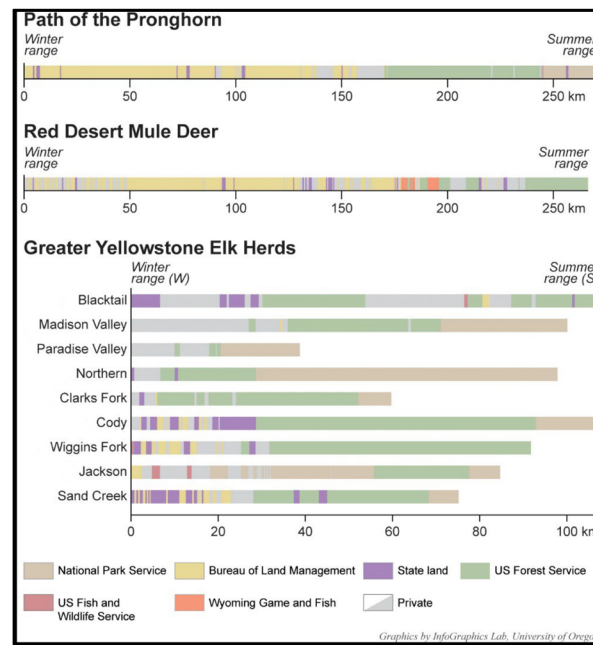


Figure 1. Land ownership within key pronghorn, mule deer and elk migratory routes in the Greater Yellowstone Ecosystem. Big game migrations depend on policy, management and stewardship working seamlessly across a wide variety of land ownerships.

Some of the first migration scientists worked on big game in the GYE. Scientists realized we had long distance migrants through neck banding elk in the 1960s and then better understood these movements with the use of Very High Frequency (VHF) collars by the 1970s. Global Positioning System (GPS) collars were used for the first time in 1994 to understand migrations, again in the

GYE. GPS collars communicate with satellites and record an animal's precise location with an associated date and time to provide biologists with extremely fine scale data. The wide-scale use of GPS collar technology revolutionized how scientists understand the details of big game movements.

Wildlife is in an era of big data, and we know a lot about what big game animals do. Our partnership with the United States Geological Survey and the Wyoming Cooperative Fish and Wildlife Research Unit at the University of Wyoming has been essential to better understand how big game wildlife use landscapes. Through this work, 182 migrations have been mapped throughout the western United States. In the GYE alone, 54 herds including over 2,600 individuals and 26,000,000 data points have been analyzed with additional work ongoing (Fig. 2).

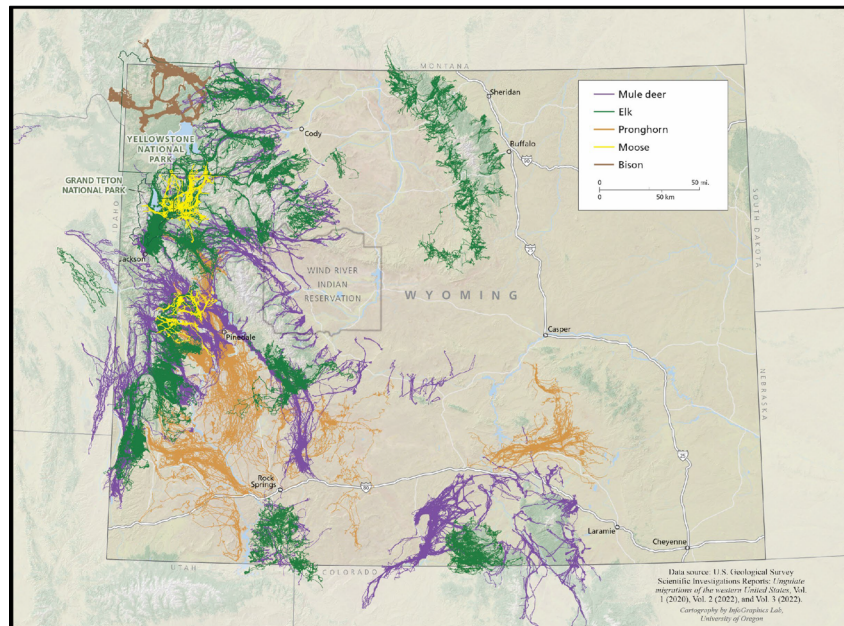


Figure 2. Big game migration routes in Wyoming that have been mapped through partnership with USGS, and are available through the Volumes 1, 2, and 3 of the Ungulate Migrations of the Western United States publications.

Managers use this data to delineate seasonal ranges including migration routes. In many places throughout the West big game migration data and science are being used to repair severed migration routes or target mitigation activities. However, in Wyoming we are able to prioritize conserving functional long-distance migrations that are still occurring. Wyoming is blessed with

extensive intact native landscapes and has several examples of mule deer and antelope populations with migrations that exceed 150 miles one-way between winter and summer ranges. It is much more effective to conserve the movements that we still have rather than trying to recreate them.

Although Wyoming and the GYE are still relatively intact, there are threats to connectivity. We have the science and the tools to minimize the negative effects of development, identify risks and mitigate threats better than ever before. For example, analysis of GPS collar data indicates there are thresholds of surface disturbance and development that are tolerated by wildlife, but exceeding these levels can decrease use and negatively impact connectivity and the nutritional benefits of migration.

State-led conservation measures

Migrations at the scale we have in Wyoming rely on private working ranch lands. In order to maintain open space we need to keep these agricultural producers in business so they can maintain open spaces from which wildlife benefit. Wyoming has worked with the United States Department of Agriculture (USDA) and other partners to develop the Wyoming-USDA Big Game Partnership. It is a flexible incentive-based program that puts the right practices in place that are relevant to the unique stakeholders and threats in each area. Even within Wyoming the threats to wildlife and needs for working ranchers are diverse. Our program works to accommodate those differences by providing a wide variety of conservation options that work together for landowners. For example, when ranchers enroll their land in the Grassland Conservation Reserve Program they are provided a payment per acre and in exchange agree to not develop this land for either 10 or 15 years. The program emphasizes support for grazing operations, plant and animal biodiversity, and grassland and land containing shrubs and forbs under the greatest threat of conversion. In our experience voluntary programs are a more effective approach than regulatory mechanisms. When federal funding can support state-led initiatives, private landowners have a greater level of buy-in and we are all successful together.

We have outstanding collaborations, including meaningful partnerships with federal land managers, private landowners and nongovernmental organizations. In 2022, the Wyoming Game and Fish Department (Department) spent \$4,666,000 on habitat conservation work and partners spent an additional \$10,187,000 for a total of \$14,853,000. This shows a clear commitment from our Wyoming Game and Fish Commission and a wide variety of partners. Wyoming Wildlife and Natural Resource Trust (WWNRT) is a great model of how to leverage state funding to match federal funds and maximize our overall effectiveness together. The Wyoming Legislature created the Wildlife and Natural Resource Trust in 2005. Funded by interest earned on a permanent account, donations and legislative appropriation, the purpose of the program is to enhance and conserve wildlife habitat and natural resource values throughout the state. The Department along with our partners have treated nearly 600,000 acres for cheatgrass and other invasive weeds. Our fence modification program has removed or converted over 6,000 miles of fences to wildlife-friendly standards to improve permeability and access to important habitat. And we have been implementing a variety of vegetation treatments including conifer reduction and aspen enhancements for over 20 years. A great deal of these projects have been completed on private

land, but most importantly we strive to develop projects that cross land ownership boundaries and treat threats on an ecological scale opposed to a scale limited by land ownership boundaries.

Wildlife crossing work has been another area where Wyoming has found success through partnerships and incorporating the best available science into our conservation work. We have, in partnership with Wyoming Department of Transportation (WYDOT), built 28 over- and underpasses for big game on Wyoming highways since 2012. We could not have experienced this level of accomplishment without federal funding, such as the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Transportation Discretionary Grant program. Through implementing these projects we have not only ensured wildlife are able to safely cross roadways and access necessary seasonal ranges, but we have made these same roadways safer for motorists by reducing vehicle collisions. The state held a Wyoming Wildlife and Roadways Summit in 2017 which brought together our Department, WYDOT, other government agencies, non-governmental organizations and the public to identify and prioritize future wildlife crossing work. A Top 10 list was generated from the 240 projects identified by attendees and serves as a basis for the collaboration between WYDOT and the Department on wildlife crossing work. In 2019, the Wyoming Legislature created the Wildlife Conservation License Plate program which allows drivers to pay an additional fee with annual vehicle registration which goes into an account to be used to implement wildlife crossing projects.

Policy support

In 2016 the Commission enacted the Ungulate Migration Corridor Strategy which directed the Department to designate migration corridors, including bottlenecks and stopovers, and consider them as vital habitat for management. The fundamental concept of making decisions based on the best available science and evaluating actions on a case-by-case basis are cornerstones of this document and are still in place today. Through this process the Commission designated three mule deer migration corridors, in which the Department has been able to prioritize conservation actions.

In 2018, former U.S. Secretary of the Interior Ryan Zinke signed Secretarial Order 3362, which calls for conserving, enhancing and restoring big game winter range and migration corridors used by antelope, elk and mule deer in Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. The order relies on development of individual State Action Plans, developed by States and Tribes, in order to prioritize funding for targeted areas. Collaboration between all groups to improve these areas is an important step toward building trust between State, Tribal and Federal partners which ensures durability and effectiveness of this program. Our Wyoming State Action Plan is updated annually and has resulted in an important funding mechanism and expanded collaborations for our priority herds. In the last five years \$29 million from DOI agencies have been provided to States and Tribes as well as an additional \$4.4 million specifically from United States Fish and Wildlife Service Partners for Fish and Wildlife Program. This is an excellent example of a targeted approach that provides flexibility for states to customize conservation actions that directly address their greatest threats to big game wildlife.

In 2020 Wyoming Governor Mark Gordon enacted the Wyoming Mule Deer and Antelope Migration Corridor Protection Executive Order (EO). The EO compliments the Commission's

Ungulate Migration Corridor Strategy. The Executive Order outlines a state-led designation process that leans heavily on public stakeholder input and relies on the best available science to map migration corridors. Within designated corridors, new infrastructure, recreational use and development conditions are evaluated on a case-by-case basis in order to ensure functionality of the corridor will coexist with multiple uses. Bottlenecks, high use areas and stopovers are supported as the most important areas for conservation, based on science. The regulatory process outlined in the EO is not required on private land, which is an important component. There are extensive opportunities to voluntarily engage in incentive programs for those landowners who wish to work with the Department to implement conservation actions. For example, many landowners have received financial assistance from the Department or USDA to modify existing range fences to wildlife friendly specifications. These projects support the working ranch operations and improve permeability for wildlife to move between seasonal ranges and access important habitat. The Department is currently working through the public identification and designation process for the Sublette antelope migration corridor.

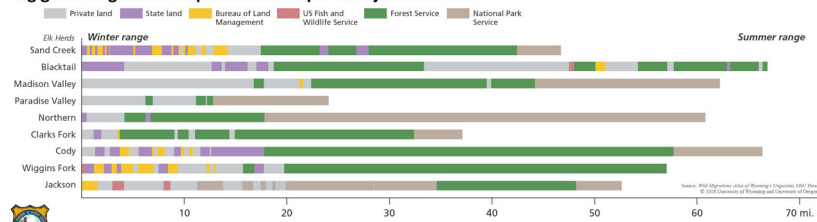
Summary

The Wyoming model for ensuring the persistence of big game migration has been successful. Our program is built on cooperation and collaboration between a wide variety of stakeholders, and is rooted in science guiding our management decisions. We want to continue to support durability and flexibility in our programs and lean on voluntary incentives to ensure private land continues to support big game migrations. The challenges are bigger than ever for conservation. We need to continue to adapt to the ever changing world around us. We appreciate the opportunity to share this information in an effort to increase the overall impact of conserving wildlife migration throughout the country.



Source: Mark Goeke

Big game migrations depend on multiple land jurisdictions





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12/19/2023

**Senate Committee on Environment and Public Works
 Subcommittee on Fisheries, Water and Wildlife
 Hearing Entitled “Challenges and Opportunities to Facilitate Wildlife Movement and
 Improve Migration Corridors”
 November 14, 2023
 Questions for the Record for Mr. Richard King**

Ex-Officio Chairman Carper:

1. State wildlife agencies are responsible for managing species across an entire state while working with many different stakeholders and landowners – a lofty task with limited resources. Would you talk about the challenges your agency has faced with finding the resources for habitat connectivity programs – particularly given lots of competing conservation priorities?
 - a. Do you have more resources specifically for game species than for non-game species?

Response for the Record:

The Wyoming Game and Fish Department (Department) is directed by the Wyoming Legislature to manage all of the state’s 800 terrestrial and aquatic wildlife species (W.S. 23-1-103). Ensuring species have sufficient habitat resources and connected landscapes to maintain viable populations is an important component of our management responsibility.

To pay for wildlife management, the Department employs a model similar to most state wildlife agencies in which the sale of hunting and fishing licenses generates the majority of its revenue (60% annually). The Wildlife and Sport Fish Restoration Program (WSFR) administered by the United States Fish and Wildlife Service provides another 20% of revenue each year for the Department. The WSFR Program contains two funding sources: the Sport Fish Restoration and Boating Trust Fund and the Wildlife Restoration Program.

The remainder of the Department’s annual revenues come from various private, state, and federal grants as well as interest from accounts and donations. The Department does not currently receive any general fund money from the State of Wyoming coffers. For FY22, the Department’s total revenue was approximately \$95 million.

Conserving Wyoming’s wildlife is an expensive endeavor. Increasingly complex wildlife management challenges require the agency to prioritize and adjust expenditures to stay within relatively flat revenues. For example, the cost of preventing the introduction or spread of

invasive aquatic species and annual grasses has increased sharply in recent years. Surveillance for, and research to address, wildlife diseases such as chronic wasting disease, whirling disease, and brucellosis requires substantial infusions of agency funds. The management of species listed under the Endangered Species Act (ESA) require significant expenditures of sportsperson dollars. For example, the state spends about \$2 million dollars each year on grizzly bears alone. Population monitoring and habitat improvement work for species under perennial threat of ESA listing, such as the Greater Sage Grouse, also require sizeable investments. Given the many competing conservation priorities, tackling large, landscape scale efforts to maintain habitat connectivity is a challenge.

Wyoming is fortunate to have intact habitats and is largely focused on conserving habitat connectivity rather than connectivity restoration, which is substantially more costly. Much of the work to ensure habitat connectivity requires willing partnerships with private landowners. The work to conserve habitat connectivity and functionality of wildlife movement corridors is best achieved through voluntary, incentive-based efforts. The Department cannot fund these efforts alone. Other sources of funding are important and necessary in order to achieve positive conservation outcomes.

The state of Wyoming has created unique mechanisms to fund conservation work on public and private lands. For example, the Wyoming Legislature created the Wyoming Wildlife and Natural Resource Trust in 2005 and to date has helped put more than \$800 million to work for Wyoming's wildlife through matching grant agreements and partnerships. Recognizing Wyoming's momentum and success, the United States Department of Agriculture (USDA) created the Migratory Big Game Initiative to provide a package of voluntary, incentive based investments in private land conservation.

Initiatives like the Wyoming Wildlife and Natural Resource Trust and the USDA Big Game Initiative are the type of impactful and forward-thinking actions necessary to achieve important conservation objectives such as habitat connectivity. Passage of the Recovering Americas Wildlife Act would provide states an unprecedented opportunity to leverage existing efforts to address many challenges, including habitat connectivity. This one act could provide the momentum to achieve proactive, positive outcomes for people and wildlife for many generations to come and would help focus financial resources on non-game species.

While much of Wyoming's work has focused on big game, other species benefit from intact and connected habitats. Funding this work is costly. State agencies have limited financial resources to achieve and maintain the type of landscape level actions necessary to achieve habitat connectivity. Federal and state partnerships and creative funding mechanisms that provide voluntary, incentive based actions on private lands will be increasingly critical for the conservation of wildlife in Wyoming and across the country.

Senator PADILLA. Thank you very much. Thank all three of you for your testimony.

We will now turn to questions. Before I begin, I just want to thank Senator Ricketts for being here, and we have also been joined by Senator Boozman for this worthwhile conversation.

As we begin questions, I want to start with one relative to public opinion as it relates to wildlife and wildlife migrations. Polling has shown that an overwhelming majority of Republicans, Democrats, and Independents support restoring or preserving wildlife habitat connectivity and migration corridors.

First, Director Bonham, are you seeing that level of support in California?

Mr. BONHAM. Absolutely, and the reason is pretty simple. People get it. The experience people have with our wildlife ranges, but they all intuitively connect with this idea of connectivity.

I see it in three ways, as examples. The photo that you had behind you of P-22, the mountain lion, that lion was in the middle of Los Angeles. An apex predator in one of the largest cities in the world, stuck in an island surrounded by roads, that animal could look across 10 lanes of highway and see other mountain lions, but they cannot connect. As a result, the population that is stranded in the Santa Monica Mountains is breeding out to extirpation.

As a result of his death, and I am the individual that made the hard decision to euthanize that animal, a movement has emerged. Citizens like Beth Pratt, foundations like the Wallis Annenberg Foundation, 3,000 people who donated to the cause, and now we will have a crossing over 10 lanes of highway, 300,000 people travel that daily, but there are different examples.

In 2022, our department sold almost two million licenses for hunting and fishing. I am a fly fisherman. I have been to your great State, Ranking Member, for that passion. You stand in a river; you know a salmon and a trout need connectivity.

If you are a hunter, and you hunt big game, you know desert bighorn sheep need broad landscapes that they can move around for their survival. Whether you are a hunter or an angler or a Hollywood celebrity, you know what freedom to roam means, and that is why it is, I would say, a nonpartisan issue in my experience in California.

Senator PADILLA. Mr. King, a followup question: can you speak to the support for Wyoming's habitat connectivity efforts and why these methods might be so broadly supported?

Mr. KING. Absolutely, thank you for the question. In Wyoming, we do enjoy broad support for preserving migration corridors and the work we are doing to ensure safe passage across highways and roadways in Wyoming. It is really easy to get behind conserving wildlife.

Wyoming's wildlife is important to the people that live there. It is also important to the millions of people that visit every year, and it is easy to get behind those actions that help safe passage of people along our roads and highways. It is definitely a win-win situation.

I would just highlight the work of our State's first overpass for pronghorns that was built in 2012 that was mentioned already. That was a fantastic project where pronghorn that have been cross-

ing there for thousands of years were able to continue to do so, and yet the safety for folks traveling on that highway has been increased significantly. The support is definitely there.

Senator PADILLA. Finally, Ms. West, based on your work and research, why do you believe there is such strong bipartisan support for this issue, and why is it important to TRCP?

Ms. WEST. Thank you, Senator. I can sit here and say that this is the top conservation issue for hunting and fishing organizations and conservation issues broadly right now, because abundant wildlife populations of big game species and small game species, even, like waterfowl, are important to the TRCP and our partners and the 14 million hunters in this Country, but it is more than just animals that you can hunt.

Many non-hunted species benefit from high quality habitat, healthy habitat, connected habitat, indirectly. The work that has been done for big game in indirectly supporting other species, and that is why so many non-hunting conservation organizations have supported this work over the years.

That is why this work is relevant to the 148 million people who enjoy wildlife watching in this Country. A new report from the Fish and Wildlife Service recently came out with numbers from 2021, and 148 million people enjoy watching wildlife in the Country, so it is an easy issue for the American public to get behind.

Senator PADILLA. Thank you. I will now recognize Senator Lummis and ask her to chair in my absence for a few minutes while I run over the Rules Committee and back.

Senator LUMMIS.

[Presiding.] Thank you, Mr. Chairman.

When I turn it over to you, Senator Ricketts, I hope you will talk a little bit about your work as Governor and member of the Western Governors' Association on these issues at WGA, but before that, I want to ask a couple of questions.

Mr. King, I know last week, you were involved in a meeting on these subjects. Department of Interior was there, USDA, conservation community. Could you describe what you heard from those who are working so hard on this issue?

Mr. KING. Thank you for the question. Last week in Jackson was a great opportunity for folks that are working hard on the ground to preserve wildlife migrations. They were able to get together in this forum that was put together by the Greater Yellowstone Coordinating Committee.

One of the first things I observed was just how important that forum is. It was really important to get folks together who are on the ground trying to do this work. The value of that forum was invaluable. I heard a lot about the importance of private lands, and I wanted to stress that point today.

Private lands are very important in a State like Wyoming where half the State is privately owned. Our partnerships with private lands is absolutely critical, and I heard the practitioners at last week's meeting stress that point.

I also heard that time is of the essence. The west is changing rapidly, and we need to respond rapidly. The opportunities are there right now. I heard that government leaders need to work closely together, so there is a lot of great work going on amongst

different departments and different agencies. The more often that they can come together and support one another's efforts, the better off wildlife will be.

I heard the importance of things like conservation easements and other tools that are being put on the ground. I heard a lot from nongovernmental organizations who are really working hard to raise funds and to help in this effort. What I heard from them is that they need things to move more quickly, and they need speed and agility in the programs that they are trying to put forth for wildlife conservation.

Last, I heard just how powerful Secretarial Order 3362 has been in providing funding and support for Wyoming's efforts and other States, as well. Again, it was a wonderful format. I appreciate it. Thank you.

Senator LUMMIS. So, could you go into a little more detail about Secretarial Order 3362 and how that affected what Wyoming is already doing?

Mr. KING. Yes, thank you. Secretarial Order 3362 really was, first off, it was designed well. It was designed with input from States and other agencies and entities. It has provided us an opportunity to really maximize the great work that Wyoming has been doing for a long time. It has provided directed funding to efforts like fence conversions, where we are able to convert hundreds of miles of fence into wildlife-friendly fences that allow for passage and migration. It has allowed us to address cheatgrass concerns, for example, which is really a plague in our State right now.

Senator LUMMIS. It is.

Mr. KING. Secretarial Order 3362 really has complemented Wyoming's work. It is the right approach for us. Our State-based action plans are driven by efforts that are already underway in the States, and we really appreciate the help and support that is provided.

Senator LUMMIS. Thank you. Ms. West, can you speak to how TRCP works with State wildlife agencies and private landowners? Before you answer, I want to put in a plug for the Partnership of Rangeland Trusts. These trusts are, I think, another way to really plug in to what is the West's most significant conservation easement organization, the groups involving California, the Montana Land Reliance, the Wyoming Stock Growers Land Trust, Colorado Cattlemen's Land Trust, Kansas, I don't know if Nebraska is involved in this, but those land trusts, I think, can be a good partner in these efforts, as well.

That said, Ms. West, I am interested in your response.

Ms. WEST. Thank you, Senator. We work closely with State wildlife agencies in the western States, as well as private landowner and landowner organizations, like Wyoming Stock Growers. This work is only happening because of the work that State wildlife agencies and private landowners are doing on the ground.

We are not an on-the-ground conservation organization. We do not hold conservation easements. We are not a land trust. We are a policy organization, and so we look at how we can add capacity and support for the priorities that States and private landowners have. In the context of wildlife migration corridors, when the States have shown leadership around this work, we have been

working actively to make sure that support for Secretarial Order 3362 continued when the Biden Administration came in that the funding for the several programs that have really been funneling money to States for research and data collection and added capacity for conservation projects continues and grows.

We have been working to make sure that those programs are eligible for private landowners, like the grant program administered by the National Fish and Wildlife Foundation, which funds not only State wildlife agencies and Tribal wildlife agencies, but also private landowner groups and NGO's doing conservation work, like land trusts. We have been supportive of USDA expanding their work in this area into a private land pilot program in Wyoming, and now also Montana and Idaho.

I am here today just to talk about the wild success of these programs to date in supporting State and private landowners and acknowledge that with additional funding, more benefit could be happening.

Senator LUMMIS. I have encouraged the USDA and will continue to do so. If they are going to involve themselves to actually help land trusts, they have to be more permissive. Their restrictions make landowners not want to participate, and that just dries up tremendous opportunities for conservation.

I have a question for you as well, Mr. Bonham, but my time has expired, so I will come back to you in round two. The floor is now with Mr. Ricketts.

Senator RICKETTS. Great, thank you very much, Ranking Member Lummis. I also want to thank the Chairman as well for having this important hearing. Thank you to our witnesses for coming to describe your experiences with wildlife management.

In Nebraska, we have a number of wildlife species that are migratory, and in fact, we have that central flyway migratory corridor that goes through our State that includes the migration of the sandhill crane. The sandhill cranes have been coming through Nebraska for millions of years. About a million of them come to Nebraska and land in the Platte River Valley. That is about 80 percent of the world's population of sandhill crane.

As Governor, I actually named the sandhill crane as our State migratory bird. Actually, we talked a little bit about some of the risks to people when you have wildlife crossing streets and there are car accidents.

Ms. West, you talked about some of the economic upsides, but tourism is another one that doesn't involve hunting as we get thousands of tourists to come in and watch those migrations. If you haven't seen it, I highly recommend it. It is actually a really fantastic thing to see. I was also encouraged to hear you all talk about the need to have cooperation with the Federal, State, local, NGO's, also, but speaking with private landowners, because that is necessary that we have a Federal land policy that includes all that.

In Nebraska, 97 percent of the State is privately owned. I often say our farmers and ranchers are the original conservationists because they wanted to pass on their family farm or ranch to the next generation. We have to have Federal land policy that includes collaborative cooperation in collusion with those private landowners to be successful. I have been concerned about some of the Federal

programs that have really gone beyond that and have presented overreach.

Maybe Ms. West, you can start us off, just talk a little bit about how can private landowners be engaged and incentivized to participate in these migratory corridor programs?

Ms. WEST. Thank you, Senator. First of all, seeing the sandhill cranes in Nebraska is definitely on my bucket list. They are nice in Colorado, but not as good as in Nebraska, so I have been told.

Some of the best wildlife habitat and corridor habitat is on private land in this Country because private landowners have done so much proactive, voluntary conservation work on their own to have outstanding habitat quality. The programs in place now, the discretionary programs started under Secretarial Order 3362, offer a number of avenues for voluntary private landowner-driven research and funding and conservation opportunity.

The program administered by the National Fish and Wildlife Foundation that I mentioned, their Big Game Migration Corridor Program, has funded, I will get you the actual number, but somewhere in the realm of 170 different projects on private land for conservation. That is one opportunity available to private landowners, is to apply to that competitive grant program.

Also, a discretionary program at the Fish and Wildlife Service is their Partners for Fish and Wildlife Program, which has a long history of working with voluntary private landowner incentives to fund conservation projects. They have received about \$3 million since the Secretarial Order was signed five and a half years ago. That is another opportunity. The USDA pilot program that we have been talking about is an opportunity for private landowners to access a variety of existing Farm Bill programs that have eligibility specifically if you are in good quality or marginal quality migratory habitat for big game and want to access those programs.

Senator RICKETTS. Thank you, Ms. West.

Mr. King, talk to me a little bit about with your corridor program, a couple things: how has the State had an opportunity to participate with the Federal Government and private landowners on this, and what do you do when you have conflicting priorities with a land corridor and private property use? How have you handled some of those priorities and the differences and conflicts and resolved them?

Mr. KING. Senator, thank you for that question. Wyoming has been very fortunate in that we have tremendous landowner support. We have landowners whose property, they recognize the value of the ecological functions that they provide on their property. We have been able to partner closely with them.

Some of our leadership was recognized early on. For example, the USDA came to us and offered up the opportunity to create a pilot program wherein the power of USDA programs could be well-matched with what the State was already doing. That pilot program has been proven to be tremendously successful. I think some of the things that we have learned from that is that those programs need to be adaptable and agile and be implemented quickly to benefit landowners.

The second part of your question, I am sorry, was?

Senator RICKETTS. Just about how you, if you have competing interests for a land corridor versus private property use, how do you resolve some of those?

Mr. KING. You bet. As I mentioned in my testimony, in Wyoming, we have found that it is really important that our boots on the ground folks are working closely with all entities that are involved.

What we have found that works best is that when folks come together, they first identify the common need or theme that they are focused on addressing, and then we can find creative solutions to make sure that all stakeholder needs can be met. I think that the development of our Governor's executive order, for example, is a great example.

We talked to all the people that might be impacted and affected by that order and developed a framework that could work for everybody. At the end of the day, what is most important is to make sure that we are talking to one another and hearing each other's concerns and then putting our creative thoughts together.

Senator RICKETTS. It sounds like a lot of upfront work and upfront communication.

Mr. KING. Absolutely.

Senator RICKETTS. Right. Thank you very much.

Mr. KING. Thank you.

Senator RICKETTS. I yield back.

Senator LUMMIS. Mr. Boozman.

Senator BOOZMAN. Well, thank you very much for being here. Thank you, Senator Lummis, for all of your work in this area. I know that you are a leader and doing a tremendous job.

While most of the discussion today has been focused on western issues and big game, I wanted to bring up a topic that is important to both of us, and that is that there are a lot of similarities between the Central Valley of California and the Arkansas Delta and Grand Prairie with our bird migratory corridors.

I am referring to you, Mr. Bonham. Can you discuss the important of collaboration between the agriculture industry, State wildlife agencies, U.S. Fish and Wildlife Service on water supply and management capability issues?

Mr. BONHAM. I can, Senator, thank you for the question. W.H. Auden wrote that thousands have lived without love, but not one without water. That is true for the conflict we often see in California's Central Valley, which was Senator Ricketts' question. I have found, if you sit at the table long enough, and you put in the sweat equity talking about issues, there is a way to find balance.

The balance we are pursuing in the Central Valley is a combination of things. Our species that migrate in our rivers need water, but they also need habitat restoration. There is strong common ground between the agricultural sector and my department and the U.S. Fish and Wildlife Service to do actual hands-on restoration projects. Plant trees, improve riparian corridors, restore floodplain habitat access for salmon, and also encourage agricultural communities to engage on voluntary redistribution of water that maximizes the time of year.

Voluntary agreements that incentivize habitat restoration as a package through discussion and collaboration produces a much more durable result, more regularly sometimes than the regulator

can do through the power of its authorities. I say that as a regulator at the Department of Fish and Wildlife.

Senator BOOZMAN. Very good. I am a member of the Migratory Bird Conservation Commission, and they do a tremendous job preserving America's waterfowl for future generations, and that is something I know that we are all very passionate about. At the turn of the 20th century, over-hunting, neglect for wetlands, the list goes on and on, really decimated the U.S. waterfowl populations.

The Migratory Bird Commission was created in 1929 and has been a tremendous success. It has surely been successful due to effective cooperation between State and local governments and the Federal Government. How do we take some of the other programs or create new programs that build on that model? You can all jump in and just kind of, again, it is a good model. They have been very, very successful.

Mr. BONHAM. If I might, Senator, I think the Secretarial Order 3362, which has been raised several times, is a perfect example of federalism. It happened here in Washington, but out at the State level, it is our State agency, Mr. King's State agency, that has the data, that has the relationships, that has the staff that sit on the back of the tailgate, shooting the breeze at the end of the day, trying to figure out solutions.

When you combine what is going on at our agencies at the State level with guidance and policy direction from above, you integrate funding sources, and you really incentivize partnerships, you can fix the problem. That is playing out in this wildlife corridor space. I think it is the integration of the local knowledge, the State data and science, the guidance from D.C., a soft touch, not too much of a hard touch, and an infusion of investment where everyone is matching funds, public and private, and we are doing projects.

Senator BOOZMAN. Very good.

Ms. WEST. Thank you, Senator. I concur with Mr. Bonham.

I will just add, there are a number of regional and locally driven organizations working, like the Migratory Bird Commission. There are a series of joint ventures supported by the U.S. Fish and Wildlife Service, but really, that bring together State and NGO and landowner organizations in that region to address the issues to migratory birds in that specific region and come up with solutions.

When it comes to migratory bird corridor conservation, migratory birds are very similar to big game. They need to travel from their summer ranges long distances down to their winter ranges, and they need places to stop along the way. There has been a significant amount of data collected about migratory birds and waterfowl, but not to the same extent as there has been for some terrestrial species.

If the existing Secretarial Order programs and the funding that they catalyze and the capacity that they have brought to organizations to do research and mapping was expanded to include birds, I think that would go a long way to helping our understanding for what they need to really thrive into the future.

Senator BOOZMAN. Very good. One of the things that you all can help me with is that you mentioned, Mr. Bonham, the importance of water. I think we all agree with that. In fact, if you look at what

is asked for regarding conservation from the USDA programs, when you get out west, 60 percent have to do with water. I want to preserve that and make sure that in the next Farm Bill that we have the ability to continue on, carbon sequestration, all of those things are so important, the different deals, but water is a big deal.

Again, it depends, so much of the Farm Bill is regionality, different regions, you can't do a one-size-fits-all, so I need your help regarding that. The other thing that I need your help on—will you not yell at me if I ask more?

Senator LUMMIS. You go right ahead. Mr. Boozman, of course, is the Ranking Republican on the Senate Ag Committee. He has been working for the last year on this 5-year Farm Bill.

In about an hour, the U.S. House will be voting on a continuing resolution that will include, as I understand it, an extension of the Farm Bill, so Senator Boozman can continue with his good work. I want to thank you so much for your outstanding work on the Farm Bill and wish you well. With that, you may proceed.

Senator BOOZMAN. I appreciate it. Again, nobody is more of a champion than you. We had the opportunity to be in Wyoming and had a great visit. It was very, very successful.

The only thing that I wanted to say, also, that I think is so important, when we look at the USDA programs, and this isn't about the people or whatever, they do an excellent job. We make these things way too complex. The grant process, it shouldn't be that if you are interested, that you have to get a grant writer to do it.

By the time you get it done, it takes forever, and then once it is actually received and said you are good to go, it might take 2 years before it is implemented. That is an area that, again, these are low-hanging fruit that we need to work together to make these programs more successful and I think are really important.

Mr. BONHAM. Senator, if I might, I 100 percent agree. I come to my position from the private sector. I have been at it 12 years, so I can't use this excuse much longer. We make it too complicated for those that are entering our pathways, and this is showing up in wildlife corridors as well.

At the end of the day, when you build a crossing, it is a construction project. You have to deal with procurement, design, build, and contracting, and we could save a ton of time through efficiencies just in the management of projects. That translates, as well, into the farm world, as you know. Thank you for your leadership on the Farm Bill. We are confident that the tools in that bill, like easements, will help us both in the water space and in the wildlife corridor space.

Senator BOOZMAN. Thank you, Senator Lummis.

Senator LUMMIS. Thank you, again, for your work on the Farm Bill and on these issues.

Senator BOOZMAN. Thank you. We appreciate all of you today, very, very much.

Senator LUMMIS. Senator Sullivan.

Senator SULLIVAN. Thank you, Madam Chair. I want to thank the witnesses for being here. I am somebody who is an avid outdoorsman; I was the former Commissioner of the Alaska Department of Natural Resources, and I support proactive approaches to conserve wildlife while keeping public lands open to all, Alaskans

and Americans, and managed for multiple uses, but in my State, too often, we have outside groups who come up and tell everybody how we should be running our State.

They especially tell the Native people in Alaska how to run their lives. We call those groups eco-colonialists. I hope there are no eco-colonialists here, because it is kind of people with power come up from the lower 48, condescendingly telling Alaska Natives who have been living there for tens of thousands of years what is good for them, a lot of eco-colonialists. There are a lot of eco-colonialists in the Biden Administration. The pick and choose approach to consultation is just remarkable to me, particularly, again, as it relates to Native people.

Ms. West, I want to describe to you that the following Federal processes as coordinated efforts between Federal, State, and Tribal agencies, private landowners, and other organizations, as you State, are needed in your testimony. Assume a hypothetical, one that included no outreach or consultation to any federally recognized Tribes, despite this being required by law, so that is kind of category A.

The other, category B, included 36,000 public comments, 50 letters to federally recognized Tribes, 30 public hearings, and 30 consultation meetings. Which one of those pursuant to your testimony would you think is the better approach, with regard to just Federal management, but also respecting Alaska Native people? Do you have a sense? It is a pretty easy question.

Ms. WEST. Senator, in your hypothetical scenarios, I would pick option B.

Senator SULLIVAN. B, good. That is a good answer. I think every American would.

The person who doesn't, though, is Secretary Haaland, so what I just described was Secretary Haaland's outreach, lack of outreach, to any Alaska Native groups on their ANWR and NPRA proposed new regulations, none, zero. This is the Administration that overturns all of the Trump records of decisions in Alaska based on no consultation, and then they don't consult. The hypocrisy is just unbelievable.

The second example, B, that you liked, that was the Trump Administration's approach to the Ambler Road. Again, the ironies here are just incredible.

Let me just open it up to all of you, Mr. King, Ms. West, Mr. Bonham, can you explain from your perspective how it is important to do consultations? Again, this Administration, they talk environmental justice, they talk racial equity, but they have a giant asterisk.

If it is for Alaska Natives, they don't get any justice, no racial equity. Why? Because a lot of those groups want to have resource development and want to build roads, want to develop their economy. The Biden Administration is like, hell no. Hell, no.

What do you think about consulting, especially with federally recognized Tribes, but other stakeholders and how important that is in the process that is all about the core element of this hearing, which is improving migration corridors? I will take it from any of you.

Mr. King, do you want to start?

Mr. KING. Senator, thank you for that opportunity. I would highlight this chart and graph that we brought. This highlights some elk migrations out of the Greater Yellowstone ecosystem. That ribbon graph at the bottom demonstrates how they move in and out of so many different land jurisdictions during their seasonal migrations. I think it just highlights the point you are making, that there are a lot of folks involved in conserving wildlife in the States.

Senator SULLIVAN. Yes.

Mr. KING. As we look to conserve wildlife, you can't just focus on one aspect. You can't just focus on Federal lands; you can't just focus on State lands. You have to incorporate the entire ecosystem. That requires a lot of outreach and a lot of boots on the ground and a lot of conversations, and looking for those ways where we can put creative solutions into action.

We won't find those creative solutions unless we are sitting at the table, talking face to face. We have seen in Wyoming that is absolutely critical to getting work done, is just sitting down with folks, finding out the common themes, common threads, and then being creative about the best solutions for everybody.

Senator SULLIVAN. Great. Go ahead.

Mr. BONHAM. Senator, if I might, I am Chuck Bonham from the State of California. I am flying home this evening, assuming I can make it from here to DCA, to, tomorrow morning, preside over a wildlife conservation board meeting, where my department will return ancestral lands to the Fort Independence Indian Community, one of four Paiute Tribes in the Owens Valley on the east side of our Sierra, Nevada.

I am looking forward to that. It took many years of conversation to realize the harms my predecessor has produces and how to cure them.

Senator SULLIVAN. Did you learn about those through consultations with those groups and respecting those groups? Again, the Feds, in my State, the Alaska Native people, they get ignored, right? That is almost 20 percent of the population of Alaska, they talk a big game on racial justice, racial equity, environmental justice, and then they ignore, Deb Haaland ignores the Native people of Alaska more than any other Secretary of Interior, probably, in history.

Mr. BONHAM. I appreciate that feedback, but from California, I can tell you, having spent a lot of time at the table with federally recognized tribes, Klamath River Basin, including the Yurok Tribe, the Karuk Tribe, and the Klamath Tribes that the Department of the Interior and the State of California and the State of Oregon have figured out the way to do a corridor project.

Next year, we will open up access of 400 plus miles of habitat for salmon and steelhead in the third-largest producer of salmon on the west coast, the Klamath River. I understand your frustration in Alaska, but I am also thankful for your question, because today, on corridors, wildlife corridors are a fixable problem around the United States with time, energy, and partnerships.

Senator SULLIVAN. Good.

Ms. West, do you have a comment at all?

Ms. WEST. Thank you, Senator. I will just add, the beauty of the migration corridor programs that were put in place by Secretary

Zenke and Secretarial Order 3362 is that it puts the Federal programs at the service of the States and the tribes who are leading on the work.

The States and tribes raise their hands and volunteer or actively, I should say, pursue Federal funding and capacity to advance their priorities, their migration corridor priorities, get capacity from the U.S. geological survey to collect data on movement, and turn that into maps, where perhaps they don't have the internal capacity, but they have access to experts as USGS who can do the work with them collaboratively.

There are a number of programs in place that really are at the service of the States and tribes who are leading on this work, and that is what I think is very unique about this effort and why it has garnered a lot of support.

Senator SULLIVAN. Good, thank you. Thank you, Mr. Chairman. I would just ask, and I know the big Chairman is here as well, not just the subcommittee chairman, but this is a really important issue.

My State is being slammed. The Department of Interior keeps reversing previous Administration records of decisions because there wasn't enough consultation, and then, they don't consult at all. It is unbelievable. It is so hypocritical you can't even believe it.

I would love to have a hearing on it and bring Secretary Haaland here and say, why do you ignore the Native people of Alaska? You just ignore them. She does it all the time, and she does it because they want to develop their resources, and she doesn't want to let them. It is an outrage. I appreciate the witnesses for their good, thoughtful testimony on this topic.

Senator PADILLA.

[Presiding.] Senator Lummis, for a comment, before recognizing Senator Carper.

Senator LUMMIS. Thank you. I might point out that Mr. Bonham ran Trout Unlimited before he was at the California Department of Wildlife, and Trout Unlimited really has an extraordinary reputation in this Country for work on collaborative efforts and with private landowners. When you lead an organization like that and then go into a government agency, I think it is already in your DNA to work with private landowners.

As a fisheries aficionado, it is just great that you have chosen to go into government service for this time, but I just want to thank you for your service at TU. It really is outstanding and has a great track record. Thank you, Mr. Chairman. I yield back.

Senator PADILLA. Thank you all for recognizing and respecting the California way.

With that, Senator Carper.

Senator CARPER. Thanks, Mr. Chairman. My thanks to you and Senator Lummis for pulling this together to talk and listen about some of the challenges and the opportunities to facilitate wildlife movement and to improve migration corridors. Our thanks to the witnesses. Where do you all live? Mr. Bonham, where do you live?

Mr. BONHAM. I live in the Bay Area. My home office is in Sacramento, and I am very familiar with InterState 80 as a result.

Senator CARPER. I bet you are. I used to be stationed at Moffatt Field Naval Air Station during the Vietnam War and after that. I have a son that lives out there not far from you.

Ms. West.

Ms. WEST. Senator, I live in Denver, Colorado.

Senator CARPER. OK, thanks.

Mr. BONHAM. Senator, I live in Laramie, Wyoming at the 7,200-foot elevation of I-80.

Senator CARPER. OK. We are glad you are here. Thanks for joining us and giving us a chance to consider something that is important to us in Delaware and across the Country.

We have heard a fair amount about successful programs that are focused on big game migration in western States. I want to talk a little bit about eastern States, and Delaware is one of those, although I have lived all over the Country.

What can eastern States like Delaware, like my native State of West Virginia, and others learn from what has worked out west, and maybe what is not? I like to say, find what works, and do more of that. Find out what doesn't work, and don't do that.

Ms. West, why don't you lead us off? What can we learn?

Ms. WEST. Thank you very much, Senator. I think we can learn that when the Federal Government supports bottom-up, locally driven conservation priorities, it can be a wonderful combination that leads to success. What we have seen with big game in the west is a series of Federal program that incentivize State and tribal agencies to do wildlife conservation work. They build capacity when those agencies don't have the staff or expertise necessary, and that has led to significant conservation outcomes.

These programs are easily scalable to include additional geographies, like the beautiful State of Delaware and additional species, all the programs with the stroke of a pen you could expand the scope of the work, and it would be applicable. I would say even conservation that focuses just on big game still supports healthy habitat for a myriad of other species, even amphibians and reptiles and avian migrating species, because healthy connected habitat for big game supports a broad array of other species.

That is why this issue has been so broadly supported, even by organizations that work primarily outside of the west by the National Audubon Society and others that focus all across the Country on these priorities.

Senator CARPER. Thank you. Mr. Bonham?

Mr. BONHAM. Senator, I think a lesson you can learn, which is 100 percent applicable in Delaware, if you build it, they will come. You don't have to have a lion or a grizzly—

Senator CARPER. I think I have heard that somewhere before.

Mr. BONHAM. Yes. I hope it is not trademarked, because they will be calling me.

You don't have to have a lion; you don't have to have a grizzly bear to love wildlife crossings. In 2017, in Riverside County in California, we completed the Clinton Keith Wildlife Crossing Project. So it was designed for one particular animal, but now it is supporting butterflies, birds, deer, coyote, foxes, and get this, the Quino checkerspot butterfly, a federally listed endangered species. We thought about it back then for one animal, but we built it, and

they all came. I think that is a lesson available to every State when it comes to wildlife crossings.

Senator CARPER. Good. Mr. King, I was sitting here looking at this, the order of your name reversed, instead of calling you Richard King, we could call you King Richard.

[Laughter.]

Mr. KING. Yes, sir.

Senator CARPER. Not completely on a serious subject.

Mr. KING. I appreciate your consideration in asking for help in terms of lessons learned. While I am not familiar as much with the east coast as much as I am with the west, one, I do know that you have a lot of private property. And I know that is where the conservation values really lie. There are lots of opportunities on private lands.

In Wyoming, what we did was we went to private landowners and asked them, what do you need, and how can we help, and what will encourage and incentivize you to provide these conservation benefits on your private land? Then we built programs and partnerships to provide that. So my recommendation is simply to have boots on the ground and meetings face to face, and meeting landowners where they are, and recognizing those significant values that private lands play in conserving our Country's wildlife.

Senator CARPER. Good, thank you.

Mr. Chairman, do I have time for one more question, please?

Senator PADILLA. Mr. Chairman, of course.

Senator CARPER. Thanks so much.

A question on wildlife corridors and endangered species, this will be for each of you again. The habitat loss and fragmentation is one of, I believe, five major drivers of global biodiversity loss. My question would be, how can the study of conservation of wildlife corridors help threatened and endangered species, or prevent species from becoming endangered in the first place? Mr. King?

Mr. KING. Thank you. It has been mentioned by Mr. Bonham that connectivity is key. When we can connect habitats together, we can maximize the effectiveness of the conservation efforts that are occurring on those properties. So part and parcel and key to conserving our Country's wildlife is that connectivity, and making sure that healthy habitats are connected. Really, it is that simple, but it is difficult to do.

Senator CARPER. Thank you. Ms. West?

Ms. WEST. Thank you, Senator. I would agree, and just add that by investing in connecting habitat now, you are really preventing the decline of species into the future. It is a proactive step to invest in our species before they become eligible under the Endangered Species Act. Once they are imperiled, it is much more cost ineffective, rather expensive and time consuming to try to recover them.

But if we can look at habitat connectivity and the movement of wildlife species and create that interconnectedness and give species more ability to adapt to changing habitat conditions over time, we are setting them up for future success and we are preventing declines that are very difficult to reverse once we get there.

Senator CARPER. Thanks. Mr. Bonham.

Mr. BONHAM. Senator, same answer, different words. I forget if I have mentioned, I have actually been director 12 years, which

makes me the longest serving ever, and I think now the longest serving State director.

Senator CARPER. Does it seem longer?

[Laughter.]

Mr. BONHAM. I have lived through catastrophic wildfires, epic, biblical drought, and so many things. I believe this is a non-partisan issue, corridors, because everyone understands what it means to have safe passage to a safe place. Climate disruption has scrambled the natural world. We have some salmon that we used to call spring run, the time of year they would swim back upstream. They are no longer spring run, they are fall run, because their life strategy is adapting to climate change.

They need the ability to go from point A to point B, safe passage to a safe place. Because they are either going to die, adapt, or we can provide freedom to roam. That is why I think this hearing is so important.

Senator CARPER. Great. One of you said that you think the subject matter here is, can and should be bipartisan. We have plenty of partisan issues that we deal with all the time. It is nice to have one that can help draw us together, so thank you. Thanks for joining us.

Thanks, Mr. Chairman, and thank you, Senator Lummis.

Senator PADILLA. Thank you, Mr. Chairman.

Continuing that theme and spirit of bipartisanship, I have a question. We have heard a bit about Secretarial Order 3362, which focused on improving migration corridors for big game species. It is important to note that this order was issued under the Trump Administration and was continued under the Biden Administration, showing the broad support for wildlife movement corridors.

My question is more specifically about mapping. Ms. West, since the order was issued, how has research and mapping improved, and have these improvements led to on-the-ground projects? How can Congress further support these efforts?

Ms. WEST. Thank you, Senator.

The timing of the signing of the Secretarial order coincided with a massive advancement in GPS technology in general. So it really was the perfect timing to be providing funding for increased data collection and mapping work. Even 10 years ago, GPS collars would only show you where and how animals moved with a little blip every 12 hours. Now you can get hourly pinpoints that help you really see specifically how and where and why the animals are moving across the landscape and using different components of their seasonal habitat along the corridor.

That is just incredibly valuable information when you are trying to figure out how to spend limited conservation dollars on the ground. You can justify the need much better with this really accurate data, and you can demonstrate a greater return on investment for the conservation funding that you have spent, whether it is on fence removal, oftentimes we talked about working with private landowners.

If you go to a private landowner and you show them the maps and the actual data and they can see how their fence might be impeding a corridor, they had no idea before. Once they know, that

is when the roll up your sleeves and find a solution work that my fellow panelists have talked about can really happen.

So the Secretarial Order catalyzed that in a few different ways, funding through the National Fish and Wildlife Foundation grant program can support that work. But also the U.S. Geological Survey and their corridor mapping team brought not just resources in terms of money to the table, but actual technical capacity and expertise to many State agencies that don't have that level of GIS capacity. So they have been able to map 66, I believe it is 66 different migration routes and corridors just in 11 western States in the last 5 years. So that is pretty significant information.

Senator PADILLA. Thank you.

Mr. Bonham, anything from California's efforts to improve the data that you would like to share?

Mr. BONHAM. Yes. Mapping results in direct action in the field. Here is an example. Our Department of Fish and Wildlife has worked with academics and also the National Park Service in the Mojave Desert. I-15 connects Los Angeles to Las Vegas, I hear the Olympics are coming to Los Angeles. It is a highly transited area.

There is a private company, Brightline West, building a high-speed rail to connect Las Vegas to Los Angeles. We have desert bighorn sheep on either side of both the highway and the future rail, not good for the sheep. The mapping, working with tribes, Federal and State agencies, allowed us to identify three specific spots along that corridor where we now have a public-private partnership, I believe the commitment of two States, Senator Padilla's leadership. Next year, we are building three over-crossings over I-15.

So when people go back and forth between Los Angeles and Las Vegas, they can see a crossing and realize, desert bighorn sheep and a host of other species will be able to use it, because of the mapping.

Senator PADILLA. Thank you.

Senator LUMMIS.

Senator LUMMIS. Thank you. First of all, I want to thank you all for coming and testifying today. Your expertise is very much appreciated and needed by us.

My question is this. Think about your audience here. You are talking to the U.S. Senate, which does not have your level of expertise or your boots-on-the-ground experience on this issue. But we want to know what we can do to help you do your jobs better, and that is my question to each of you. First of all, please use some time to say what you wish you would have been asked that you weren't. And also say what you want us to know that would allow us to help you.

Mr. Bonham.

Mr. BONHAM. I could use your help on three things. Then I will tell you what I wish you had asked me.

First, I do think there is value in considering memorializing the Secretarial orders, in the sense that congressional direction motivates. Second, Ranking Member Lummis, it is not just a money issue. But these are construction projects, and they cost. The Bipartisan Infrastructure Law sent \$350 million to the Federal Highway Administration. My department is spending \$90 million. We are going to need an infusion of capital when it is warranted.

Third, one of the biggest challenges is collaboration between government entities. For far too long, Richard and I have been talking in the Wildlife space, and we need to have this conversation with the Transportation space. We need to be encouraged, cajoled, persuaded, motivated. It is the two entities, Wildlife and Transportation together, that can change this dynamic.

Here is what I wish you would have asked me. When would I liked to come to Jackson and go fishing with you on the Snake River?

Senator LUMMIS. That can be arranged. I love to fish, even though I am a lousy fisherman.

Mr. BONHAM. Me too.

Senator LUMMIS. No, I suspect that is not true. You are welcome any time, and I would relish the opportunity. Thank you.

Mr. BONHAM. Thank you.

Senator LUMMIS. Ms. West?

Ms. WEST. Thank you. Senator, I will just say, I know a number of outstanding anglers that we could provide to make the trip valuable for you both.

Thank you for the opportunity. I would have liked to have been asked a little bit more about where the funding for the work to date focused on big game has come from. It has been, the programs under Secretarial Order 3362 have been discretionary in purpose and have been funded with reprogrammed funds, which means every year, my good colleagues who are relying on this funding and their colleagues in other States and tribes, wonder if there will be another year of funding.

For 5 years, that has been fine, I think, and everyone has been grateful for that assistance. But we are at a point where I think we can claim success and it would be really valuable to the project proponents who are working on crossing projects, or fence removal projects, to be able to plan years out, to have some dedicated, reliable funding so they can work on multi-year projects. Because research for all kinds of wildlife takes more than 1 year of data collection to really have a good sense for how things are going.

So I think I would want you to note that. And also, back to Director Bonham's testimony and opening remarks, that this is a fixable issue. I may go so far as to say it is mostly a money problem, not that we have limited amounts of money in this Country, but we have the foundation of strong leadership at the local level and at the State government level. We have people rolling up their sleeves to do good work, and if they had more resources, more good work could be done. Thank you.

Senator LUMMIS. Thank you. Mr. King, and excuse me if I have to bug out halfway through your statement for another meeting, but thanks so much for coming.

Mr. KING. Thank you for the invitation, and that you for the opportunity. I would State simply that recognition that the States really are the right entity to lead these efforts, we have great data, we have good wildlife managers. We know what we are doing. We have a proven track record. I think just a simple recognition that because of the importance of State-led conservation efforts, and the importance of private lands that more regulation probably isn't the answer, but more cooperation certainly is.

So anything we can do to ensure that all entities are working together and are pulling in the same direction is critically important for us.

I think last, just to reiterate that recognizing that this really is a multidisciplinary effort. It does involve transportation departments; it does involve wildlife agencies. It does involve extractive natural resources producers and private landowners. There are a lot of people that play a role in wildlife conservation. The recognition that we can achieve great things if we work together is probably the simple message, I would leave with you today.

Senator LUMMIS. Thank you, witnesses. I yield back to the Chairman with my thanks for this panel of witnesses and this topic. It is timely. Thank you, Mr. Chairman, for your leadership on this issue.

Senator PADILLA. Thank you, and thank you for your partnership.

I have just one last round of questions before we will begin to close this hearing. As you have heard from our witnesses, States are pioneering new ways to make our infrastructure more resilient and responsive to wildlife needs. We also know that is just one piece of the puzzle. We also have to protect the natural landscapes around us and ensure that we have landscape scale connectivity.

A question for Mr. Bonham. How important is Federal and State land acquisition to creating connectivity for wildlife? What other ways can the Federal and State governments work together to support connectivity?

Mr. BONHAM. Senator, thank you for the question. Land acquisition done willing seller, willing buyer, which need not always be fee title, sometimes can be conservation easement, is an integral part of a corridor project. Because it is just not the physical infrastructure you are designing, you are thinking about the ingress and egress to the structure for success criteria on your design.

That means you need to take a look at the landscape mosaic, sometimes it is private, sometimes it is public. Sometimes you can find a partnership with a land trust that in turn is working with a private landowner who already wanted to do something with the property to benefit wildlife.

Two examples. If you have ever driven from San Jose, California out to Santa Cruz, you are on Highway 17. People go back and forth. One of the most notorious curves is called the Laurel Curve. We have now a functioning under-crossing, which is actually like an over-crossing, because it is an elevated highway. The Santa Cruz Land Trust, working with landowners, has conserved either side. So it is like an hourglass, allowing animals to move into the connectivity structure. Within hours of opening it, a bobcat wandered through.

Same thing is true for the Highway 101, P-22 Wallis Annenberg crossing. The Santa Monica River's Mountain Conservancy, in conjunction with the National Park system, has made sure the properties on either side will remain open space to facilitate the crossing.

Other landscape things include a lot of the initiatives you are taking with Secretary Crowfoot and Governor Newsom around conserving 30 percent of our biodiversity in California by 2030. Some-

times that is landscape-scale conservation through national monuments and other things.

Senator PADILLA. Thank you.

Ms. West, what other tools does the Federal Government have to conserve areas for wildlife corridors?

Ms. WEST. Thank you, Senator. When it comes to public land management, so when these wildlife corridors overlap with federally managed public lands, we like to think of it as an all tools in the toolbox approach. It really does depend on the particular corridor, what the species needs to move.

Where I live in Colorado, there is a lot of mule deer. They don't migrate in nice, beautiful lines like they often do in Wyoming. They sort of move in more blobs down off the top of mesas down into the valleys where there is food in the winter. I completely lost my train of thought, I am sorry. What was your question?

Senator PADILLA. What other tools does the Federal Government have?

Ms. WEST. Thank you. I am sorry, I got so distracted by Wyoming and the lovely mule deer herd. So the tools in the toolbox are different when the species migrate in different ways. When you have a large landscape, the management tools really need to be about keeping the landscape permeable, so that species can move through. That means you don't have to have a fence around the whole area and prevent the animals from moving through, because there is not a road to protect them from. It means that as long as you have development limited in the density of the structures, they still have a pathway to move through.

So you can have roads, but they are limited in density, or they have crossing structures on them, or if it is renewable energy development, for example, you can have a solar array, but instead of having one large 2,000-acre solar array, you chunk it out into pieces so the animals can move through it.

Where in Wyoming they have done amazing work mapping, not just the migration corridor but along the path where the animals stop over, where they might have bottlenecks because of geographic features, you want to be more protective in those important areas that are really critical for movement. If you cutoff a bottleneck, then you have cutoff the whole corridor. So there is a whole variety of tools in the toolbox and the science and the mapping really help support what the best tool is.

Senator PADILLA. Thank you.

Finally, for Mr. King, we have talked about the partnerships. From your experience, what kind of Federal and State, for that matter, might encourage private landowners to participate more in the establishment of protection of corridors?

Mr. KING. Thank you, Senator. There are some great projects that are underway. I mentioned that our USDA partnership is one such program, where we are able to stack together different programs from the Farm Bill, for example, different NRCS and FSA programs. Really, anything that can incentivize and keep working lands as working lands is critically important.

So those Federal programs, if they can be designed in such a way that they are attractive to private landowners, and those private landowners can take advantage of those programs and continue to

keep their working lands as working lands, that is I think where we will see the best success.

Senator PADILLA. Thank you very much.

There may be additional questions you will receive in writing, either from my office or other members of the committee after the hearing. I want to thank you all for your participation here today in a very thoughtful and productive discussion.

I also want to thank Chairman Carper, Ranking Member Capito, as well as Subcommittee Ranking Member Lummis and all our colleagues who participated today, and I am sorry I missed remarks by Senator Boozman, who reminded us of the importance of waterways in this conversation as well, and the potential use of the Farm Bill as a vehicle to advance some of the ideas that have come up today.

As you have heard today, all across the Country, the same roads, highways, bridges, and other human development that make our Nation increasingly interconnected, both for people and our economy, have the effect of disconnecting the wildlife around us. By fragmenting migration routes, we endanger the lives of countless animals, we risk decreasing the rich biodiversity of our Nation, we undermine our thriving outdoor recreation economy, and we even increase the risk to human life.

Because migration patterns will never adhere to State or local or tribal boundaries, it is clear that in order to protect ecosystems and better co-exist with the wildlife around us, we need to come together in a bipartisan way to support State, local, tribal, and private landowner efforts to restore wildlife corridors and improve connectivity.

As I mentioned earlier today, just last Congress this committee came together to approve \$315 million in grants through the Bipartisan Infrastructure Law to reduce the number of wildlife-vehicle collisions. Yet while this funding has the potential to usher in a future of safer, more resilient infrastructure across the Country or future proofing, as Director Bonham put it, the Department of Transportation has yet to implement it.

So first, we need to continue to conduct oversight and ensure this funding is administered as intended. I look forward to the full committee's upcoming oversight hearing on the Bipartisan Infrastructure Law where we can do just that.

But as you heard from Ms. West, Congress can also take a major step forward in improving habitat connectivity by providing authorized funding streams for Federal agencies to implement Secretarial Order 3362. Rather than force Federal agencies to pull funding from their general funds, it is Congress' job to provide the specific and stable funding needed to address these issues over the long term.

We must also improve collaboration across jurisdictions. I spend a lot of time in this committee talking about California's leadership and how the Nation can learn from California's progress. But as Director Bonham pointed out in his testimony, and as we heard from Mr. King, we can all learn a thing or two from Wyoming's leadership in designating wildlife corridors and building partnerships.

And we must include what we learn from tribal governments which often have cultural and spiritual connections to the wildlife they seek to protect. I am proud that Senator Lujan, my colleague from New Mexico, is advancing a separate effort on that front.

Finally, my hope is that after today's hearing, we can take some of the bipartisan momentum around habitat connectivity, incorporate some of the ideas that we have heard today and come together to move a bipartisan bill that supports voluntary conservation efforts throughout the Country, whether that includes Federal funding for State and local research and data gathering, or on-the-ground projects that restore wildlife corridors, bipartisan progress is possible.

I look forward to working with any and all of my colleagues who are ready to continue this important work.

Once again, I want to thank you all for being here and with that, this hearing is adjourned.

[Whereupon, at 4:11 p.m., the hearing was adjourned.]

[Additional material submitted for the record follows:]



**Written Statement Submitted by the Pew Charitable Trusts to the
U.S. Senate Committee on Environment and Public Works
Subcommittee on Fisheries, Water, and Wildlife
For the record of the hearing held on November 14, 2023 regarding
“Challenges and Opportunities to Facilitate Wildlife Movement and Improve Migration Corridors”**

The Pew Charitable Trusts’ U.S. Conservation project seeks to sustain biodiversity and resilient ecosystems by collaborating with policymakers, communities and businesses, Tribes, and many others. Conservation of wildlife corridors is an essential component of this work. We appreciate the Subcommittee holding a hearing on this issue and ask that our statement be submitted to the hearing record.

The phenomenon of terrestrial wildlife migration—between higher altitude, cooler summer habitat and lower elevations with more accessible food sources in winter—is widespread among many species, particularly big game like elk, pronghorn, and deer. Many of these seasonal routes are thousands of years old and in some cases are known to be taught by one generation to the next. The act of migration, which may take place across hundreds, or even thousands of miles, is an essential strategy that animals use to survive, which in turn benefits communities that depend on revenue from hunters and wildlife viewing tourism, and families that rely on local big game for food security.

Yet new highways, subdivisions, and energy developments are encroaching on the open spaces, forcing animals to alter their routes or stop migrating altogether, threatening wildlife populations, and increasing roadway hazards, especially in rural areas. According to the U.S. Department of Transportation, as many as two million collisions between motor vehicles and large animals occur each year in the United States, causing approximately 200 human deaths, 26,000 injuries, and at least \$8 billion in property and other losses.

Research from the University of California, Davis, has shown that reported collisions with large mammals likely caused over \$1 billion in economic and social costs to California alone from 2016-2020. In Wyoming, wildlife-vehicle collisions can represent almost 20 percent of all reported collisions. The state’s mule deer population, which supports more than \$300 million in annual hunting-related spending in Wyoming, has decreased by 40% since 2000, due in part to habitat fragmentation caused by roads and development.

But there is good news. With advances in research technology, such as GPS-enabled collars, we now have detailed information on how and where these animals travel between summer and winter

habitats, how barriers such as highways and development can negatively affect wildlife populations, and where infrastructure interventions can have the greatest benefit for both wildlife and people.

This new migration science and data eliminates much of the guesswork on annual movements of species, and enables elected officials, land managers, and transportation and wildlife agencies to adopt policies that more effectively address on-the-ground needs. For example, a well-placed underpass or overpass can reduce wildlife-vehicle accidents by over 90%, providing a high rate of return on federal and state investments in wildlife crossings.

In the past several years, more than two dozen states—including in CA, CO, NM, OR, UT, WY, and NV—have taken bipartisan actions to facilitate greater coordination among agencies to identify wildlife-vehicle “hotspots” and to provide funding for the construction of wildlife-friendly infrastructure, such as overpasses and underpasses. Similarly, federal investments in connectivity conservation—through the Inflation Reduction Act and the Infrastructure Investment and Jobs Act—have helped to promote public safety and provide more ecosystem resilience for migratory species.

Despite these gains, the exploration of durable solutions to conserve migration corridors is just getting started, with federal agencies like the Departments of the Interior and Agriculture considering new ways of managing lands that maintain critical ecological linkages. In the face of climate change and other environmental stressors, sustaining these landscape connections is critical, as they provide ecosystem resilience for migratory species.

Pew supports congressional and/or administrative actions that will:

- Increase mapping and research efforts, as well as coordination and sharing of research. Collaboration with and among academia, Tribes, and all levels of government is needed to better understand where migrations occur, how widespread they are, and what challenges and threats migrating species face.
- Remove or modify fences in key migration corridors, as these barriers present significant challenges to wildlife. In addition, explore innovative technology, such as virtual fencing.
- Increase dedicated funding for federal grant programs that provide for the construction of wildlife-friendly infrastructure to reduce habitat fragmentation.
- Provide incentives to willing landowners for conserving wildlife corridors, such as those provided in the Big Game Conservation Partnership pilot program between the State of Wyoming and the U.S. Department of Agriculture (USDA).
- Consider habitat connectivity as a priority resource and allow efforts to reduce fragmentation eligible for payments under various USDA programs, including the Regional Conservation Partnership Program (RCPP) and the Environmental Quality Incentives Program (EQIP).
- Facilitate increased collaboration and alignment among managers of federal and state landscapes and private working lands (ranches, farms, forests, etc.), as migratory species do not recognize jurisdictional boundaries.

- Practice balanced energy and mineral development on federal lands. Site development operations away from migration corridors—or minimize their density within those corridors.

The Pew Charitable Trusts looks forward to continued engagement with Members of Congress, governors, wildlife and transportation officials, Tribes, land managers, scientists, and others to promote resilient and intact ecosystems, reduce wildlife-vehicle collisions and sustain biodiversity by ensuring that species have room to roam.

Contacts

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MARK GORDON
GOVERNOR OF WYOMING
CHAIR

MICHELLE LUJAN GRISHAM
GOVERNOR OF NEW MEXICO
VICE CHAIR

JACK WALDORF
EXECUTIVE DIRECTOR

November 13, 2023

The Honorable Alex Padilla
Chair
Subcommittee on Fisheries, Water,
and Wildlife
Committee on Environment and Public Works
United States Senate
410 Dirksen Senate Office Building
Washington, DC 20510

The Honorable Cynthia Lummis
Ranking Member
Subcommittee on Fisheries, Water,
and Wildlife
Committee on Environment and Public Works
United States Senate
410 Dirksen Senate Office Building
Washington, DC 20510

Dear Chair Padilla and Ranking Member Lummis:

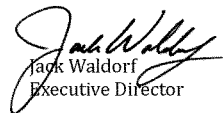
With respect to the Subcommittee's November 14 hearing, Challenges and Opportunities to Facilitate Wildlife Movement and Improve Migration Corridors, attached please find Western Governors' Association (WGA) Policy Resolution 2024-03, Species Conservation and the Endangered Species Act. This resolution includes Western Governors' collective and bipartisan policy recommendations on wildlife migration corridors and habitat.

As noted in the resolution, Western Governors appreciate federal support for habitat connectivity efforts and urge Congress to consider long-term funding and provisions for transportation infrastructure projects that support fish and wildlife crossings and habitat connectivity. The Governors also encourage the federal government to proactively coordinate and consult with states and advance voluntary, incentive-based, and locally driven initiatives to conserve key wildlife corridors and habitat.

I request that you include this document in the permanent record of the hearing, as it articulates Western Governors' policy positions and recommendations on this important issue.

Thank you for your consideration of this request. Please contact me if you have any questions or require further information.

Sincerely,


Jack Waldorf
Executive Director

Attachment



Policy Resolution 2024-03

Species Conservation and the Endangered Species Act

A. BACKGROUND

1. Through broad trustee, statutory, and police powers, states have primary management authority over fish and wildlife. This system of wildlife and habitat management is grounded in the North American Model of Wildlife Conservation and has enabled western states to become leaders in the conservation and recovery of numerous threatened, endangered, and species of concern. Continued cooperative relationships between federal, state, and tribal governments, nonprofit organizations, and private stakeholders are essential to the successful management of all species and their habitats. Where voluntary, incentive-based conservation activities have been effective, they have precluded the need to list species under the Endangered Species Act (ESA). Western Governors have a vested interest in utilizing these tools to effectively manage wildlife and habitat for a balance of uses.

B. GOVERNORS' POLICY STATEMENT

Species Conservation

1. Western Governors support all reasonable proactive management efforts to conserve species and the ecosystems upon which they depend to sustain populations of diverse wildlife and habitats, recover species before they are so imperiled they need ESA protection, and retain the West's wildlife legacy for future generations. Western Governors also support initiatives that engage state and tribal governments as well as stakeholders to develop incentives for early, voluntary conservation measures to address multiple threats to species while preserving and enhancing western working landscapes.
2. Western Governors believe states should be full partners in listing, critical habitat designations, recovery planning, recovery efforts, and delisting decisions. The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) (collectively, the Services), working with the states, should establish consistent criteria to assess modeling related to projected scientific information and other factors in their scientific review. In these circumstances, federal agencies should partner with states and management authorities with expertise over the given model to develop and utilize mutually acceptable predictive techniques and consensus-based metrics that are grounded in science and measurable outcomes.
3. Western Governors believe that ESA decisions should be based on the best available science. State agencies often have the best available science, expertise and other scientific and institutional resources such as mapping capabilities, biological inventories, biological management goals, state wildlife action plans and other important data. The Services should utilize state expertise and resources whenever possible. All listing, recovery, and delisting decisions should utilize objective, peer-reviewed scientific literature, and scientific observations. When making a listing decision for a species where state or multi-state

conservation plans employing the best available science have been primarily used in the management of that species, upon review, consultation, and endorsement, the Services should give careful consideration to those management activities. A review of the scientific and management provisions contained within listing, recovery, and de-listing decisions by acknowledged independent experts is important to ensure the public that decisions are well-reasoned and scientifically based. Scientific and management review committees, as well as the scope and extent of the appropriate scientific and management review, should be agreed upon by the Services and the affected states. Federal agencies should, when appropriate, delegate their responsibility to name these review committees and determine the scope of review to states in order to enhance state ownership of the committee's decision.

4. Western Governors believe that states need clear, concrete guidance from the Services about the requirements of state and multi-state conservation plans in meeting species and habitat conservation goals and objectives that would lead to stable or increasing populations, address perceived threats to the species, and eliminate the need for listing. Western Governors also encourage the pursuit of all efforts to reduce regulatory burdens on state and tribal governments as well as stakeholders that are not necessary to achieve species conservation and biodiversity goals and objectives.
5. The Services should acknowledge that variability in state approaches for conservation of species is acceptable, particularly for species with a wide geographic range, as long as established conservation goals and objectives are met.
6. The Services should explore employment options, including revised Government Schedule requirements, expanded use of detail positions, and shared staff between nongovernmental partners, state agencies, and federal agencies to increase interagency coordination and familiarity with processes. These types of well-rounded personnel can then more effectively serve as conveners and facilitators for multiagency actions.
7. Governors support legislative initiatives, court rulings, petitions, or regulatory measures which allow local, state, federal and private conservation efforts adequate time to be implemented and demonstrate their efficacy while also avoiding excessive delay protecting and recovering imperiled species. Governors believe there should be no delays in delisting recovered species which meet statutory requirements for delisting due to excessive, costly and resource-intensive litigation. States can help local efforts achieve success by supporting them with tools for assessing and stabilizing priority habitats and species.
8. Western Governors believe funding and economic incentives for proactive, voluntary conservation efforts are essential. Such efforts may lead to rapid conservation outcomes and even obviate the need to list a species in the first instance. Additional incentives for willing private landowners to participate in voluntary conservation efforts are likely to achieve more efficient and cost-effective results. Funded and incentivized activities should include:
 - Restoration of native habitat on public and private lands;
 - Amelioration of threats to species populations;
 - Long-term management activities for conservation-reliant species;

- Management of invasive species adversely affecting species and habitat, including research programs;
 - Management of public lands in a way that supports multiple uses, including the minimization of human-wildlife and livestock-wildlife conflict; and
 - Monitoring and enforcement to ensure species and habitat conservation goals and activities are being met.
9. Governors believe adequate post-listing funding of species management, monitoring, and conservation is necessary as state and federal agencies increasingly assume ESA management activities and embrace ecosystem and multi-species management strategies. Funding for ESA-related activities, especially recovery plans and recovery efforts, should be enhanced to address the growing list of threatened and endangered species. A broad range of programs, from the Farm Bill to the Water Resources Development Act, should be reviewed for opportunities to assist communities and landowners in their efforts to conserve listed species in a manner that respects water and property rights. The Cooperative Endangered Species Conservation Fund authorized under ESA Section 6 should also be funded and managed as a block grant, with state discretion on spending priorities.
 10. Western Governors support funding for wildlife conservation education and recreation programs to help better connect people with their natural surroundings and experience wildlife in their natural habitat. Funding for educational and community-based programs can encourage younger generations to learn about fish and wildlife conservation early and obtain the skills to partake in outdoor activities themselves.
 11. Western Governors support the North American Model of Wildlife Conservation and the associated user-pay structure that enables state agency management activities with funding from license sales. Western Governors also recognize that continued engagement in license-based activities is necessary for healthy wildlife populations and habitat. The recruitment, retention, and reactivation of hunters and anglers is essential to these goals, and programs which support this engagement should be funded and delivered to all Americans.

Wildlife Migration Corridors and Habitat

12. Western Governors believe that federal land management agencies should allow states and tribes to lead in identifying key wildlife migration corridors and habitat in the West, acknowledge the value of multiple-use landscapes, and engage in early and substantive consultation with Governors prior to the promulgation of any policy pertaining to the management of wildlife corridors and habitat. Western Governors believe in applying the best-available state-led science and models for precise, data-driven decision making. Western Governors also encourage federal land management agencies to take proactive steps to ensure that management plans and projects are consistent with and supportive of state wildlife migration priorities, programs, and policies.
13. Western Governors urge federal land management agencies and non-governmental organizations – in coordination with state fish and wildlife agencies – to work with private landowners and local communities to identify monetary and non-monetary incentives to encourage voluntary corridor and habitat conservation efforts. Western Governors encourage

dialogue among relevant partners in the West to identify collaborative solutions to wildlife corridor and habitat conservation across land ownerships.

14. Western Governors encourage Congress and the Executive Branch to maintain a financial investment in research and habitat improvement projects to conserve migration corridors through the National Fish and Wildlife Foundation's Improving Habitat Quality in Western Big Game and Migration Corridors Program and the USFWS Migratory Bird Program.
15. Western Governors commend the considerable efforts already underway to increase coordination between state fish and wildlife agencies and state departments of transportation to integrate consideration of wildlife corridors and habitat connectivity into transportation infrastructure planning and development. Western Governors urge the Department of the Interior and the U.S. Department of Transportation to cooperate in a similar manner on projects under their jurisdiction and support intra-state efforts when appropriate. The Governors also support development of best practices to expand federal and state agency coordination.
16. The Governors support proactive planning on public lands that seeks to direct future development actions with due consideration for large tracts of intact wildlife habitat and connectivity corridors.
17. Western Governors believe that any federal efforts to identify and conserve wildlife migration corridors through administrative or legislative action must rely upon proactive coordination and consultation with states and should advance voluntary, incentive-based, and locally driven initiatives to conserve key wildlife corridors and habitat. Governors further encourage Congress and the Administration to support collaborative and locally developed initiatives through financial and technical assistance.
18. Governors appreciate federal support for habitat connectivity and urge Congress to include long-term funding and provisions in its next reauthorization of federal surface transportation programs for state-supported transportation infrastructure projects that support fish and wildlife crossings and habitat connectivity.

C. GOVERNORS' MANAGEMENT DIRECTIVE

1. The Governors direct WGA staff to work with congressional committees of jurisdiction, the Executive Branch, and other entities, where appropriate, to achieve the objectives of this resolution.
2. Furthermore, the Governors direct WGA staff to consult with the Staff Advisory Council regarding its efforts to realize the objectives of this resolution and to keep the Governors apprised of its progress in this regard.

This resolution will expire in December 2026. Western Governors enact new policy resolutions and amend existing resolutions on a semiannual basis. Please consult <http://www.westgov.org/resolutions> for the most current copy of a resolution and a list of all current WGA policy resolutions.

