
CONNECTIVITY
CHALLENGE
The inaugural Conservation Impact Prize presented by
SALAZAR CENTER
FOR NORTH AMERICAN CONSERVATION
COLORADO STATE UNIVERSITY

The Connectivity Challenge

In 2019, the Salazar Center for North American Conservation at Colorado State University launched its inaugural Conservation Impact Prize, an $100,000 incentive award designed to fund meaningful change in the field of conservation. Known as the Connectivity Challenge, this prize will fund a proposal that drives innovation in landscape connectivity for habitat and community benefit in North America.

This challenge aims to generate innovative ideas that catalyze change, ultimately leading to landscapes that connect habitats, build resilience, and improve the health of our natural systems. The Salazar Center invited teams from the Unites States, Canada, and Mexico to apply for the award and received 46 proposals from a range of nonprofit groups, tribal and indigenous nations, local communities, universities, and government partners—each of whom sees promise in crossing borders, in forging new pathways, in applying new ways of thinking. The proposals received vary in geography, scale, and scope and address myriad conservation challenges facing different communities and landscapes.

The application period closed in April 2020, after which an expert panel of judges, drawn from leadership in philanthropy, academia, and the nonprofit and for-profit worlds throughout the continent, reviewed the proposals. Five finalists were identified, and these teams will participate in a pitch fest as part of the Center's annual symposium in September 2020. While only one team will win the $100,000 prize, the prize process is designed to build a community of interest and give exposure and feedback to all.

This booklet is designed, in part, to provide that exposure for each team who submitted a Connectivity Challenge proposal. The pages that follow showcase each of the 46 submissions we received; they also illustrate the geographic diversity of the applicant pool and enumerate common themes across proposals. These pages are rich with innovative ideas from conservation leaders throughout North America, and while the Connectivity Challenge will fund only one such idea, we hope that the other teams and projects may find their own champions and investors through their inclusion here.

What do we mean by connectivity?

Connectivity refers to connections between protected lands—be they urban or rural; working or wildlands; public or private. Connectivity is an important value to protect and enhance wildlife habitat, biodiversity, and climate resilience across all types of landscapes, be they forests, deserts, mountain ranges, cities, watersheds, and freshwater and coastal ecosystems. Connected lands are better able to support plants, animal, and human communities by removing barriers between parcels and allowing for migration, biodiversity, climate adaptation and human health. Barriers may be physical, such as roadways, dams, and other human-driven development; they may also be cultural, political, or economic.

We recognize that maintaining or restoring landscape connectivity is a key challenge for conservation. A number of local, national, and international movements have emerged (such as 30x30, Nature Needs Half, and Half Earth) to support the protection of a critical mass of healthy, functioning natural systems to safeguard the health and well-being of the planet and its human communities. We believe that bridging the gaps between science, policy, and practice to support connected landscapes is critical to reversing fragmentation.

For the purposes of this incentive prize, the Salazar Center defines connectivity solutions in intentionally broad terms, to encourage a wide range of innovative proposals from across sectors and across North America. Such solutions may remove barriers, physical or otherwise, by applying data in new ways or financing new projects and partnerships. They may catalyze change in a landscape, whether through cross-border management or governance mechanisms, persuasive storytelling, policy creation, or the mobilization of new advocates, or they be may pilot projects and small-scale initiatives that have the potential for much bigger impact. Other solutions may lie in capacity-building for existing partnerships or efforts.

Evaluation Panel Members

Taishya Adams
Commissioner, Colorado Park & Wildlife Commission

Katie Allen
Director, Conservation Leadership Network, The Conservation Fund

Rosario Alvarez
Executive Director, MigraMar

Bob Bendick
Director, The Nature Conservancy's Gulf of Mexico Program

Anne Castle
Senior Fellow, Getches-Wilkinson Center, CU Law School

Susan Daggett
Executive Director, Rocky Mountain Land Use Institute

Michael Dowling
Former Board Chair, Land Trust Alliance

Liba Pejchar Goldstein
Associate Professor, Colorado State University

Tom Gougeon
President, Gates Family Foundation

Allegra "Happy" Haynes
Executive Director, Denver Parks and Recreation

Osvel Hinojosa-Huerta
Director, Coastal Solutions Fellows Program, Cornell Lab of Ornithology

Richard Knight
Professor of Wildlife Conservation, Colorado State University

Jessica Levine
Conserving Land & Water Strategy Lead, The Nature Conservancy

Jim Levitt
Program Director, Land and Water Conservation, Lincoln Institute of Land Policy

Deb Love
Director, Intermountain West Division at Resources Legacy Fund

Meghan MacDougall
Program Director, Conservation, The W. Garfield Weston Foundation

Jennifer Melville
Vice President Conservation Grants, Open Space Institute

Heath Nero
Conservation Program Officer, Wyss Foundation

Maria Jose Villanueva Noriega
Biologist, National Autonomous University of Mexico (UNAM)

Jill Ozarski
Program Officer, Colorado River Initiative, Walton Family Foundation

Patrick L. Phillips
Fmr. Global CEO, Urban Land Institute

Martha Records
Managing Partner, Green Spark Ventures

Sarah Reed
Executive Director, Robert & Patricia Switzer Foundation

Rosa Maria Vidal Rodriguez
Senior Advisor, Center for Protected Area Management, Colorado State University

John Sanderson
Executive Director, Center for Collaborative Conservation

Sharon Schneider
Executive Director, Telluray Foundation

Sacha Spector
Program Director, Environment, Doris Duke Charitable Foundation

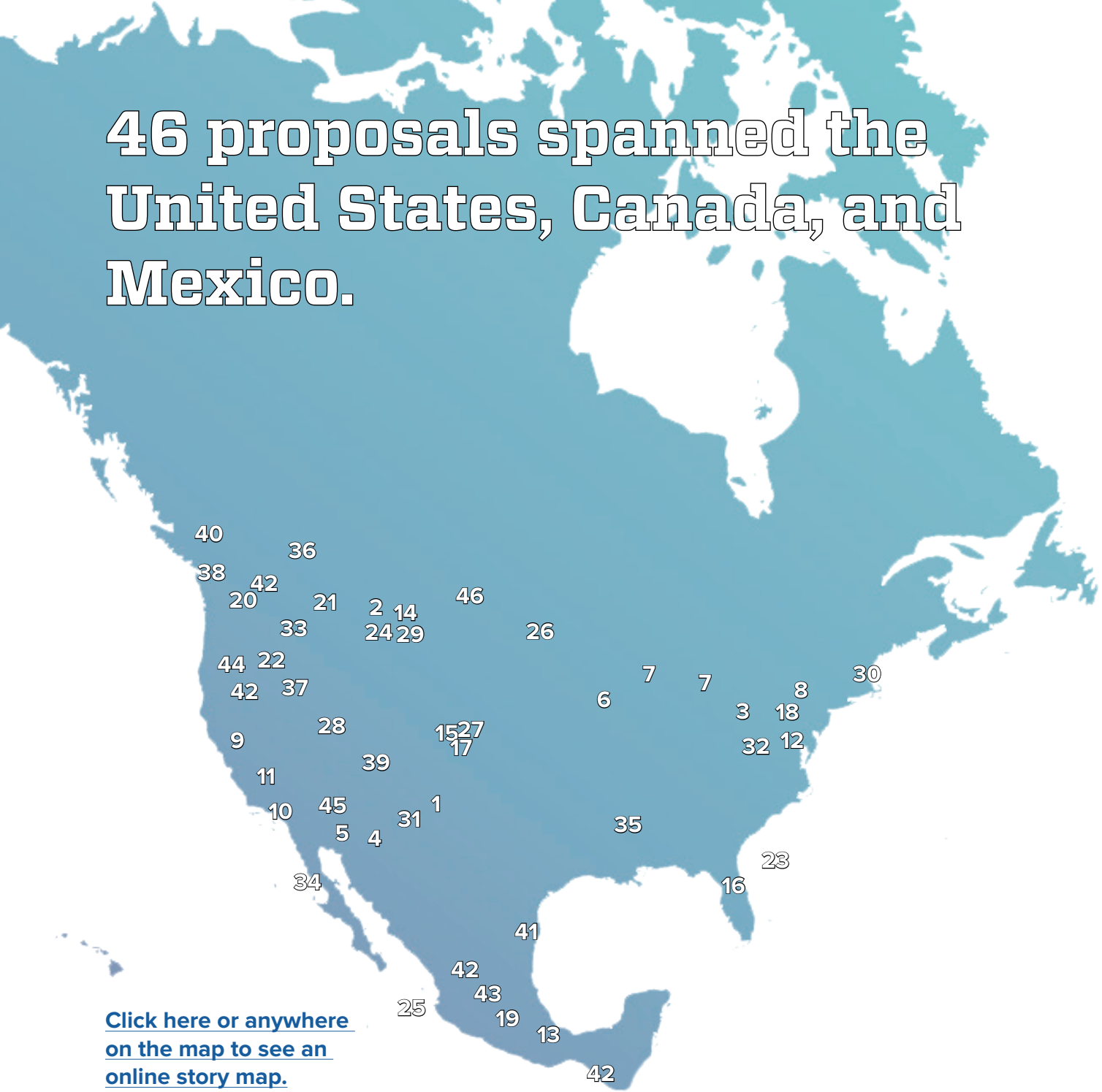
Dan Stiles
Executive Director, Stiles Legal

Gary Tabor
Founder & President, Center for Large Landscape Conservation

Kate Trujillo
Director of Programs, Honnold Foundation

Marty Zeller
President, Conservation Partners

46 proposals spanned the United States, Canada, and Mexico.



Click here or anywhere on the map to see an online story map.

1. Agua es Vida: Re-Connecting Agriculture and Water Across Artificial Lines | Colorado Open Lands

2. ARC International Shared-Use Green Infrastructure Design Competition | ARC Solutions

3. Assessing Lake Crossing by Migrating Birds to Inform Responsible Development | Black Swamp Bird Observatory

4. Bacanora for Bats: Binational Conservation and Sustainable Agave Spirits | Borderlands Restoration Network

5. Beginning Hummingbird Conservation Communities and Reserves (HCCRs) with Partners | Hummingbird Monitoring Network

6. BIG RIVER CONNECTIVITY—Watershed Rewilding Via Cores, Corridors, and Crossings | BeWildReWild.org

7. Birds Connect Us: Empowering Communities through Migratory Bird Technology | National Audubon Society

8. Blue Ridge to Boreal: Leveraging partnerships to catalyze continental-scale connectivity | The Nature Conservancy

9. Building Landscape Connectivity at Scale for Environmental and Economic Resilience | Pacific Forest Trust

10. Catalyzing Connectivity for Tribal Cultural and Community Resilience | Climate Science Alliance

11. Collaborative Stewardship for Connectivity in the Santa Cruz Mountains, CA | Stanford University

12. Connecting for Recovery | Defenders of Wildlife

13. Connecting mangroves and fisheries: conservation tool in Alvarado Lagoon System | Pronatura Veracruz A.C

14. Connecting People, Purpose, and Practice: Catalyzing Collaborative Landscape Conservation | Network for Landscape Conservation

15. Connectivity and Resilience Through Conservation: Colorado's Private Lands Conservation Plan | Keep It Colorado

16. Conservation Capacity Building for Hurricane Impacted Pine Lands in Florida | Alachua Conservation Trust

17. Cultivating open-space conservation through holistic connections for intergenerational environmental sustainability | Denver Urban Gardens

18. Follow the Forest – Activating Partners for a Resilient Future | Housatonic Valley Association

19. Grassland reserves for bison recovery and carbon sequestration | Universidad Autónoma Metropolitana

20. Green Pathways: Connecting Seattle's People and Wildlife | University of Washington

21. Keep It Connected: A Private Land Conservation Fund for Connectivity | Heart of the Rockies Initiative

22. Innovative educational outreach to save mule deer in Oregon | Protect Animal Migration

23. Mapping a resilient connected network of ocean habitats and species | The Nature Conservancy

24. Montana Wildlife Connectivity: Where People and Wildlife Collide | Adventurers and Scientists for Conservation

25. Not just a fluke! Connecting communities for humpback whale conservation | World Wildlife Fund Mexico

26. Operation Pollination – Habitat Restoration Across the USA | Alliance of National Heritage Areas' Heritage Development Partnership

27. Pollinator Districts: Communities Cultivating Habitat | Butterfly Pavilion

28. Protecting the Connected Places That Migratory Birds Need to Survive | National Audubon Society

29. Rangeland monitoring for social-ecological connectivity across the Musselshell Plains | World Wildlife Fund

30. Reconnecting Streams to Increase Freshwater Resilience | The Nature Conservancy

31. Regenerative Agriculture - The new normal | Quivira Coalition

32. Restoring Mine Lands for Habitat Connectivity in the Central Appalachians | The Nature Conservancy

33. Re-ROUTE: Landscape connectivity innovations through rural-urban collaboration | University of Idaho

34. Resilience actions in the North American Mediterranean ecosystem Terra Peninsular, A.C.

35. Restoring Aquatic Connectivity through the Southeast Aquatic Connectivity Program | Southeast Aquatic Resources Partnership, Southeastern Association of Fish and Wildlife Agencies

36. Safe Passage for Wildlife in the Southern Canadian Rockies | Yellowstone to Yukon Conservation Initiative

37. The Seasonal Round Trail: A Cross-Cultural Framework for Climate Adaptation | Greater Hells Canyon Council

38. Snaqua (Heron) Stewardship Solutions: Financing Indigenous Protected and Conserved Areas | The IISAAK OLAM Foundation

39. Sustaining the Working Wild | Western Landowners Alliance

40. TerrAdapt: Cascadia | Cascadia Partner Forum

41. Trans-boundary Restoration of Tamaulipan Thornforest: Linking Conservation Priorities with Succession | American Forests

42. A Tri-national Partnership: Connecting Countries through Western Forest Bird Conservation | PRONATURA SUR AC

43. Using Remote Wildstations and Community Monitoring to Create Conservation Corridors | Corredores Biologicos AC

44. Walking the Connectivity Corridors | Cascade Forest Conservancy

45. The White Tank Mountains Connectivity Initiative Proof of Concept | Central Arizona Conservation Alliance

46. Wildlife Xing: A citizen-science approach to understanding wildlife-transportation issues | National Wildlife Federation

CONNECTIVITY CHALLENGE FINALISTS

Birds Connect Us: Empowering Communities through Migratory Bird Technology
National Audubon Society
Great Lakes Region, U.S.

TerrAdapt: Cascadia
Cascadia Partner Forum
Cascadia Region, Pacific Northwest, U.S. and Canada

Catalyzing Connectivity for Tribal Cultural and Community Resilience
Climate Science Alliance
Southern California, U.S.

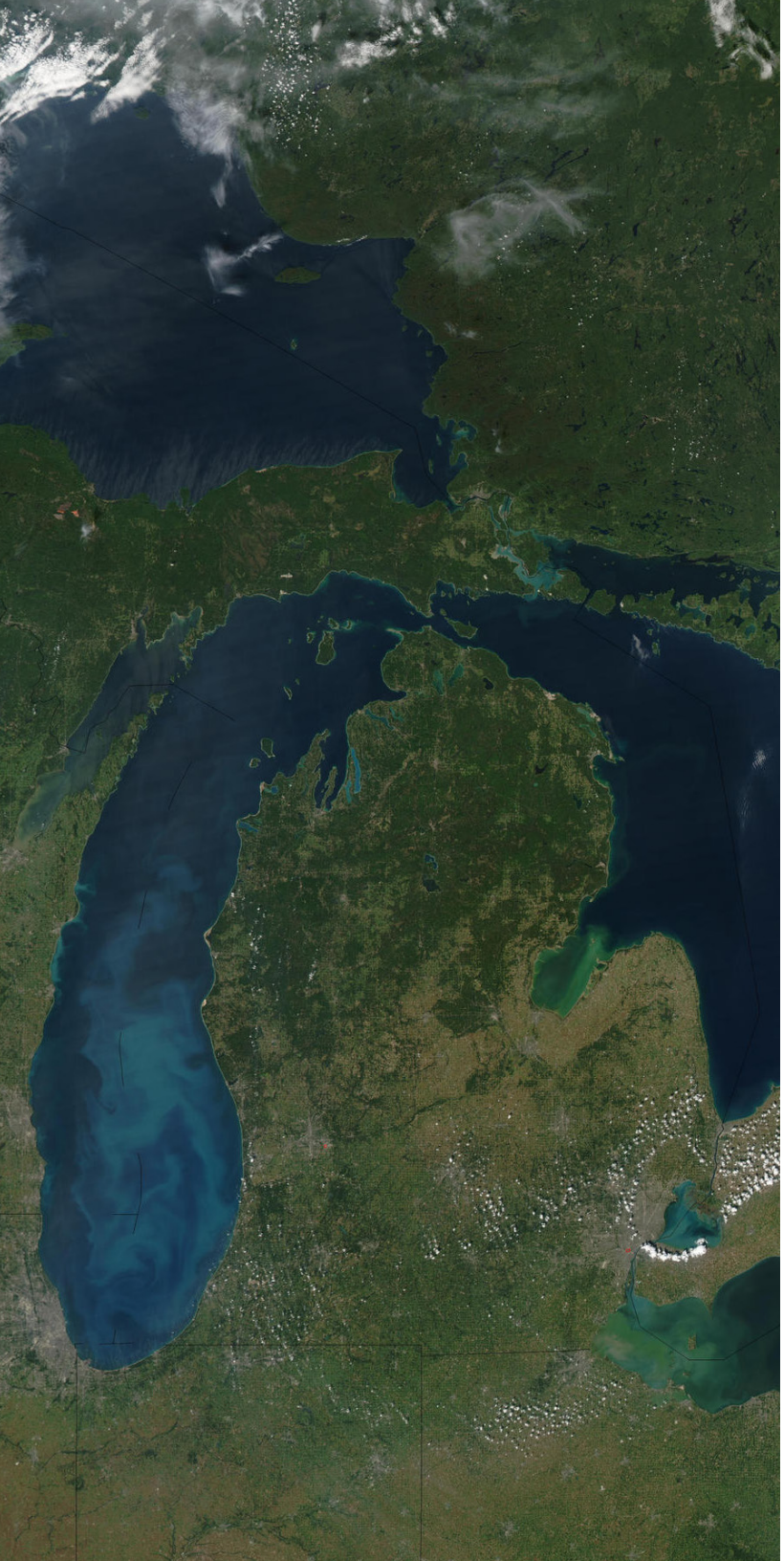
Bacanora for Bats: Binational Conservation and Sustainable Agave Spirits
Borderlands Restoration Network
Arizona-Sonora Borderlands, U.S. and Mexico

Restoring Mine Lands for Habitat Connectivity in the Central Appalachians
The Nature Conservancy
Central Appalachia, U.S.

Five Connectivity Challenge finalists

were announced in July 2020, and each team will have the opportunity to present their projects at a pitch event during the Salazar Center's international Symposium on Conservation Impact in September 2020. The winning team will be selected based on the strength with which they demonstrate significant potential to realize landscape-scale connectivity that, in turn, benefits habitat, builds resilience, and improves the health of natural systems and human communities.

Pilot projects · Big data and mapping · Corridors · Indigenous conservation · Crossing borders · Policy approaches · Citizen science · Working lands



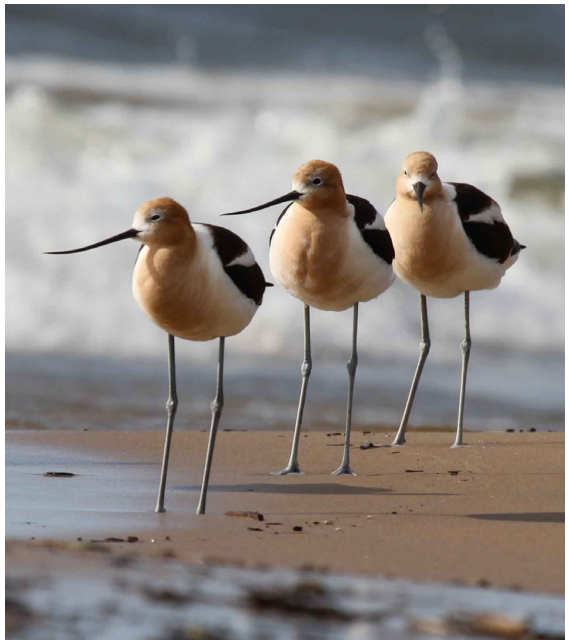
Birds Connect Us: Empowering Communities through Migratory Bird Technology

National Audubon Society
Great Lakes Region, U.S.

Urban natural areas are important–both as sanctuary for migrating birds and wildlife, and for improved community health and wellness–but solutions to connect the two largely remain under-explored. In this project, Audubon Great Lakes and the Midwest Migration Network, in collaboration with community partners in Detroit, MI, and Milwaukee, WI, will develop solutions that connect communities and birds under two lenses: STEM, and healthy habitats and communities. This team will engage communities of color in citizen science, while providing them with STEM learning experiences and a better understanding of the benefits of improved urban natural habitat areas. Project partners will establish wildlife tracking stations in target urban communities as focal points for a series of activities co-developed with community-based organizations. The project goal is to foster local advocates for healthy urban natural areas who are invested in the connected relationship between people and birds.

Audubon Great Lakes (AGL)is recognized as a leader within the National Audubon Society's network in engaging diverse and urban communities in meaningful conservation of local natural habitats. This is in large measure due to AGL's Wild Indigo Nature Exploration program, designed to connect communities of color to local nature. AGL has a staff of 20 professionals with expertise in science, education, and advocacy. This allows for a multidisciplinary approach to both science and engagement programs. Simultaneously, by hiring Wild Indigo coordinators from the community, AGL enhances its capacity to recruit community partners and participants.

The Midwest Migration Network (MMN) is a consortium of academic, government, and non-governmental organizations working to facilitate regionally-coordinated migration monitoring and research to address



information gaps in the Midwest to improve the survival of birds throughout their annual life cycle. This effort relies on a well-coordinated network of observers, researchers, and decision-makers to ensure that appropriate conservation actions are taken to effectively alleviate threats.

Through this proposed project, AGL and MMN will lead participants in activities that will help them understand how birds use stopover habitat and how tracking technology can reveal where birds are traveling in urban spaces–while at the same time providing community youth with mentorship opportunities in the field as birders and scientists. A key tool in this effort is technology, including the Motus Wildlife Tracking System (motus.org). Motus is a collaborative research network that uses automated radio telemetry to track migratory wildlife. New wildlife tracking stations established for this project will utilize Motus technology to increase AGL and MMN's understanding of bird movements along the Great Lakes and then guide their development and prioritization of high-quality natural areas in cities. These stations will be set up within target communities and, in addition to data collection, will act as focal points of a series of events and activities co-developed in partnership with Detroit- and Milwaukee-based organizations. The data these stations collect, along with accompanying educational resources, will allow for increased communication between conservation scientists and community residents. In communication, this will foster greater mutual understanding and build sustainable support for urban conservation solutions to benefit wildlife and people in urban spaces.

If funded, this project will ultimately broaden the group of conservation stakeholders in the Great Lakes region and increase advocacy for urban green spaces that strengthen community health. It will also serve to enhance critical stopover habitat and connect people to nature.

Learn more about Audubon Great Lakes at gl.audubon.org, and watch the team's proposal video.

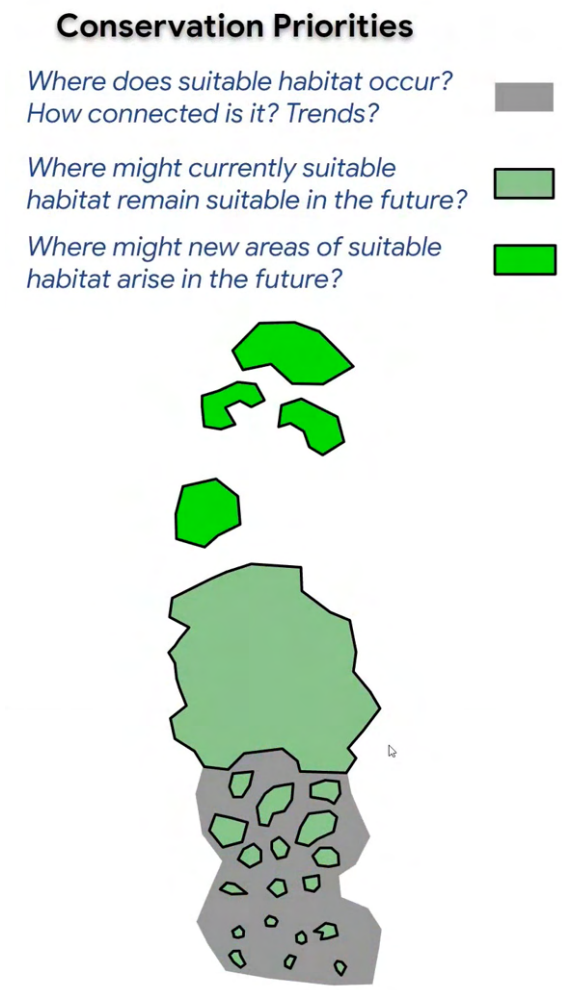
TerrAdapt: Cascadia

Cascadia Partner Forum
Cascadia Region, Pacific Northwest, U.S. and Canada

Today, the pace of land use change in Cascadia far outpaces the region's ability to plan, manage, and adapt decision-making accordingly. While the area benefits from a large network of public lands, management goals and priorities are rarely coordinated across ownership lines and the international U.S.-Canada border. Additionally, large, previously-intact habitats are often broken up by highways and private lands, requiring geographic prioritization to guide proactive restoration and conservation actions. A tremendous depth of scientific analyses, data, and research exists and is underway, but often it is not easily accessible, integrated, or responsive to changes that are occurring across the landscape and in real-time. These resources currently fall far short of their potential to inform and support regional land-use and conservation decisions– and from how the region chooses to address increasing population growth to how its municipalities ensure that infrastructure is sustainable to changing conditions, decisions matter.

The team hopes to address this challenge by building the Cascadia Biodiversity Watch—a first-of-its kind, dynamic connectivity planning and spatial prioritization tool. Built on Google Earth Engine, the tool will provide high-resolution, dynamically-updated maps of land use, landscape integrity, connectivity, thermal and moisture microrefugia, and projected biome shifts. With full functionality available via a web browser, it will allow users with a range of technical capabilities equal access to high-resolution and powerful map tools. These include tracking trends in habitat and connectivity for at-risk species and habitats, receiving alerts when key thresholds are reached, and designing land-use scenarios to mitigate extinction risks for conservation targets.

The Cascadia Biodiversity Watch tool is intended to address two keystone problems: first, that most data, and almost all existing land use planning



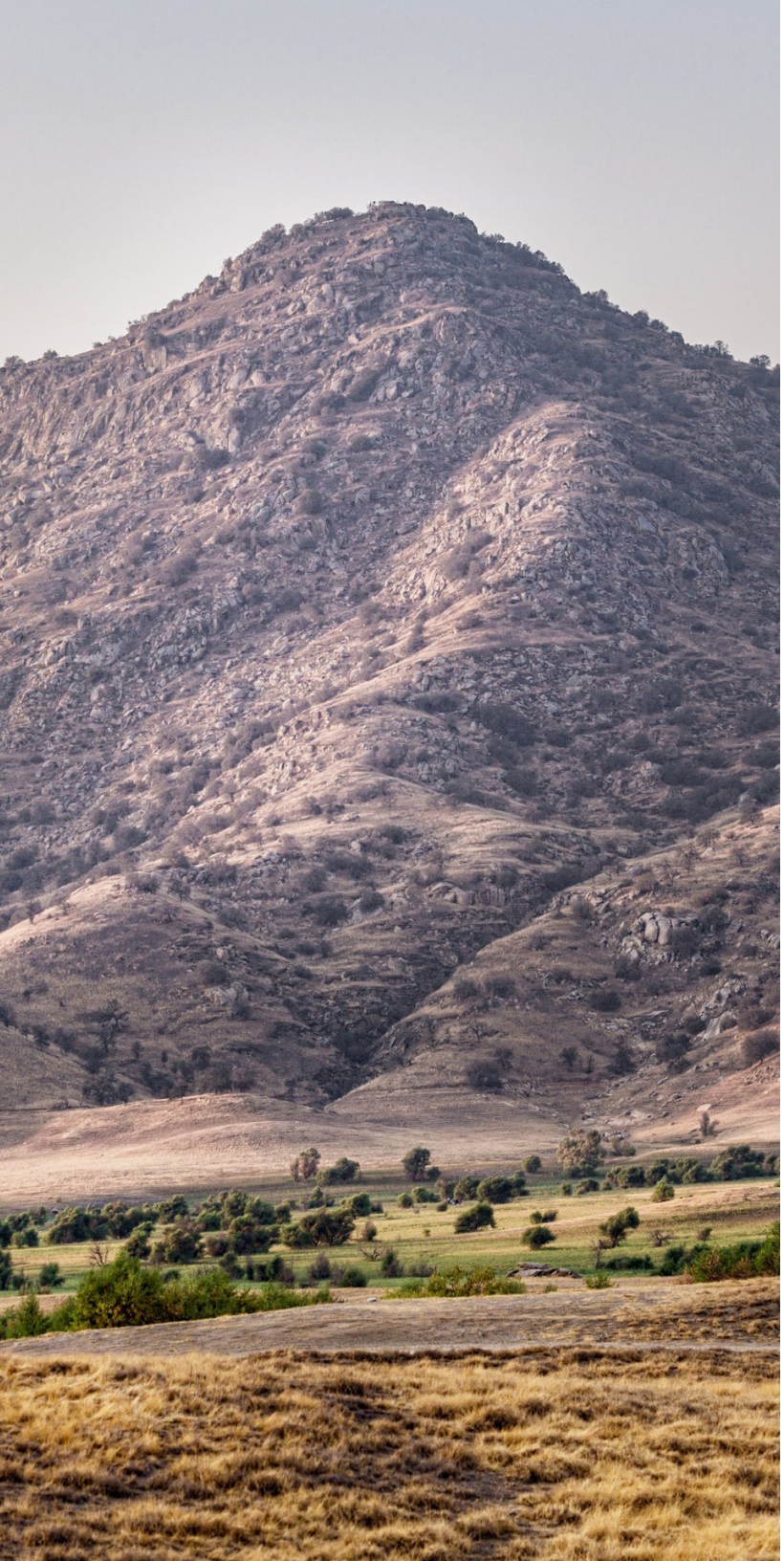
documents derived from these old data are static, outdated, and absent of connectivity and climate change strategies, and secondly, that jurisdictional boundaries limit working at the correct geographic scale for conservation efforts to sufficiently support the resilience of Cascadia's natural systems.

In order to tackle these two problems–and to fully capture local conditions and how best to serve their region–the team will co-design the tool prototype alongside the intended users, including regional land and wildlife management agencies, NGOs, researchers, and Tribes and First Nations. A 2019 grant from the U.S. Fish and Wildlife Service has already been used to support more intensive outreach efforts to assess how to serve potential users. One critical challenge identified by these potential users is that the current timeline for updating and applying new information to land management plans takes years if not decades. In response, the Cascadia Biodiversity Watch tool will be designed to provide information on an annual basis, if not more often, and it will have the potential to inform and guide how land managers should adapt.

The tool will also help decision-makers create or restore connections between habitats that support the regional conservation vision and increase its resilience to climate change. As such, the tool is intended to have broad, regional impact rather than to replace site-specific data and management plans. At the same time, its fine-scale data will allow decision-makers to pursue more finite conservation efforts as well. Wolverine and lynx, for example, rely on crossing the international boundary as well as on moving between land management units, and data derived from the tool can be used to shape connectivity priorities and opportunities for these kinds of individual focal species.

If successful, this project will enhance the capacity of regional decision-makers to monitor and respond to fine-scale human pressures and land use changes across the transboundary region of Cascadia. Data from the Biodiversity Watch tool will also support stronger, more impactful conservation storytelling, ultimately increasing support for landscape-scale connectivity and related policies.

Learn more about Cascadia Partner Forum at cascadiapartnerforum.org, and watch the team's proposal video.



Catalyzing Connectivity for Tribal Cultural and Community Resilience

Climate Science Alliance
Southern California, U.S.

Implementing conservation actions that protect and promote landscape connectivity can be difficult in areas facing development pressure. Even in a region with a history of proactive conservation planning such as southern California, urban areas in particular are characterized by competing interests, and the jurisdictions responsible for land-use-planning decisions often prioritize development over conservation. Tribal communities are among the most susceptible to the impacts of climate change, yet they are often under-resourced to address development in the region and are left out of planning conversations.

To address this challenge, the Climate Science Alliance team proposes a collaborative project to build on existing research to catalyze actions that can protect and enhance landscape connectivity and advance tribal resilience. This effort will explore the integration of western and traditional knowledge to restore and manage connectivity, provide impact and empowerment for partner communities, and potentially change the connectivity and conservation paradigm in southern California and beyond.

The team is uniquely positioned to support success with tribal and community partners and comprises climate adaptation and outreach specialists, researchers with expertise in connectivity planning and actionable science, and a Tribal Working Group with representation from20 tribes and tribal organizations across southern California.

The project will focus on southern California, from Santa Barbara south to the U.S.-Mexico border and from the coast to the California-Arizona border. Importantly, this region, and specifically San Diego County, has the highest density of tribal nations in the U.S. An analysis of landscape connectivity

under climate change has already been completed for this region, upon which this team will build to specifically address connectivity goals within and adjacent to the 18 tribal reservations in the area. With support and buy-in from these tribes, the team hopes to better integrate tribal communities' lands and priorities into connectivity and conservation planning for the region. In addition to increasing development in the region's wildland-urban interface (WUI), increased fire risk, and competition for limited water resources, the tribes anticipate additional impacts from climate change to affect important cultural resources and sites on traditional lands.

To address the barriers to connectivity posed by a lack of integration of tribal perspectives and lands, this team will consider how to better represent cultural values and traditional ecological knowledge into current conservation actions to protect and enhance connectivity. Building on a foundation of existing knowledge and a strong stakeholder community, they will leverage regional climate connectivity research and ongoing work to enumerate the multiple benefits that can be realized, which can in turn be used to inform jurisdictional planning. With a focus on tribal priorities, they will evaluate complementary western and traditional restoration and management practices to preserve connectivity as well as culturally important places and resources.

If funded, this team will develop strategies aligned with regional connectivity planning that are customized to have an immediate and direct impact within tribal communities by addressing tribal priorities, concerns, cultural considerations, and ongoing tribal climate adaptation planning efforts. Their efforts will also improve jurisdictional collaboration among tribes and local governments over the long term, and the importance of connectivity, climate adaptation, and cultural values and traditional knowledge will be captured in new community outreach and educational programs.

Learn more about Climate Science Alliance at climatesciencealliance.org, and watch the team's proposal video.

Bacanora for Bats: Binational Conservation and Sustainable Agave Spirits

Borderlands Restoration Network
Arizona-Sonora Borderlands, U.S. and Mexico

Nectar-feeding bats rely on wild agave plants for sustenance as they migrate through the binational Arizona/Sonora borderlands, and in turn serve as the plants' primary pollinators. Agaves in this region are disappearing due to increased production of the regional agave distillate, bacanora. To address threats to bats and to agaves, and ensure the sustainability of bacanora production, policy changes are needed to prevent further ecological degradation and celebrate regional food heritages and restorative economies. Borderlands Restoration Network and the Colectivo Sonora Silvestre will strengthen community-based restoration of bacanora agaves through policy change. Collaborating with universities, herbaria, government agencies, local policy regulators, non-profits, producers, and consumers in Mexico and the U.S., this team will evaluate connectivity of wild agave populations and impacts to pollinators on both sides of the border, supporting the creation of a cooperative, science-based, sustainability certification for bacanora.

The Network and the Colectivo have built a number of important binational relationships with diverse stakeholders, and the team is embedded in the US/Mexico borderlands; they are bilingual and passionate about developing inclusive conservation practices that support the cultural and economic needs of the local communities.

The team hopes to address the challenge that, as land is cleared for cultivation of bacanora and wild agaves are harvested to supplement the cultivated crops for distillation, landscape connectivity is broken and pollinator species' access to nectar is threatened. Bacanora harvesting and production practices also decrease genetic diversity in agaves across the landscape, leaving producers' crops potentially more susceptible to disease or shifting environmental conditions. The ecological impacts of the burgeoning bacanora

industry are further compounded by other contributing factors that degrade habitat for agaves and their pollinators, such as groundwater pumping, development, overgrazing, and changing fire regimes. At the same time, conservationists in the region lack of baseline data on agave population distribution in relation to the migratory routes of pollinators, and cross-border barriers and diverse stakeholder interests are often viewed as competing with conservation, hindering multi-faceted collaboration.

This team hopes to address this challenge by unifying producers, consumers, policy makers, and scientists in a common cause that can improve quality of life for bat, agave, and human communities alike. By developing a collaborative restoration solution that also offers economic benefits for rural borderlands communities, they will enhance habitat connectivity. This project will fill existing knowledge gaps needed to effectively conserve agaves and pollinators and inform sustainable bacanora production, while also facilitating stakeholder involvement and collaboration. The ultimate goal is to create science-based, inclusive policies that support both conservation and local communities.

Surveys and modeling will generate missing baseline data on agave populations in the region, and this new data will inform restoration efforts and help shape community-driven sustainable bacanora requirements, such as how many agave individuals to let flower per acre. The team will design and implement a sustainability certification changing how bacanora is produced, while providing a model for sustainability regulation which can be adjusted and implemented in other regions of agave spirit production. This process will also enable ranchers to secure their livelihoods by conserving the resource on which they depend, and marketing a sustainable product.

If funded, this project will ultimately support agave landscapes, nectar-feeding bats and other important pollinators, ecological connectivity, and the region's rural economy.

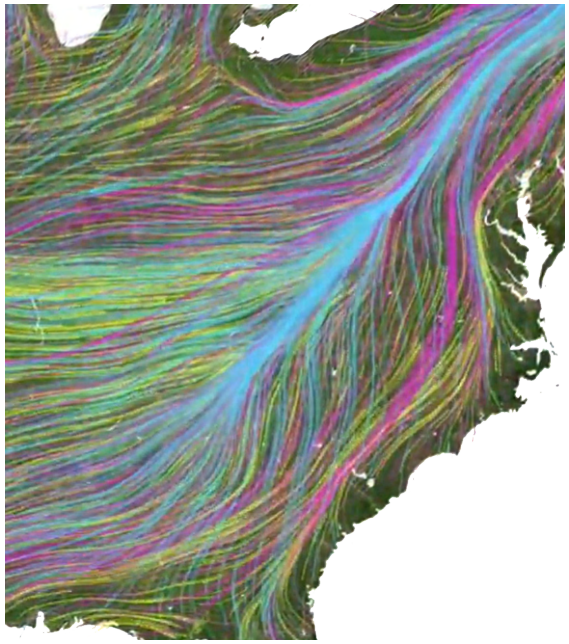
Learn more about Borderlands Restoration Network at borderlandsrestoration.org, and watch the team's proposal video.

Restoring Mine Lands for Habitat Connectivity in the Central Appalachians

The Nature Conservancy
Central Appalachia, U.S.

The Central Appalachians are a critical climate corridor supporting ecosystem resilience in the eastern United States. However, extensive coal mining has impacted more than 1.5 million acres in the region, creating barriers to terrestrial habitat connectivity through the loss of forest cover, and barriers to riparian habitat connectivity through sedimentation and mining-related toxic contamination. With limited resources to invest, restoration with the greatest benefits for people and nature must be prioritized. Restoration that targets habitat connectivity is increasingly critical for species' habitats as climates change. This team will collaborate with Central Appalachian mine land restoration efforts on a prioritization of mined sites to be restored. The prioritization process incorporates innovative landscape connectivity maps and a cost-benefit approach to sustain healthy ecosystems, support local economies, and enhance climate change adaptation. Connectivity Summit convenings will provide further momentum around a community of practice.

Restoring native habitats on mine lands can facilitate the movement and migration of species, rebuild soil ecosystems, reduce downstream sediment loads, and lessen flood intensity. At the same time, prioritizing restoration sites that are in locations that contribute to local and regional connectivity will be critical to facilitate plant and animal dispersal and movement in response to climate change. Beyond identifying physical barriers to habitat connectivity, the social processes involved in project planning and implementation must be considered, and the siloes between researchers, planners, practitioners, and policy-makers must be broken if progress is to be made. As such, early stakeholder engagement will be essential, and will help identify knowledge and resource gaps that may hinder wider implementation.



This collaborative work will be led by The Nature Conservancy's Central Appalachians Program, whose mission is to protect and manage climate-resilient lands of the central Appalachian Mountains for people and nature. This project leverages the Conservancy's Resilient and Connected Lands Network, a map of key "resilient sites" to connect, as well as existing patterns of connectivity. The Conservancy will work with the Appalachian Regional Reforestation Initiative–a recognized leader in advancing methods and best practices for mine land reclamation–including private landowners, the coal industry, academics, state regulators, and the state Office of Surface Mining Reclamation and Enforcement. The team will develop science-based processes for identifying critical mine lands on which to restore both terrestrial and aquatic habitat connectivity, and share these priority sites with state agencies directing mine reclamation funds, as well as with state and non-profit programs implementing restoration.

To ensure the critical function of the Central Appalachians as a corridor for climate migrations and species adaptation, this team aims to be proactive in identifying and prioritizing key mining sites for restoration, with a specific focus on landscape connectivity. A multi-factor spatial prioritization will capture important restoration sites, and priority areas will be selected with the help of stakeholder input and preferences, as well as efforts to design and test new connectivity methods and tools. State agencies and non-profits, in turn, can use these new priorities to direct future mitigation and reclamation funds.

If funded, this project will address the question of how to target restoration of degraded sites in a way that has the most potential to increase the "flow" of species and natural processes, particularly in the face of climate change. Ultimately, the greatest impacts will be restoration benefits for wildlife and people, as well as an elevated conversation and community of practice for habitat connectivity in the Central Appalachians.

Learn more about The Nature Conservancy's Central Appalachians Program at nature.org, and watch the team's proposal video.

HONORABLE MENTIONS

Agua es Vida: Re-Connecting Agriculture and Water Across Artificial Lines
Colorado Open Lands
Colorado and New Mexico, U.S.

ARC International Shared Use Green Infrastructure Design Competition
ARC Solutions
Continent-wide

Building Landscape Connectivity at Scale for Environmental and Economic Resilience
Pacific Forest Trust
Northern California, U.S.

Green Pathways: Connecting Seattle's People and Wildlife
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Seattle, Washington, U.S.

Reconnecting Streams to Increase Freshwater Resilience
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A Tri-national Partnership: Connecting Countries through Western Forest Bird Conservation
PRONATURA SUR AC
U.S., Canada, and Mexico

The White Tank Mountains Connectivity Initiative Proof of Concept
Central Arizona Conservation Alliance
Maricopa County, Arizona, U.S.

Pilot projects
Big data and mapping
Corridors
Indigenous conservation
Crossing borders
Policy approaches
Citizen science
Working lands

Agua es Vida: Re-Connecting Agriculture and Water Across Artificial Lines

Colorado Open Lands
Colorado and New Mexico, U.S.

Conservation easements can be an effective tool to permanently protect land and water in many places, but strict criteria have limited their potential application in *acequia* (irrigation-based) communities, where parcels are small and families have low incomes. *Acequia* water rights historically connected communities throughout Southern Colorado and New Mexico, but jurisdictional boundaries drawn by state and local governments have broken up *acequias* and reallocated water rights in different terms.

This project aims to reconnect these communities in Southern Colorado and Northern New Mexico through shared knowledge, increased socio-ecologic resilience, and facilitated landscape scale conservation. These communities share an *acequia*-based culture, history, and land management ethic, but information sharing, landscape connectivity, and community cohesion has been inhibited by the challenges of working across the state border. Colorado Open Lands and Taos Land Trust propose to develop a “community conservation easement” model to encumber multiple parcels with a shared water right and reduce cost barriers associated with protecting smaller parcels, ultimately recognizing the enormous collective value of an *acequia*. This effort would serve to reconnect communities, scaling up land protection and increasing community resiliency to outside pressures, while also benefiting wildlife that thrive in this agricultural system and supporting traditional *acequia* practices that have proven to be resilient to a changing climate. A joint Congreso will further allow for shared knowledge and solution-building around issues such as watershed planning, land use practices, and legal tools. By building a foundation of trust and shared resource goals, shared capacity can also be developed to better secure funding and financing for long-term impact.and inclusion.

Learn more about Colorado Open Lands at coloradoopenlands.org.

ARC International Shared-Use Green Infrastructure Design Competition

ARC Solutions
Continent-wide

Roadways constitute the largest human artifact on Earth, altering ecological flows and creating a persistent barrier to terrestrial and aquatic movement and migration. In the United States alone, more than 4 million miles of roads divide its landscapes, forcing wildlife into increasingly fragmented habitats. Every year on these roads, motorists kill as many as 2 million large animals and hundreds of millions of smaller wildlife, and these these collisions cost Americans more than $8 billion annually. This transportation challenge is further exacerbated by an increasing population and expanding urbanization; an aging, deficient, and outmoded infrastructure; and a changing climate.

To address this problem, ARC Solutions has proposed a North American design competition that, if funded, willl engage innovative interdisciplinary teams to design the next generation of shared-use infrastructure to provide safe passage for people and wildlife. The competition will seek (re)design solutions that focus on optimizing equitable access to nature and continental-scale connectivity, and which will safely meet the needs of contemporary society. Potential sites eligible for the competition will first be identified and evaluated; then, ARC will launch the competition and, ultimately, support the construction of prototype shared-use structure that advances active transportation and large-landscape connectivity. This competition process is expected to broaden public support for shared-use infrastructure and increase the variety and number of cost-effective shared-use structural designs, while ultimately enhancing wildlife connectivity, reducing collisions, expanding access to nature, and creating more resilient landscapes capable of adapting to increased urbanization and associated human-wildlife conflicts.

Learn more about ARC Solutions at arc-solutions.org.

Building Landscape Connectivity at Scale for Environmental and Economic Resilience

Pacific Forest Trust
Northern California, U.S.

The mixed-conifer forests of northern California are a global biodiversity hotspot. The region provides water to over 28 million Californians and supplies water for agriculture. The region is also projected to remain cooler and wetter than most of the state, providing a critical refugia for species—people included—seeking cooler temperatures and plentiful water. The landscape has a checker-boarded ownership of public and private lands, dominated by larger managed forest and ranch holdings, and historically, the regional economy has been based in resource extractive industries. That economy is now highly compromised, and despite broad support among landowners for conservation on private and working lands, without additional land-based revenues, they will increasingly turn to development and short-term timber products, threatening landscape connectivity.

Pacific Forest Trust has proposed to increase connectiity in the region by implementing two pilot projects covering approximately 20,000 acres: one in the Upper Trinity watershed and one in the McCloud watershed. In the former, a community forest would be established; in the latter, an industrial forest would be conserved with an easement. These projects are interwoven with federally managed lands, connecting them, and both would guide sustainable forest management and support naturally diverse, mature forest conditions, which in turn benefit wildlife, maintain local taxes, support jobs, and protect a major wildlife corridor. If funded, these pilot projects will demonstrate the feasibility and flexibility of conserving and connecting these lands; support local communities' goals, both ecological and economic; and protect water supplies as well as wildlife.

Learn more about Pacific Forest Trust at pacificforest.org.

Green Pathways: Connecting Seattle's People and Wildlife

University of Washington
Seattle, Washington, U.S.

There is a growing understanding that people benefit from interactions with nature, which provide measurable mental and physical health benefits. There is also evidence that wildlife populations thrive in more extensive and better-connected habitats. Yet, urban residents often suffer from a nature deficit, and urban landscapes are usually left blank during wildlife-connectivity planning exercises. In sum, better connections to and among green spaces in cities are needed for both people and wildlife.

In Seattle, where the population is rapidly increasing, the city is working to enhance valuable green infrastructure and address racial, economic, and health disparities among neighborhoods. The city has identified neighborhoods with low tree canopy cover and a high proportion of traditionally underserved residents, but it still lacks specific guidance that identify and prioritize rights-of-way, corridors, greenways, vacant lots, and other areas suitable for tree and garden planting. To help fill this gap, the University of Washington, in partnership with Seattle's Departments of Parks and Recreation, Public Utilities, and Transportation, and the Universities of Kangwon, Colorado State University, and UC Davis, will map green corridors for species such as pollinators, coyotes, and songbirds, and identify green walking and biking routes to connect underserved populations to parks. Using this data, along with community input, the team will then select and design one green pathway with pollinator gardens, street trees, and pocket parks as a demonstration project. If funded, this pilot project is ultimately intended to kickstart the connecting and greening of pathways throughout the city.

Learn more about the University of Washington at natureandhealth.uw.edu.

Reconnecting Streams to Increase Freshwater Resilience

The Nature Conservancy
U.S.-wide

Freshwater species are in alarming decline due to fragmented habitat and changing climate. Streams in the United States were once connected into large free-flowing networks, supporting the most diverse freshwater biota in the temperate world, but those networks have now been fragmented into over 54,000 small segments, trapping species and preventing adaptation. To restore aquatic connectivity requires the removal of in-stream barriers such as dams and culverts, making it an expensive and political process. With limited resources to address the challenge of fragmentation, It is critical to prioritize stream sites at which barrier removal will have the greatest positive impact on the diversity and resilience of the stream network, while also benefiting river health and public safety.

The Nature Conservancy has proposed to deliver much-needed scientific information in a way that will be easily ingested by decision-makers and incorporated into their planning processes. Expanding on two existing web tools the team has already created (one that helps prioritize climate resilience targets and another that helps prioritize dam removals), the team will develop a web-based, public-facing decision support tool that quantifies how stream connectivity restoration benefits the diversity and resilience of freshwater stream networks—data which can in turn inform decisions and facilitate collaborative impact among agencies, towns, and others and allow them to prioritize restoration sites. If funded, this project is designed to have a large impact on a broad population and benefit freshwater systems across the entire lower 48 states. It will also guide and direct the resources of The Nature Conservancy, one of the world's largest conservation organization.

Learn more about The Nature Conservancy at nature.org.

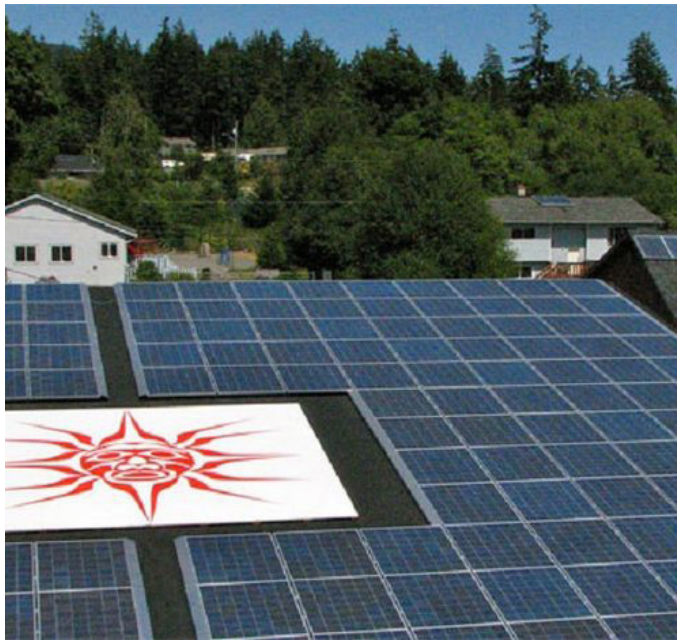
Safe Passage for Wildlife in the Southern Canadian Rockies

Yellowstone to Yukon Conservation Initiative (Y2Y)
British Columbia, Canada

Highway 3 in British Columbia's Southern Rocky Mountains has been identified as a fracture zone for wildlife (particularly for grizzly bears and wolverines) at local, regional, and continental scales, disconnecting important habitats, fragmenting populations, and causing direct mortality from collisions. Transportation and wildlife agencies in the region operate with siloed mandates and lack dedicated mitigation resources, so despite more than a decade of research, little has been acted upon, while traffic numbers and wildlife deaths have mounted. There is currently no law or policy that requires the BC Ministry of Transportation and Infrastructure to undertake projects specifically for wildlife, nor does the mandate of the Ministry of Forests, Lands and Natural Resource Operations include road mitigation. Only collaborative efforts can synthesize the community, political, scientific, and technical supports needed to solve this issue.

In response, the Y2Y partnership of government staff, NGOs, scientists, industry, and communities has proposed the Alexander-Michel Corridor Linkage project to benefit a suite of wildlife species, particularly large mammals. The project would include British Columbia's first-ever major wildlife overpass. Crossing infrastructure has been demonstrated to reduce wildlife-vehicle collisions by 87-100%, and infrastructure-based solutions are long-lived, with almost immediate benefits. If funded, the Alexander-Michel corridor could restore species' genetic connectivity as well as their habitat connectivity. A dramatic reduction in wildlife-vehicle collisions will also reduce human injuries, vehicle damage, and insurance costs, and hunting and wildlife viewing opportunities will increase. This project is intended to help build momentum and awareness for subsequent phases of safe passage infrastructure in the region.

Learn more about Yellowstone to Yukon at [y2y.net](y2y.net).



Snaqua (Heron) Stewardship Solutions: Financing Indigenous Protected and Conserved Areas

The IISAAK OLAM Foundation
British Columbia, Canada

Development and commercial forestry are fragmenting crucial wildlife habitat and threatening to compromise the drinking water source of 380,000 residents in the Capital Regional District of British Columbia, located within the traditional territory of T'Sou-ke First Nation. To help address this challlenge, the Canadian government is promoting the establishment of a vast network of new Indigenous Protected and Conserved Areas (IPCAs) as part of its strategy to protect 25% of the country's lands and waters by 2025. But available funding models cannot keep pace with the demand for IPCAs, and without a way to make these protected areas financially self-sustaining, they risk becoming 'paper parks,' lacking the capacity to support long-term stewardship, habitat connectivity, and biodiversity.

The IISAAK OLAM Foundation has proposed that innovative, locally-driven, self-perpetuating funding strategies will be the most effective and impactful way to leverage available government funding for IPCAs. The Foundation's team plans to make this approach a reality by supporting the T'Sou-ke First Nation to establish an Indigenous Protected and Conserved Area that spans their territory, while also piloting an Ecosystem Stewardship Fee, a finananical model that ensures the IPCA's long-term sustainability. The fee model will incentivize regional businesses and stakeholders to invest in the T'Sou-ke IPCA, while empowering Indigenous leadership to prioritize conservation of the territory that they have been safeguarding for millenia. If funded, this new model would ultimately reduce the marginalization of T'Sou-ke First Nation and create opportunities for reconciliation, cross-cultural dialogue, and economic resilience.

Learn more about the IISAAK OLAM Foundation at iisaakolam.ca.

Sustaining the Working Wild

Western Landowners Alliance
New Mexico, U.S.

Healthy “working wild” lands are critical for connectivity, with benefits for both humans and widlife, but they are disappearing in the West. What is more, the most lucrative or convenient uses of these lands tend to threaten connectivity. In order to keep these lands and habitats working but also intact, biodiversity stewardship must support rather than detract from the bottom line; regulatory structures need to reward rather than penalize stewardship; and those whose lives and livelihoods are directly affected must have a voice and ownership in the decisions that shape their future. While some cost-share programs and regulatory assurances are currently available to landowners, they are piecemeal, complex, sometimes conflicting, and often confounding. And while conservation easements, zoning, and cost-share programs can mitigate the problem to a degree, the scalability of these tools is limited, and they do not address the bottom-line costs and risks of creating or preserving connectivity on working lands. Nor can these tools support proactive stewardship and investment on the land.

To address this lack of economically viable, adapatable conservation tools for landowners, Western Landowners Alliance hopes to combine broad-scale, programmatic financial incentives and regulatory assurances in exchange for long-term, collaborative stewardship agreements. The proposed Working Wild initiative would fulfill this goal through pilot Collaborative Stewardship Commitments. Stewardship contracts would improve the economics of working lands so that landownership in the future is not limited to the wealthy, and the team’s “all lands, all tools” solution is designed to address the limitations of existing tools to effectively operate on lands that span public-private boundaries, a frequent challenge in landscapes in the West. If funded, this initiative would advance habitat and species conservation while providing a broadly scalable model that could significantly increase habitat conservation West-wide and beyond.

Learn more about Western Landowners Alliance at westernlandowners.org.

A Tri-national Partnership: Connecting Countries through Western Forest Bird Conservation

PRONATURA SUR AC
U.S., Canada, and Mexico

Since 1970, three billion North American birds have been lost, including migratory species that breed in temperate western forests and winter in tropical highland forests. Unsustainable logging, disrupted natural disturbance regimes (i.e., fire suppression), habitat shifting and alteration, and water management/altered hydrology all contribute to the degradation of these birds' habitats, and to the species themselves. At the same time, indirect economic, social, scientific, and organizational challenges limit capacity for addressing threats to migratory birds.

To address this crisis, Pronatura Sur and its partners have developed a framework for overcoming these social and scientific barriers. The team's draft conservation strategy, based on specific opportunities and points of intervention, addresses social factors and direct threats that limit international bird conservation. If funded, the team will be able to finalize this framework and use it as a guide for compiling existing data, conducting state-of-the-art range-wide analyses to fill information gaps, and for implementing conservation strategies at four pilot sites to reduce the threats that migratory birds face in Canada, the United States, and Mexico. A finalized strategy will guide international efforts to address the social factors and direct threats that impact forest habitat, and through pilot projects, the team will be able to demonstrate how the strategy serves as a framework for integrating conservation efforts throughout birds' different migratory ranges. This will help promote an adaptive approach to connected, range-wide strategic planning and implementation, and ultimately, would serve as a model for scaling up conservation efforts designed to bring back western forest birds.

Learn more about the PRONATURA SUR AC at pronatura-sur.org.

The White Tank Mountains Connectivity Initiative Proof of Concept

Central Arizona Conservation Alliance
Maricopa County, Arizona, U.S.

The White Tank Mountains on the western edge of the Phoenix metro-area in Maricopa County, Arizona, are well known for the unique array of desert wildlife and flora they support—which is now threatened by ecological isolation through urbanization. As one of the fastest growing counties in the United States, the region's outward growth pattern has caused rapid fragmentation, and cities near the White Tanks now reach to the north, east, and south edges of the mountains. Planned development in the Hassayampa River Valley will ecologically isolate the White Tanks further, impacting wildlife distribution, predator-prey dynamics, breeding, and foraging success, and negatively impacting desert flora biodiversity dependent on pollination and seed dispersal by wildlife. As private landowners, developers in this region are key stakeholders, but often know little about regional ecology and sustainable alternatives.

In response, this team has proposed a landscape-scale effort to retain wildlife and ecological connectivity between three mountain ranges via a system of natural linkages across the connecting Hassayampa River Valley. If funded, they will leverage cross-sector data and knowledge to support a new partnership with a single developer to redesign an existing planned community to accommodate wildlife corridors and public access to open space, while retaining or enhancing developer return on investment. Ultimately, this localized proof-of-concept would be significantly meaningful to a wide range of stakeholders, has the potential to advance the preservation of more than 100,000 acres of habitat in native Sonoran Desert lands, and can help address environmental threats to an estimated population of 4.3 million Maricopa County residents.

Learn more about Central Arizona Conservation Alliance at cazca.org.

OTHER TOP PROPOSALS

- Pilot projects
- Corridors
- Crossing borders
- Citizen science
- Big data and mapping
- Indigenous conservation
- Policy approaches
- Working lands

Assessing Lake Crossing by Migrating Birds to Inform Responsible Development

BLACK SWAMP BIRD OBSERVATORY | LAKE ERIE, CANADA + U.S.

In an era when human connectivity to nature is decreasing, regulatory agencies and the public are often pressed to make important environmental choices without adequate information. Through the addition of eight automated Motus telemetry towers, Black Swamp Bird Observatory (BSBO) will be able to expand a tracking network that will follow 80 newly tagged migratory birds to study their passage across and around Lake Erie. Understanding these movements will inform risk assessment of tall-structures to nocturnal migratory birds and guide decision-making concerning open-water wind power development along the Great Lakes. By mapping tag data BSBO can demonstrate that no matter where we live, humans are connected to birds via the air above. Using this new knowledge, BSBO will promote public outreach and education campaigns that illustrate the importance of the air column as a critical habitat in the life cycle needs of migratory birds.

Beginning Hummingbird Conservation Communities and Reserves (HCCRs) with Partners

HUMMINGBIRD MONITORING NETWORK | ARIZONA BORDERLANDS, MEXICO + U.S.

Hummingbird Conservation Networks (HCNs) is a solution for engaging communities to work together to help restore the nectar landscape for hummingbirds and hence other pollinators. In North America, a major threat to the survival of hummingbirds, especially the migratory ones, are changing climates that are changing blooming dates, disrupting pollination, and creating nectar gaps across landscapes.

Hummingbird Monitoring Network (HMN) is beginning HCCRs, a program that encourages people and communities to get involved in conservation activities benefiting both hummingbirds and humans. Communities in Mexico, Guatemala, Ecuador, and Peru will be working to address key conservation issues such as: discovering conservation needs for threatened species; restoring habitats to mitigate adverse effects of habitat loss and fragmentation on hummingbird diversity; improving floral resources to mitigate pollination disruption and improve food sovereignty of crops pollinated by hummingbirds. HMN is creating connections, building partnerships, and nurturing ecosystem conservation networks in urban, rural, and indigenous communities across the Americas.

BIG RIVER CONNECTIVITY—Watershed Rewilding Via Cores, Corridors, and Crossings

BEWILDREWILD.ORG | IOWA, U.S.

BIG RIVER CONNECTIVITY is a plan for shrinking the Gulf of Mexico's Dead Zone while allowing the recolonization of apex predators and keystone species essential to a balanced ecosystem. And it is about liberating humans from the ravages of over-domestication and recreating trust in nature. The Corn Belt is ground zero. Permanently rewilding floodplains and steep slopes is a priority. It is also critical that a meaningful amount of annual crop acreage be replaced with perennials. Humans are consuming more than can be replenished. Adjustments must be made in both the city and the country. Significant change is needed to live within the bounds of sustainability. We must redefine what it means to be happy and successful. We must focus on needs rather than wants. Consumers, governments, and academia must unite to create a lower input culture. Once that process is underway, farmers will create a lower input agriculture.

Blue Ridge to Boreal: Leveraging partnerships to catalyze continental-scale connectivity

THE NATURE CONSERVANCY | NORTHERN APPALACHIA, U.S.

Building off a decade of success in the Northern Appalachians, The Nature Conservancy will export the Staying Connected Initiative's (SCI) expertise and unique model for landscape

connectivity to the Kittatinny Ridge, spanning New York, New Jersey, and Pennsylvania. The Kittatinny is a key corridor connecting the Northern and Central Appalachians and will lay the groundwork for advancing the continental-scale “Blue Ridge to Boreal” (BR2B) vision. Given the magnitude of threats, it is increasingly clear that this is the scale required to safeguard natural communities for wildlife and people in the face of climate change. This project will coalesce the strong network of partners to catalyze a multi-state, integrated, multi-pronged connectivity approach including land protection and an increased focus on road mitigation. The Nature Conservancy will enhance cross-border collaboration by leveraging existing SCI partnerships and experiences through peer-exchanges and apply shared strategies based on an analysis of challenges and opportunities to assure sustained engagement and coordination.

Collaborative Stewardship for Connectivity in the Santa Cruz Mountains, CA

STANFORD UNIVERSITY | CALIFORNIA, U.S.

Stanford University will enhance habitat and land-stewardship connectivity in the Santa Cruz Mountains region, California. Here, major challenges to connectivity mirror challenges worldwide: (1) potential wildlife corridors span many different jurisdictions; and (2) communication across different jurisdictions is usually sorely lacking. To address these challenges, Stanford will leverage ongoing partnerships in the Santa Cruz Mountains Stewardship Network (SCMSN) to make a nascent online collaborative mapping and connectivity-analysis tool fully functional and easy to use. This will catalyze change in the way diverse land stewards cooperate; break down barriers that arise from differing management mandates; build capacity through providing online collaboration tools and training; and scale impact by providing a transferable template for success. This solution will lead to win-win socio-ecological connections across stakeholder and clientele groups, which include a diverse mix of economic situations, cultural affiliations, and identities.

Connecting for Recovery

DEFENDERS OF WILDLIFE | WASHINGTON, DC, U.S.

The biodiversity crisis is upon us. In the United States, over 1,600 species are listed under the Endangered Species Act (ESA) as threatened or endangered, of which over 80 percent are threatened by habitat loss and fragmentation, both direct and from threats like climate change. A key challenge is that we know little about the connectivity needs of most threatened and endangered species and lack the tools to guide connectivity decisions that advance recovery. Connecting for Recovery addresses this challenge by establishing science and developing technology and tools to identify, map and prioritize connectivity areas essential for the recovery of ESA-listed species. This also advances DEI by democratizing access to science and decision-making tools. Defenders will use their expertise in science and policy, and nationwide advocacy network, to realize their vision for more effective biodiversity conservation based on the connectivity needs of the nation's most vulnerable species.

Connecting mangroves and fisheries: conservation tool in Alvarado Lagoon System

PRONATURA VERACRUZ A.C | MEXICO

Wetlands are recognized as productive ecosystems. They are a nursery for commercial fisheries, biodiverse habitat, and provide ecosystem services. Wetlands are being lost at an alarming rate. Fishing productivity is directly correlated with the amount of surface

of mangrove and freshwater wetlands. Fishing activity is in danger. Under actual degradation and lost trends, the level of social and ecological vulnerability will increase. More than 10,000 fisherman and their families relies on wetland health in Alvarado Lagoon System (ALS). It`s imperative to recover functional wetlands. Pronatura Veracruz A.C. has 10 years of experience developing successful techniques of restoring mangroves with local communities. This project proposes to restore 2 km of channels and increase fishing productivity in a 30 ha lagoon. Pronatura will innovate by collecting data on fish populations and integrate data, criteria and compliance to access fish sustainable markets. In the near future, this will be a direct incentive to mangrove protection and restoration.

Connecting People, Purpose, and Practice: Catalyzing Collaborative Landscape Conservation

NETWORK FOR LANDSCAPE CONSERVATION | MONTANA, U.S.

The effectiveness of land conservation to achieve enduring ecological health has been hampered by focusing on unconnected protected areas and piecemeal conservation strategies. To meet the conservation challenges of the 21st Century, we must focus on landscape connectivity and resilience—the scale at which nature functions. Working across large private/public landscapes requires extensive collaboration and a more inclusive, community-grounded approach. While collaborative conservation partnerships are exponentially on the rise to meet this need, they require unique collaborative leadership skills, without which they will not succeed. Recognizing the urgency of equipping partnerships with the knowledge, skills, and tool for success, practitioners and academics are racing to identify and provide best practices and new skill sets. The Network for Landscape Conservation, representing over 200 partners and 3,000 individual practitioners, seeks to accelerate this effort by connecting these disparate efforts to create and disseminate a skills-based learning curriculum for landscape conservation practitioners.

Connectivity and Resilience Through Conservation: Colorado's Private Lands Conservation Plan

KEEP IT COLORADO | COLORADO, U.S.

Private lands comprise 60% of Colorado and are critical to the protection of the state's natural resources. Currently, Colorado has no collective plan to prioritize the protection and connectivity of those landscapes or establish common conservation values that reflect the economic, ecological and social needs of local communities. A statewide plan with clear objectives will put coordination and focus behind private lands conservation, building connectivity where work is otherwise fragmented. Leveraging Keep It Colorado's established coalition and The Nature Conservancy's science, the project will unite land trusts and their partners to create and implement a common vision for the future of conservation. The plan will focus our collective efforts on identifying and putting resources toward priority lands, waters and habitats necessary to create resilient and connected landscapes in the face of climate change, and establish models for effective community conservation that supports people and nature now and into the future.

Conservation Capacity Building for Hurricane Impacted Pine Lands in Florida

ALACHUA CONSERVATION TRUST, INC. | FLORIDA, U.S.

In 2018, the Florida Panhandle's natural pine-dominated ecosystems and working lands were severely impacted by a Category 5 Hurricane, leaving private properties subject to conversion of land use. These changes in land use on this landscape threatens ecological connectivity for the region. Currently there is no collaborative approach to protect this landscape from development. Working together with a diverse group of stakeholders and engaging with under-resourced rural landowners, this project has the following outcomes: 1. Engage stakeholders to prioritize protection of private lands using a mapping analysis; 2. Create a communication and outreach campaign to engage targeted under resourced landowners with information regarding benefits of protecting property with conservation easements and partner stewardship programs; 3. Execute conservation easements to permanently protect the ecological corridor.

Cultivating open-space conservation through holistic connections for intergenerational environmental sustainability

DENVER URBAN GARDENS | COLORADO, U.S.

Gardens are actively used as gathering spaces where individuals learn about food access and growing, and where local community gathers to mobilize change. There is a need for intentional garden-based programming that provides food to children while teaching about landscape conservation, environmental inequities, nutrition, sustainability/environmental education, and encourages children to be long-term stewards of the environment. Denver Urban Gardens (DUG) serves these needs through 74 school-based community gardens for children (early education through high school) in the Denver Metro area. Currently, these gardens are operated independently from one another through support of various volunteers and paid employees which makes assessing needs and coordination difficult. To serve these needs, DUG must create a strong and inclusive coalition of educators, parents and the community promoting benefits for children and representing the vision and values of DUG. Creating this coalition would require resources such as developing focus groups, obtaining key information interviews, collecting data, analysis, surveys and GIS mapping.

Follow the Forest – Activating Partners for a Resilient Future

HOUSATONIC VALLEY ASSOCIATION, INC. | NORTHEASTERN UNITED STATES

Follow the Forest presents a unifying vision and bold innovation for conservation within the globally significant Northeast Forest Corridor covering eastern New York and Western New England. In this increasingly developed region, forest fragmentation and rapidly changing land use threaten the Corridor at innumerable points. Follow the Forest uses the best scientific data to map the Corridor, clearly identifying the places in greatest need. The initiative also tells the story of this world-renowned resource, promoting a shared regional identity and investment that addresses social and political barriers as well as ecological. If successful, Follow the Forest will secure a continuous Corridor through which wildlife and people can move safely, and with correlated public benefits of clean air, clear water, and access to nature and recreation. The

Housatonic Valley Association must next develop substantial resources to purchase land/ easements and increase outreach. Specific to this proposal, the organization will leverage $100K to raise $1M while engaging strong private-sector and institutional partners.

Grassland reserves for bison recovery and carbon sequestration

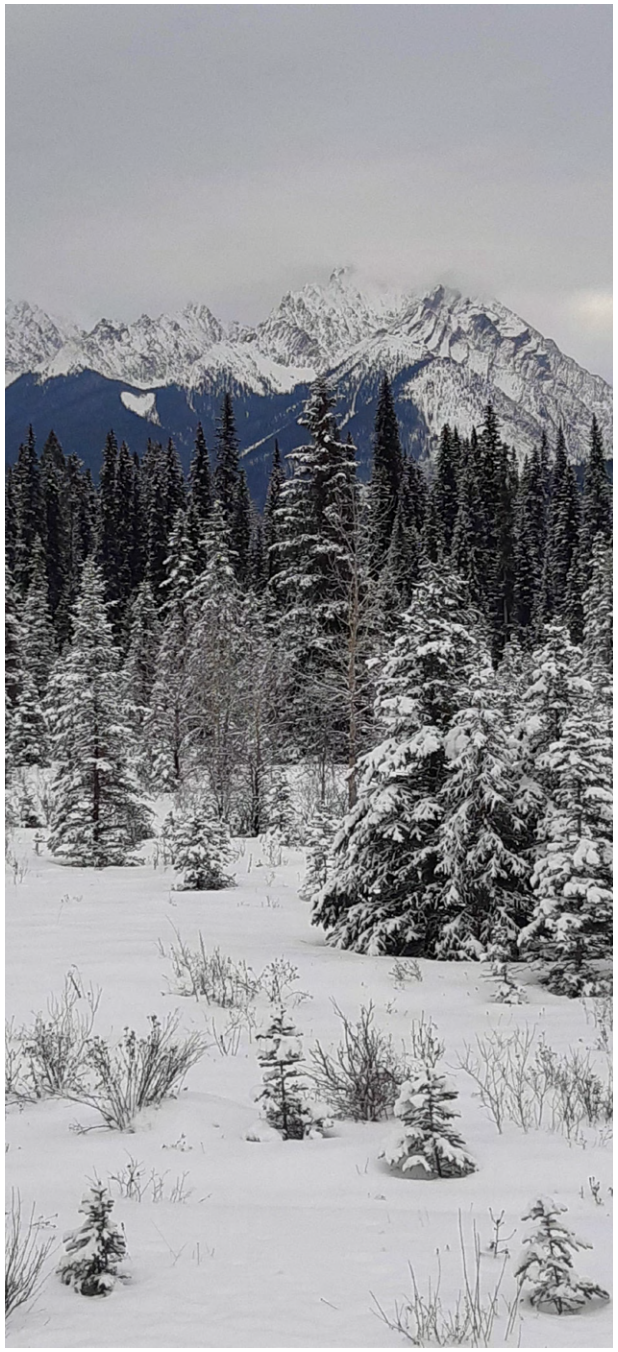
UNIVERSIDAD AUTÓNOMA METROPOLITANA | LERMA, MEXICO

Twenty-three bison reintroduced in Chihuahua, Mexico, in 2009 has grown to over 200 individuals in 10 years, and the herd has been divided to form another conservation herd in Coahuila. While successful, at this rate, it will take decades for bison to have ecological effects at the landscape level. To accelerate the process, an innovative approach has been developed to hasten bison recovery through grassland conservation and climate change mitigation: the Mexican Prairie Reserve. It proposes a series of voluntarily opted discontinuous reserves dominated by grasslands. To be part of this initiative, owners will accept not to change land use and actively restore the grassland and its native species, including the replacement of their cattle herds by bison, and by doing so, being candidates to receive support for carbon storage from voluntary carbon offset from land, air and sea travel, among other sources.

Keep It Connected: A Private Land Conservation Fund for Connectivity

HEART OF THE ROCKIES INITIATIVE | CENTRAL ROCKY MOUNTAINS, U.S.. + CANADA

Fragmentation of wildlife connectivity across private lands hurts wildlife and people. But the current pace of protecting private land is too slow to compete with the rate of development, and there is currently no dedicated funding to increase the pace



of protecting wildlife connectivity. The Heart of the Rockies Initiative has identified key connectivity areas to inform a campaign that incentivizes land protection through access to dedicated and increased public and private capital, and conservation finance funding for 26 land trusts' projects that contribute to wildlife connectivity across 315 million acres. This project, Keep It Connected, will accelerate private land conservation to meet the international benchmark of 30% protected lands by 2030, which requires protecting 6-million acres of wildlife connectivity on private working lands in the Central Rocky Mountains of North America. By conserving wildlife connectivity, this effort will also protect food security, clean water, rural economies and livelihoods, and climate resilience.

Innovative educational outreach to save mule deer in Oregon

PROTECT ANIMAL MIGRATION | CENTRAL OREGON, U.S.

Protect Animal Migration (PAM) is an educational, interdisciplinary non-profit that builds public engagement for advocacy with fact-based information. This project aims to expand PAM's outreach with a short film, a wildlife ecology curriculum for youth and as part of driver education, information on wildlife friendly fencing, and support for a habitat restoration project to restore connectivity in a migratory corridor. The film would be a documentary on the barriers to mule deer migration and survival in central Oregon, and how mitigating solutions are driven by community participation. A curriculum on wildlife and a driver's education class would focus outreach to youth. The wildlife friendly fencing information would promote community awareness of barriers to migration. And a landscape level project restoring winter range would be an example of combining research, data and practice to restore the health and resilience of ecoregions.

Mapping a resilient connected network of ocean habitats and species

THE NATURE CONSERVANCY | SOUTH ATLANTIC REGION, U.S.

The South Atlantic Bight, a region that spans from Virginia to Florida, is a highly diverse and productive ocean system that has seen many changes in the past. Many important commercial and recreational species, such as snappers and groupers, rely on seafloor

structure, as well as a combination of coastal and offshore habitats throughout their life cycle. However, only some habitats and spawning areas are legally protected. As temperatures increase, many species will move to suitable habitats, and this needs to be considered for management purposes. To better protect these species in a changing climate, The Nature Conservancy is working to identify a network of resilient and connected sites that support species now and into the future. Through this proposal, The Nature Conservancy is hoping to pilot an innovative approach to mapping such a network to identify and prioritize conservation activities to ensure that the system is resilient as climate changes.

Montana Wildlife Connectivity: Where People and Wildlife Collide

ADVENTURERS AND SCIENTISTS FOR CONSERVATION | MONTANA, U.S.

Every year in the US, over 365 million animals are killed, 29,000 humans are injured, and $8.4 billion in damages are incurred from wildlife-vehicle collisions (WVCs). Yet reliable, consistent data on roadkill and wildlife are lacking. Beginning in Montana, which has the nation's second highest rate of WVCs, abundant wildlife populations, and relatively intact bioregions, Adventure Scientists' volunteer cyclists are recording wildlife and roadkill data for their management partners, covering 11,000+ miles of Montana roadway. Each team of volunteers surveys a 50-mile section of highway and replicates the effort four times per year. Engaging communities across Montana in data collection, Adventure Scientists' goal is to equip partners—Montana Department of Transportation (MDT), Montana Fish Wildlife and Parks (MFWP), Center for Large Landscape Conservation (CLLC), Montanans for Safe Wildlife Passage (MSWP), and more—with previously unreachable data to protect wildlife connectivity and improve highway safety for all.

Not just a fluke! Connecting communities for humpback whale conservation

WWF MEXICO | PACIFIC COAST, MEXICO

Humpback whales connect communities, scientists, tourists, policy makers, conservationists, and tour enterprises throughout the Pacific. Fascination and interest in humpback whales link numerous sectors and communities working along the Mexican Pacific coast. Recent data suggests humpback habitat and reproductive rates are changing and decreasing. This trend could have significant consequences for the economies of numerous coastal communities that depend on whale-watching activities as well as for the whales moving to areas where the activity is not regulated. WWF Mexico will connect researchers and whale-watching service-providers (WWSPs) to develop a humpback monitoring system. This project will build a network to improve sustainable management practices and policies for the conservation of humpback whales and the wellbeing of the human communities that depend on them all along Mexico's western coast. By providing concrete information, WWF Mexico can inform new policies or adapt the existing ones to reflect the changes to humpback whales.

Operation Pollination – Habitat Restoration Across the USA

ALLIANCE OF NATIONAL HERITAGE AREAS' HERITAGE DEVELOPMENT PARTNERSHIP | U.S.-WIDE

Operation Pollination is a proven habitat restoration model that the Alliance of National Heritage Areas will launch nationally with the boost from this grant. This collaborative, cross boundary effort combines research, policy, and practice to help protect pollinators and profile possibilities. To achieve pollinator habitat restoration projects, a team of 14 National Heritage Areas will collaborate. Each National Heritage Area will sign a Pollinator Resolution, then recruit local partners to sign a Pollinator

Pledge that commits that partner to take positive habitat restoration action. During the summer 2021, Salazar Center Fellows will "sign up" 140 partners or more. This is a legacy project that has no end. While the Fellows are temporary workers to help "jump start" restoration activities, the goal of Operation Pollination is to continue and ultimately enlist all 55 National Heritage Areas across the USA, making thousands of local restoration actions.

Pollinator Districts: Communities Cultivating Habitat

BUTTERFLY PAVILION | COLORADO, U.S.

With threats ranging from habitat destruction to invasive species, pollinator populations are declining globally. To mitigate the impacts of increased urbanization, Butterfly Pavilion collaborates with communities to create Pollinator Districts. Pollinator Districts connect habitats for pollinators through ecological design, habitat-friendly maintenance, and community engagement. The Pollinator District process begins by gathering information from diverse stakeholders and documenting land use and habitat across the community. Butterfly Pavilion works with the community to provide science-based recommendations for pollinator habitat practices for each landscape type and support for inspiring continued community involvement. A stringent evaluation program informs community stakeholders about gains and challenges in pollinator habitat conservation. Instead of being barriers to habitat connectivity, these communities become incubators for native pollinators and other wildlife. Pollinator Districts engage all people who live, work and play there in stewardship and community science in order to ensure these habitats thrive for the long term.

Protecting the Connected Places That Migratory Birds Need to Survive

NATIONAL AUDUBON SOCIETY | INTERMOUNTAIN WEST, U.S.

As natural habitat disappears across the American West, so do critical stopover sites along the epic migration paths of birds spanning the Arctic Circle to Tierra del Fuego. Additionally, Audubon's recently-released report, Survival by Degrees, concluded that two-thirds of North American bird species are further threatened with extinction from climate change. Birds are telling us it's time to act! The majority of public lands—640 million acres or 26.6% of the United States—is federally managed, and select Western states have a major percentage of public land. Therefore, decisions governing these lands have an outsized impact on birds and the places they need today and in a climate changed future. Audubon will protect birds and the places they need on public lands across the Intermountain West by: identifying key species; using proven scientific methods to determine the highest priority places to protect; proposing management solutions; and activating their bipartisan membership.

Rangeland monitoring for social-ecological connectivity across the Musselshell Plains

WWF | CENTRAL MONTANA, U.S.

This project's premise is grounded on addressing a simple yet profound question: Can diverse interests in a largely intact landscape co-design a process that transparently gathers and shares monitoring data to inform grassland management and advance the resilience of both people and place? The overarching challenge for landscape-scale management is how to support adaptive management practices that improve ecological health, habitat connectivity, and human well-being. The solution to this challenge is a monitoring and data sharing network managed by and accessible to landowners enhancing data collection and knowledge sharing to support land management decision-making in the Musselshell Plains of central Montana. This project builds on years of past

collaboration and participant engagement amongst a diverse set of regional stakeholders to formalize the network through 1) facilitated workshops; 2) administrative and technical support; and 3) implementation of collaborative monitoring, creating a model that can be replicated in other landscapes.

Regenerative Agriculture - The new normal

QUIVIRA COALITION | SANTA FE, NEW MEXICO, U.S.

Conventional agriculture is extractive and contributes to greenhouse gas emissions. Many farmers and ranchers see the value in transforming agriculture to regenerative practices, but they face three major barriers to transitioning: 1. social pressure and stigma; 2. long-term financial and technical support; and 3. economic or regulatory issues. This project consists of a committed group of nonprofits working collaboratively across the Intermountain West to develop tools, best practices, and a robust network of diverse producers who practice or are transitioning to regenerative agriculture. This project is focused on capacity building and culture change rather than a single event, anticipating that more producers will adopt regenerative agricultural practices if social, financial, and technical barriers are ameliorated by identifying the appropriate scale of policy change and institutional support. The benefits of culture change will span from the individual producer to the food consumer to the watershed ecosystem, all while combating global climate change.

Re-ROUTE: Landscape connectivity innovations through rural-urban collaboration

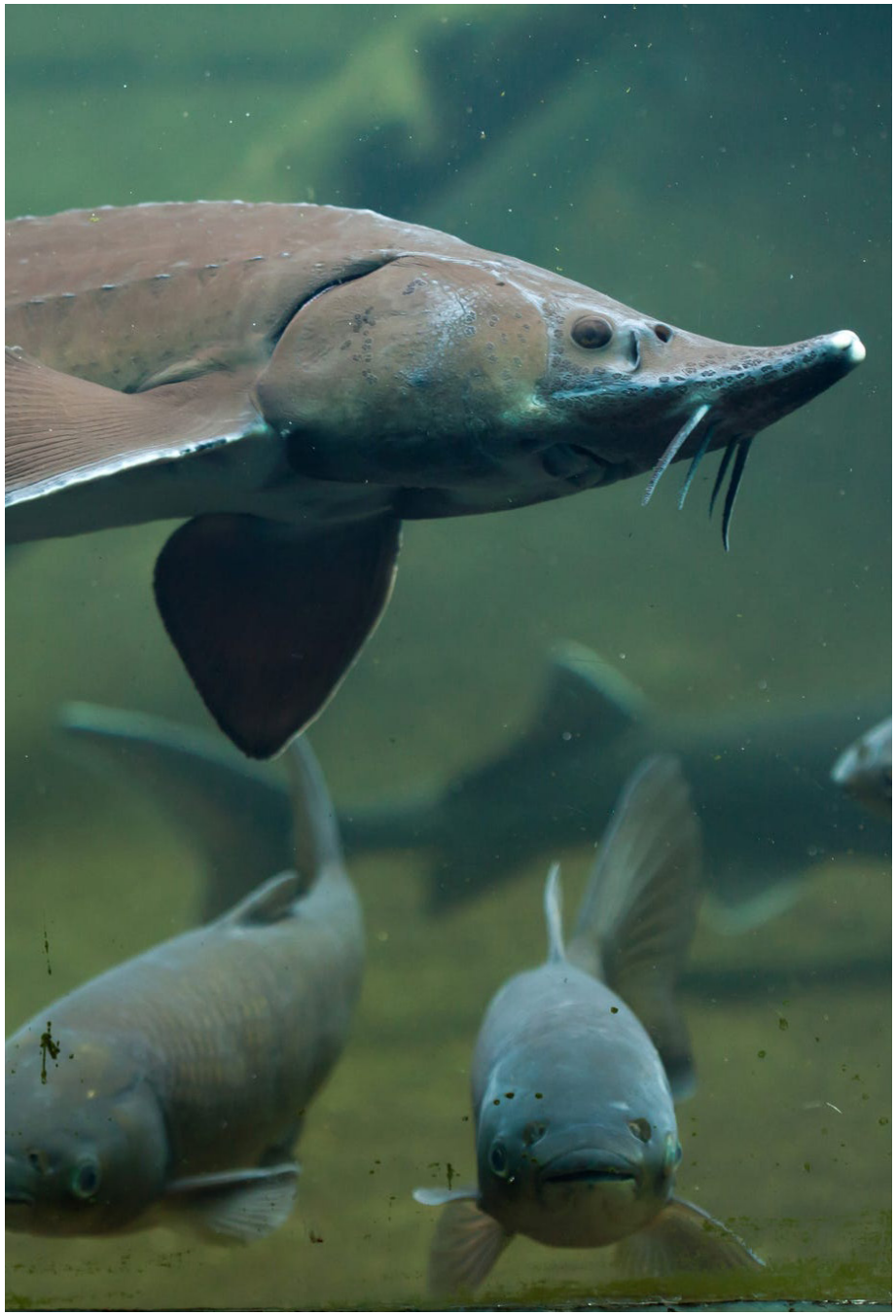
UNIVERSITY OF IDAHO COLLEGE OF NATURAL RESOURCES | BOISE, IDAHO, U.S.

Rapid urbanization of the Boise metropolitan region is increasing exurban intrusion, natural resource consumption, and recreational demand in the Rural Owyhee Urban Transitional Ecotone (ROUTE), an expansive sagebrush-steppe landscape to the south. Urbanization is fragmenting ecosystems in the ROUTE and, if unmanaged, will ultimately disconnect the Owyhee canyonlands in the south from the Sawtooth mountains to the north. Throughout the U.S., traditional land-use regulations enacted to control urban development and mitigate environmental impacts routinely fail to protect natural systems while facilitating and accelerating nonstrategic urban growth, place-less development, and rural disenfranchisement. This team proposes a paradigm shift in planning strategies towards a diverse, collaborative, cross-jurisdictional partnership model that uses evidence-based approaches to conserve natural resources and develops sustainable social-environmental management plans which benefit human and natural ecosystems. Connectivity between urban, rural, and natural resource stakeholders is the core of the solution, designed to benefit communities and further diversity, equity, and inclusion.

Resilience actions in the North American Mediterranean ecosystem

TERRA PENINSULAR, A.C. | BAJA CALIFORNIA, MEXICO

The Baja California peninsula is a region of great ecological importance since it is one of the five Mediterranean regions of the world. However, the connectivity of its landscapes and habitats is being threatened by the fast and unplanned tourist and urban development. While recognizing that conservation and economic development are not incompatible, Terra Peninsular is against projects that ignore the social, cultural and natural value of the peninsula. Terra Peninsular seeks to improve the structural and functional connectivity of three different landscapes: Sierra San Pedro Mártir, San Quintín and El Rosario, by implementing an important and rarely used conservation instrument called Area Voluntarily Destined for Conservation (AVDC) and providing stakeholders with information on how to certify their products as green products. With this, the project will improve the production processes of a wide variety of actors involved, taking into account their needs and interests and aligning them with the conservation priorities.



Restoring Aquatic Connectivity through the Southeast Aquatic Connectivity Program

SOUTHEAST AQUATIC RESOURCES PARTNERSHIP/ SOUTHEASTERN ASSOCIATION OF FISH AND WILDLIFE AGENCIES | SOUTHEASTERN UNITED STATES

This Southeast region contains some of the most diverse aquatic biota on earth. The streams and rivers that serve as habitat for these diverse species provide valuable conservation and economic resources. However, the ecological health of these rivers is threatened by aquatic habitat fragmentation from dams and other man-made barriers. Fortunately, removing these structures can quickly restore the river and remove these hazards. SARP is an organization that can innovatively solve this problem by bringing together partners from different sectors to build capacity to remove barriers through its Connectivity Program. This program addresses these issues by: 1) inventorying barriers in the region, 2) prioritizing barriers for removal, and 3) building teams of partners to tackle these issues on the ground. Through these program areas, SARP will build upon existing partnerships across the region and therefore implement more aquatic connectivity projects on the ground, restoring aquatic habitat across political boundaries.

The Seasonal Round Trail: A Cross-Cultural Framework for Climate Adaptation

GREATER HELLS CANYON COUNCIL | OREGON, U.S.

Climate science, the Nez Perce Tribe's Climate Vulnerability Assessment, and the on-the-ground observations of land stewards all reveal that life cycle timing and range of culturally important plants are changing with the changing climate. Climate adaptation therefore requires robust ecological connectivity between elevations and robust collaboration between jurisdictions. This project will aid Tribal members and other land stewards in holistic adaptation, and in gathering data and raising support to protect Treaty resources and ecological abundance as the climate crisis accelerates. The project team, the Blues to Bitterroots Resilience Coalition, will design and share a cross-jurisdictional, cross-cultural adaptive management framework: a Trail that follows the seasonal green-up through the landscape, from low river canyons into the mountains. This Seasonal Round Trail, with associated monitoring, restoration, storytelling and curriculum, will showcase the importance of ecological connectivity for climate adaptation, reflecting the seasonal movement of people and wildlife through a spectacular landscape since time immemorial.

Trans-boundary Restoration of Tamaulipan Thornforest: Linking Conservation Priorities with Succession

AMERICAN FORESTS | TEXAS, U.S. + TAMAULIPAS, MEXICO

Flagship species conservation drives restoration initiatives in many regions of North America. In the trans-boundary Rio Grande/Rio Bravo delta, however, this existing approach must be further refined to account for a fragmented landscape where space comes at

an increasing premium. American Forests proposes a pilot project that will involve climate-adapted habitat restoration in both Texas' Lower Rio Grande Valley and adjacent Tamaulipas, Mexico, using an innovative, successional approach to spatial connectivity which will provide prairie/grassland habitat in the short-term and thornforest habitat over the long-range. American Forests proposes these restorations for lands with a local government nexus and will sponsor community participation in the initial planting and post-plant monitoring phases. These efforts will promote conservation equity on both sides of an international divide and in an underrepresented Hispanic population.

Using Remote Wildstations and Community Monitoring to Create Conservation Corridors

CORREDORES BIOLOGICOS AC | QUERÉTARO, MEXICO

Protected areas in Mexico are experiencing rapid, unsustainable, unplanned human development leading to many fragmented landscapes. Urban sprawl and converting wildlands to crop fields are furthering climate change and impacting ecosystem resilience. Corredores Biologicos strives to create conservation corridors to connect important areas, allowing wildlife to move between habitat patches, restoring crucial elements needed in ecosystem resilience. This project can connect landscapes by using the endangered Military Macaw as a flagship species, due to its high visibility, easy identification, and seed dispersing nature, thereby promoting stewardship and mindfulness in underprivileged indigenous communities in Protected Areas. Community monitoring, coupled with reforestation, and remote wildlife monitoring using Wireless Image Sensing Networks powered by Wildstations, can increase vigilance, obtain crucial data, and monitor success, at a low-cost. These remote systems can verify data collected by communities and public, while provide real-time monitoring of biodiversity hotspots, assisting policy makers in decision making.

Walking the Connectivity Corridors

CASCADE FOREST CONSERVANCY | PACIFIC NORTHWEST, U.S.

As climate change upends habitats and undermines the resilience of species, the Cascade Forest Conservancy is tasked with understanding and securing connectivity for wildlife and wild places of the Pacific Northwest. This project will bring politicians, stakeholders, and community members out to walk various routes of mapped wildlife connectivity corridors and will initiate steps to advance protections and restoration work for these areas. For each focus area, whether it be an at-risk, high-elevation corridor or a forest in need of targeted protection, Cascade Forest Conservancy will coordinate an outreach campaign that includes events at local breweries/venues and a comprehensive communications campaign with StoryMaps and short videos explaining the benefits of connectivity for wildlife, recreation, and important cultural practices. This project will capture peoples' stories about their experiences walking these corridors and their unique relationships to these wild places to make connectivity more tangible for the public and decision-makers.

Wildlife Xing: A citizen-science approach to understanding wildlife-transportation issues

NATIONAL WILDLIFE FEDERATION | NORTHERN MONTANA, U.S.

A partnership of agencies, nonprofits, landowners and others seek to address wildlife-transportation conflicts but require data to identify mitigation opportunities before investing in expensive projects. The National Wildlife Federation's solution seeks to enlist citizen-scientists to provide data on wildlife movements. Engaging students and local communities through a transformative learning experience, Wildlife Xing will build social capital for connectivity. Wildlife Xing uses a free smartphone application developed by The Miistakis Institute. The project team will initiate the program in northern Montana including schools across this rural landscape, on the Blackfeet, Rocky Boy, Fort Belknap, and Fort Peck Indian Reservations. This program can then be expanded through Montana and throughout the West. Along with connectivity curriculum, students, and others will document wildlife sightings resulting in evidence-based research and provide data to aid decisions about wildlife and transportation. Project goals include greater community awareness of wildlife connectivity, a stronger community conservation network and safer highways for wildlife and people.

SALAZAR CENTER

FOR NORTH AMERICAN CONSERVATION

COLORADO STATE UNIVERSITY

Generating new solutions to challenges in landscape connectivity in North America

salazarcenter.colostate.edu | csusalazarcenter@gmail.com