

# CALIFORNIA WILDLIFE PROGRAM STRATEGIC PLAN



# California Wildlife Program STRATEGIC PLAN

## Safeguarding Connectivity for Wildlife in California

This strategic plan describes the purpose and approach of Wildlife Conservation Network's (WCN) California Wildlife Program (CWP). It is intended to serve as a tool to guide our grantmaking over the next three to five years. This strategic plan will be updated and adapted as this program continues to evolve.

## About WCN

The Wildlife Conservation Network (WCN) was founded in 2002 to support international conservation organizations working to protect wildlife and wild places, while benefiting human communities. WCN's mission is to protect endangered wildlife by supporting conservationists who ensure people and wildlife coexist and thrive.

To advance its mission, WCN invests in a select group of conservationists by providing financial support for their conservation programs and the tools and services they need to succeed. WCN also provides scholarships and grants to local conservation leaders who are looking to further their higher education and advance their careers.

Through its Wildlife Funds, WCN invests 100% of donor contributions in the most strategic and impactful projects that help threatened species throughout their entire habitats. Wildlife Funds are led with sound governance, including a Fund manager who makes granting recommendations to an independent granting committee. The California Wildlife Program is an adaptation of the "Fund" model, focusing thematically on connectivity conservation.

WCN has a unique approach to saving endangered species; seeking out and supporting effective conservation initiatives and offering opportunities for donors to connect directly with the work they support. Learn more at [wildnet.org](http://wildnet.org).

# California Wildlife Program

## Vision and Goals

### Vision

We envision a California where people coexist with healthy wildlife populations and ecological integrity is sustained.

### Goals

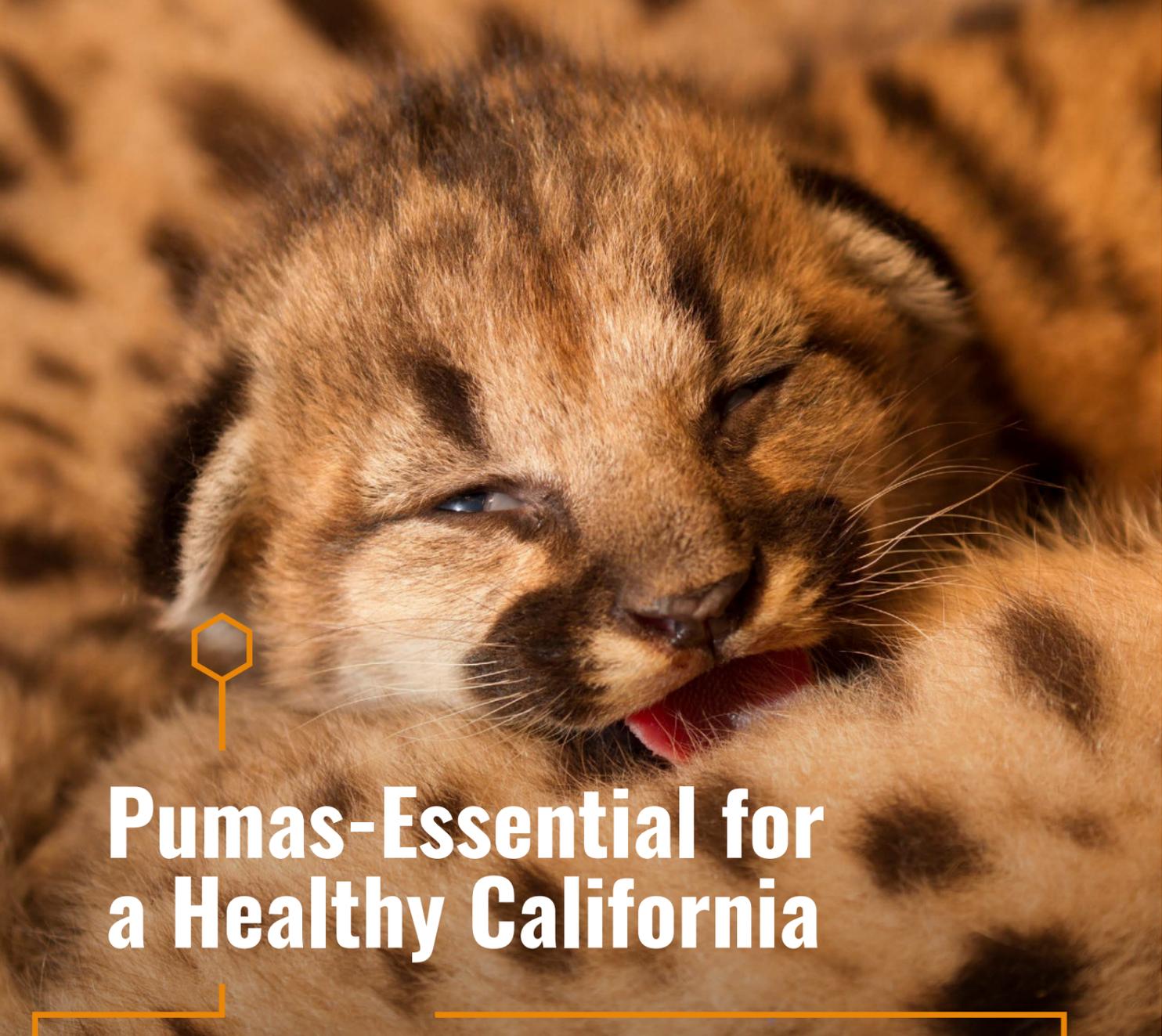
Our overarching long-term goal is to protect and restore functional connectivity for a diversity of wildlife. Increasing connectivity — helping a landscape better facilitate movement and ecological processes — can be achieved by making sure that habitats are linked together, allowing wild animals to access what they need for survival. We will focus on efforts to maintain opportunities for:

- ▶ **Wide-ranging carnivores, including pumas**
- ▶ **Migrating ungulates, including deer, elk, pronghorn, and bighorn sheep**
- ▶ **Movement of wildlife to new areas in response to climate change**



## Working Towards A Connected California

Like so many highly populated areas, California's story is one of habitat loss and fragmentation. However, we have a real chance to change this story. WCN's California Wildlife Program is striving for a California that is characterized by resilient ecosystems and embodies a culture that appreciates and honors the interconnectedness of life.

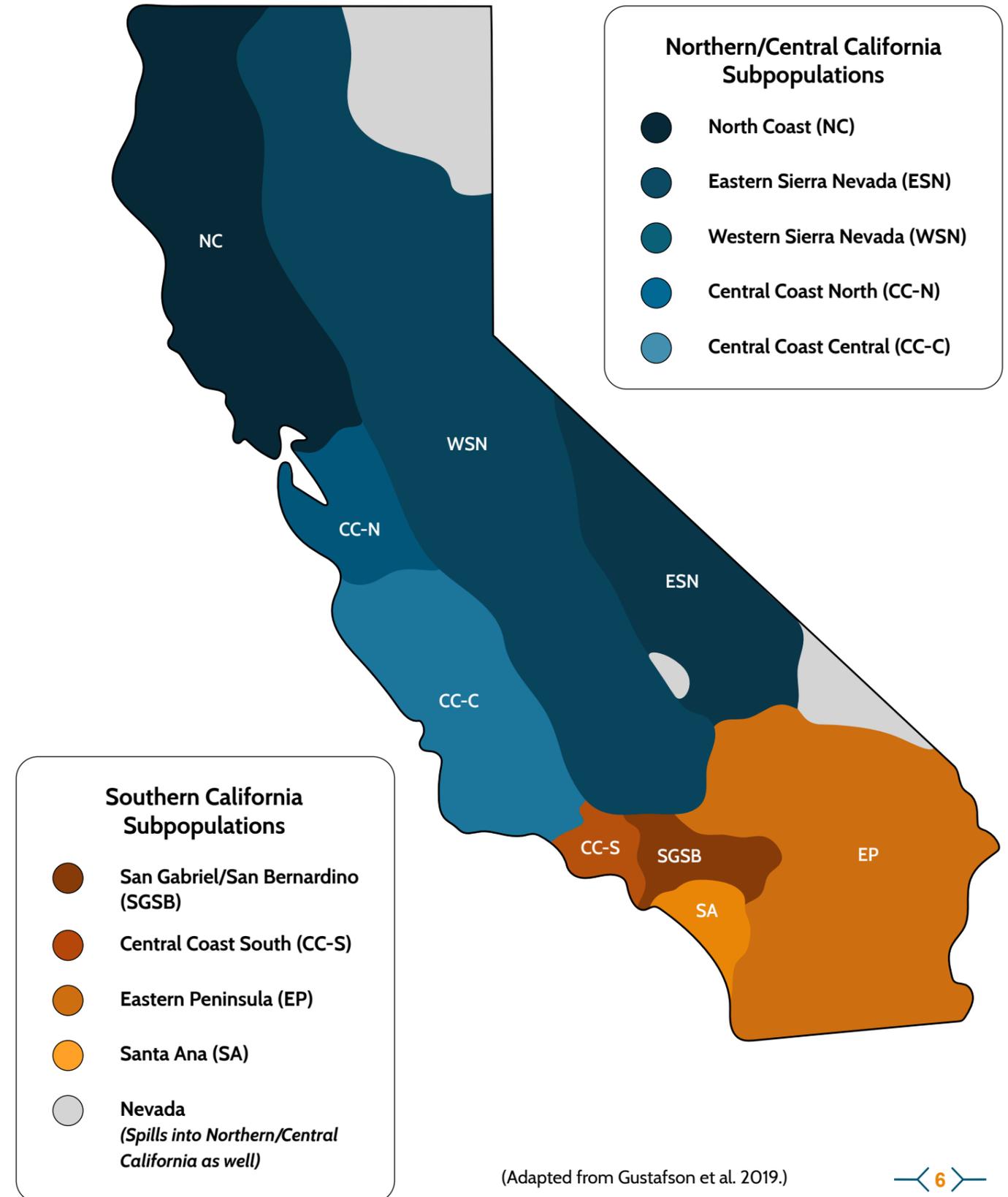


# Pumas-Essential for a Healthy California

Just as Africa's savannahs would be forever diminished without its lions, California's landscape is not complete without pumas. Unfortunately, with so much habitat loss and fragmentation, pumas have been left in isolated islands of land. This is an untenable scenario for the species as pumas are far ranging animals; they require a lot of land to maintain healthy populations. Though found throughout the state, pumas in southern California and in California's Central Coast are struggling with the inevitable inbreeding that occurs in these fragmented habitats. A lack of "genetic connectivity" leaves pumas to suffer from inbreeding, weakening their populations over time. We look at pumas as a warning sign, an indicator for the need for landscape connectivity. When California's puma populations are healthy we know that their habitats — home to thousands of species of plants and animals — are healthier as well.

## Puma Subpopulations In California

There are multiple hypothesized subpopulations of pumas in California, resulting from natural and human-induced factors. The Central Coast and southern California subpopulations are currently candidates for listing under the California Endangered Species Act due to the effect of human-induced land use change on the genetic health of these animals. Protecting and enhancing connectivity will be essential for the long-term viability of these subpopulations and their ecosystems.



(Adapted from Gustafson et al. 2019.)

# Why Connectivity?

**01** Wild animals need connectivity in order to find food and water, to breed, to move with the seasons, and to respond to the effects that climate change has on their habitats.

---

**02** Connectivity enables breeding between different animals which creates more genetic diversity and thus, healthier populations.

---

**03** Safely connected habitat reduces the risk of wildlife being killed by cars while moving across roadways.

---

**04** Connectivity facilitates important natural processes such as pollination and decomposition and allows rivers and streams to flow unimpeded, thus ensuring ecosystems can function successfully.



## Connectivity and the Climate Crisis

Wildlife, the ecosystems in which they live, and climate are all interrelated; changes in one inevitably impacts the others. When habitat is destroyed or fragmented it threatens wildlife and plant species, contributing to the planet's biodiversity crisis which is interconnected with the climate crisis (Pörtner et al., 2021). While loss of habitat puts terrible pressure on wildlife species directly it also contributes to climate change which then puts additional stress onto these species, creating conditions in which they can no longer thrive. That these issues compound one another sends biodiversity into a downward spiral and with it a disruption of entire ecosystems and the "services" they offer to society and the planet.

This is one of the primary reasons why connectivity is so important; connectivity helps ecosystems function and stay resilient by safeguarding the relationships between individual organisms, species, populations, processes, and landscapes (Hilty et al., 2020; Crooks and Sanjayan, 2006). Connected and intact ecosystems help with carbon sequestration (capturing and storing carbon dioxide so that it doesn't go into the atmosphere and contribute to global warming) and are crucial to support the systems on which we all rely.

# California

## A Conservation Imperative

California has the largest human population and is the most biodiverse state in the country. It is a global biodiversity hotspot, with its richness in plants and animals and degree of habitat loss (CDFW, 2015). Between 2001 and 2011, California lost more natural habitat to residential and commercial uses, transportation, energy, and agricultural land uses than any other state in the western U.S. (Conservation Science Partners, 2016).

Protecting functional connectivity throughout California is essential to conserve the state's biodiversity and support its ecological integrity. The size, configuration, and quality of habitats in California will influence the ability of wildlife to persist and ecosystems to remain resilient in response to climate change and a range of other human-induced pressures.

These intersecting phenomena create an opportunity and need to engage in an interdisciplinary approach to biodiversity conservation and the health of human communities (Sandifer et al., 2015; White et al., 2019; Lackey et al., 2021; Crist et al., 2021).

Numerous statewide plans and assessments have acknowledged that a functional network

of connected habitats is essential for California's diverse ecosystems to survive in the midst of human development and climate change. This includes California Executive Order N-82-20 (2020), which established a first-in-the-nation goal to conserve 30 percent of the state's land and coastal areas by 2030 to address species loss and ecosystem destruction. California's 30x30 initiative is complementary to similar initiatives established at national and international levels. The success of this effort will rely in part on decisions about which areas should be conserved and how those areas are stewarded (e.g., Conserved for what? For whom?). It entails an ambitious interagency effort that will require public-private partnerships for successful implementation.

While no single plan or proclamation presents the sole approach to address these challenges, the collective acknowledgement of the importance of — and pressures on — connectivity highlights the centrality of this issue. While no single organization will successfully protect California's biodiversity and connectivity, the California Wildlife Program aims to support and join a community of groups working together towards this goal.

## Pillars of the CWP Strategy

### Populations



Healthy, connected wildlife populations and ecosystems.

### Place



Diverse, healthy, and connected habitats.

### People



Coexistence between humans and wildlife.

***These pillars reflect the interrelationships between on-the-ground issues affecting wildlife and the relationships between humans and other species. CWP-supported projects engage in one or more of these themes.***



# Threats to California Wildlife

## Threats

## Solutions

### Habitat Loss, Degradation, and Fragmentation

#### Development/Conversion

Urbanization, primarily through urban and exurban sprawl and by converting land from habitat to housing, commercial, industrial, and/or intensive agriculture.

Certain agriculture and resource extraction (e.g., mining), that occur without mitigating the damage to habitat.

#### Transportation Infrastructure

Mortality, particularly concentrated areas where animals are killed on the road. Transportation infrastructure that inhibits animals from approaching and/or prevents animals from safely crossing.

#### Land Stewardship

Managing protected areas in ways that are incompatible with wildlife conservation needs.

Low density rural residential areas using land in ways that are harmful to wildlife (e.g., outdoor lighting, wildlife conflicts with domestic animals, poisons and toxicants including lead and rodenticides, invasive species, fences, fire safety/fuels reduction).

Cross-sectoral collaboration to implement new policies and programs to address California's housing needs while protecting wildlife and ecosystems.

Avoid, minimize, and mitigate impacts to wildlife and ecosystems. Incorporate "wildlife-friendly" practices into agricultural operations.

Establish wildlife crossings in areas of concern. Avoid, minimize, and mitigate impacts associated with new or modified transportation infrastructure.

Use best available science to manage protected areas effectively for wildlife conservation purposes, especially when those areas are managed for multiple purposes.

Provide information/tools and support dialogue within communities about coexistence with wildlife. Implement policies and programs to maintain or enhance habitat quality. Reduce exurban sprawl.

# Threats to California Wildlife

## Threats

## Solutions

### Climate Change and Wildfires

#### Secure Pathways

Wildlife need adequate space to adapt to changes in the environment over time.

Secure habitat and pathways for wildlife to evolve and adapt, including diverse conditions across water resources, vegetation, soils, elevation, aspect, and topography.

#### Fire Event/Wildfire Management

Fire safety practices — including altering the landscape between homes and habitat to reduce fire risks - that protect human communities, but disrupt habitat. Catastrophic wildfire can destroy wildlife and their habitat.

Preventing additional sprawl into rural areas and considering habitat impacts along with safety needs for existing communities when trying to reduce risk of fire.

### Human-Wildlife Conflict

#### Interactions

Varying attitudes, perceptions, and relationships with nonhuman animals, which can affect individual behavior (e.g., conflicts between humans and predators), participation in public processes regarding conservation (e.g., ballot initiatives and public funding priorities), and other activities which influence policies and programs and various scales.

Make wildlife and biodiversity a priority at the individual, community, and societal levels. Increase public participation in conservation issues, make conservation a public funding priority, shape and support policies at various scales.



## Where the California Wildlife Program Invests

### The California Wildlife Program uses a two-pronged approach:

- 1** Supporting actions to protect and connect habitat in California's Central Coast region, emphasizing interventions which connect isolated puma populations to increase their genetic diversity. We anticipate that the majority of CWP investment over the next three to five years will be in this region, including funding for land acquisitions through fee title or conservation easement transactions.
- 2** Supporting policy work, applied science, and other initiatives that contribute to wildlife protections at the state level and/or throughout California.

## How the California Wildlife Program Works

WCN's California Wildlife Program invests in projects that enhance connectivity for and improve the conservation of California's wildlife. We do so by supporting existing coalitions and/or by convening a variety of participants—such as scientists, NGOs, public agencies, and landowners—for new collaborations.

Our approach is flexible and nimble with minimal burden on grantees (e.g., limited proposal and reporting requirements and collaborative development of sought outcomes and metrics), so they can focus on implementing their best ideas.

### Granting Areas:

- ▶ **Supporting policy initiatives, including efforts at the intersections of habitat protection, conservation biology, wildfire resilience, land use/housing, and transportation.**
- ▶ **Supporting land purchases to protect key habitats.**
- ▶ **Advancing the implementation of wildlife crossings at highways and other linear infrastructure.**
- ▶ **Convening scientists, NGOs, public agencies, Indigenous tribes, and others for problem-solving, collaboration, and shared learning.**
- ▶ **Ensuring local and statewide organizations have the resources to make connectivity conservation a priority.**
- ▶ **Supporting scientific research to inform conservation projects and practice.**

Inherent in our approach is a recognition that careful attention to equity, inclusion, belonging, and dignity — with literacy in past and current injustices — will be essential to the changes we seek in society and the more-than-human world. We acknowledge the relationships between biodiversity conservation and social and environmental justice, which informs CWP partner and project selection (M's-it No'kmaq et al., 2021; Crist et al., 2021; Johri et al., 2021). We recognize

that our work takes place in the current and ancestral homelands of Indigenous People, communities, and nations who have experienced profound violence and oppression from colonial actions and subsequent sociopolitical systems. We appreciate Indigenous worldviews, wisdom, and leadership and the great potential to work together towards a more just and sustainable existence (M's-it No'kmaq et al., 2021; IUCN, 2019; Schuster et al., 2019).

# Goals and Objectives

## Protect and restore functional connectivity in the Central Coast region



We identified the Central Coast region as an area of focus based on the intersection of WCN team knowledge and experience, imperiled status of puma populations in this region, strong partner organizations with funding/capacity needs, and potential for substantial impact by focusing WCN resources in the next five years.

### **1** Restore genetic connectivity for vulnerable puma populations

#### DESCRIPTION

A lack of genetic connectivity between puma populations, resulting from the effects of development and roads is a major threat to these populations (Gustafson et al., 2019). We will focus on efforts that support “unassisted” genetic exchange (i.e., pumas naturally breeding between populations) via landscape conservation measures rather than translocation, although the latter

may be deemed necessary as an interim intervention. As the program evolves, this focus may broaden to include other species in addition to pumas.

#### PROGRESS INDICATOR

Increased genetic diversity in target populations, as measured through WCN grantee(s) or other third-party analysis.

## Project Highlight: Land Trust of Santa Cruz County

#### EXAMPLE FROM CWP PROJECT PORTFOLIO

Grant of \$250,000 to the Land Trust of Santa Cruz County to lead a collaborative and science-based initiative to protect and connect habitat between the Santa Cruz Mountains and Gabilan Range. Pumas and other wildlife rely on this area to move between suitable habitats, but human development and physical barriers are causing mortality and inbreeding. The Land Trust and partners are working to secure a linkage so mountain lions can thrive, and as keystone species sustain a healthy ecosystem.



#### Map Key

● Approximate Project Location

# Central Coast Region

## 2 Protect and Restore Habitat

### DESCRIPTION

WCN will use its resources to support partner acquisitions of key properties and areas (via fee title and/or conservation easement) that are crucial for landscape-scale connectivity, particularly in constrained and tenuous “bottleneck” areas. We will also provide funding and/or coordination to establish wildlife crossing infrastructure, actions such as restoration in priority locations, and land stewardship actions that improve habitat quality and connectivity (including working with private landowners).

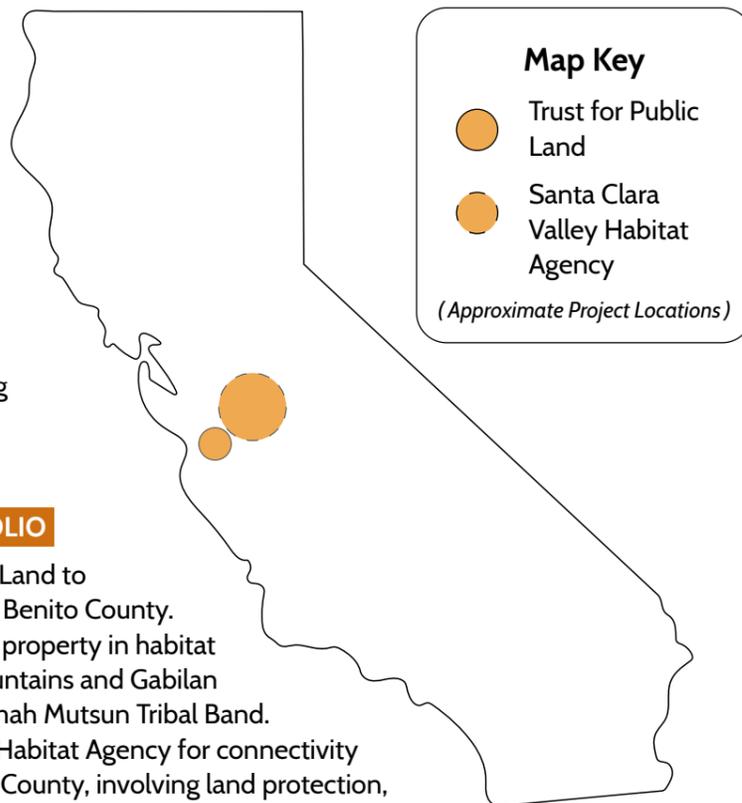
### PROGRESS INDICATOR

Properties designated as Protected Areas and/or managed for habitat. Wildlife crossing infrastructure implemented. Habitat enhancement projects/practices implemented and practices shared (including human-wildlife conflict reduction).

### EXAMPLES FROM CWP PROJECT PORTFOLIO

Grant of \$4,430,000 to the Trust for Public Land to acquire the 541-acre Nyland property in San Benito County. Project creates permanent protection of key property in habitat “chokepoint” connecting the Santa Cruz Mountains and Gabilan Range. Also provides access rights for the Amah Mutsun Tribal Band. Grant of \$1 million to the Santa Clara Valley Habitat Agency for connectivity enhancements in Pacheco Pass, Santa Clara County, involving land protection, installation of fencing to reduce wildlife-vehicle collisions on SR-152 and guide animals to existing underpasses, and planning for a wildlife overcrossing structure.

## Project Highlight: Trust for Public Land and Santa Clara Valley Habitat Agency



# Goals and Objectives

## Protect and restore functional connectivity throughout California

To complement our efforts in the Central Coast region, we recognize our opportunity to advance conservation projects at the state level and throughout California, by helping our grantees identify and implement new projects — including those that leverage the substantial public funding that is currently available. Through our work towards the two objectives below, we anticipate that we may narrow our attention on specific issues and/or identify additional focal geographies.



### *Support collaboration to identify, cultivate, and implement new approaches, particularly around land use issues.*

#### DESCRIPTION

Increase participation and collaboration across sectors, such as housing and environmental organizations, and scales, from local to statewide. Foster trust. Approach issues from multiple perspectives and embrace a learning mindset.

#### PROGRESS INDICATOR

Convenings held; interdisciplinary/diverse project approaches incorporated and implemented (e.g., develop policies that encourage affordable infill housing; prevent urban and exurban sprawl).

## Project Highlight: Alliance for Housing and Climate Solutions



#### EXAMPLE FROM CWP PROJECT PORTFOLIO

Grant of \$984,000 to the Alliance for Housing and Climate Solutions. Ongoing convenings to identify, develop, and implement policies that promote infill housing development and prevent sprawl.

#### Map Key

○ Approximate Project Location

# Throughout California

2

*Develop applied knowledge, advance policy, and build capacity in conservation practitioners to implement connectivity conservation measures.*

## DESCRIPTION

Support science and policy work that advance knowledge and practice, including interagency coordination (e.g., Caltrans and the California Department of Fish and Wildlife). Raise awareness about key issues and opportunities. Build capacity in groups working on (or aspiring to work on) connectivity conservation.

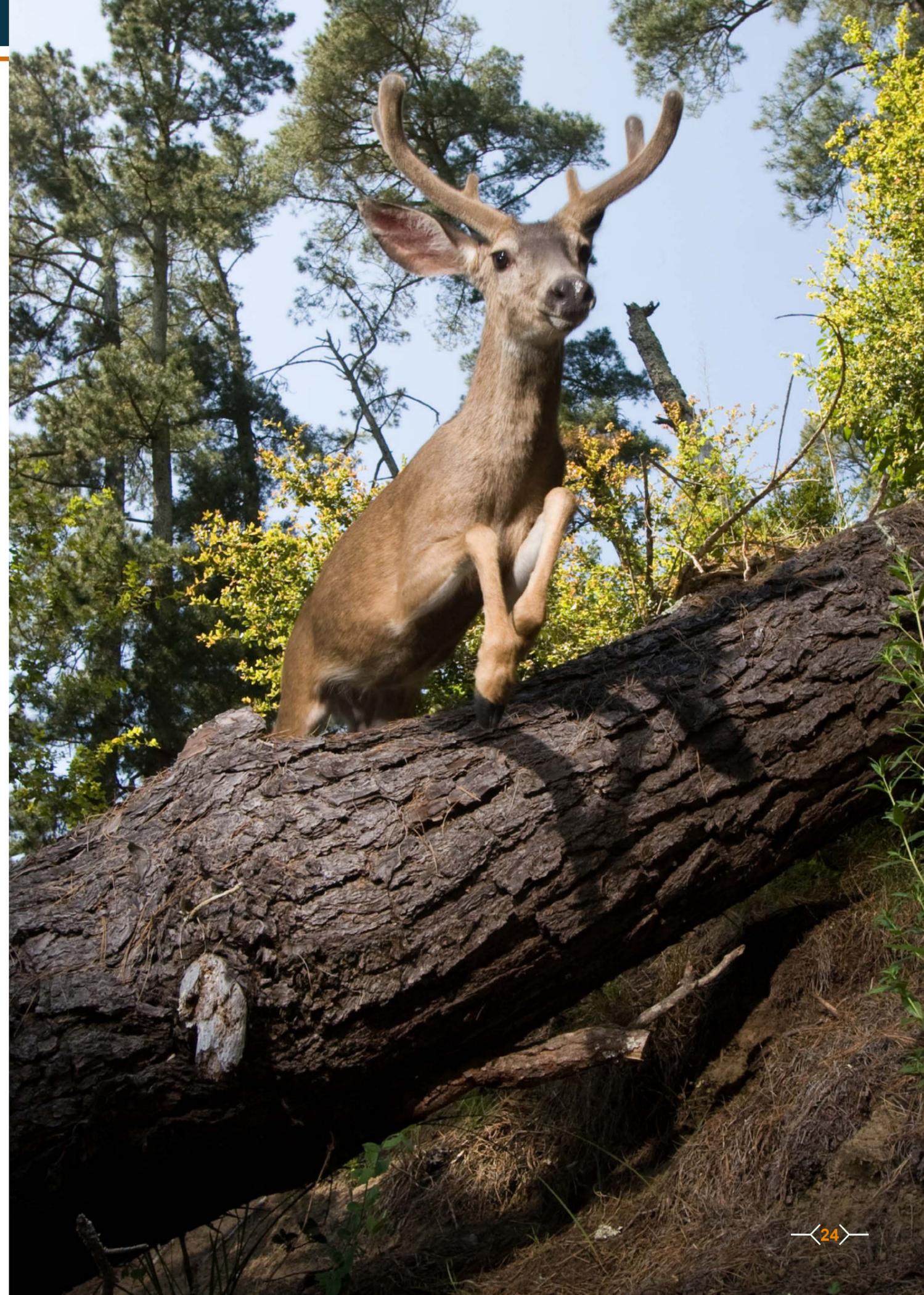
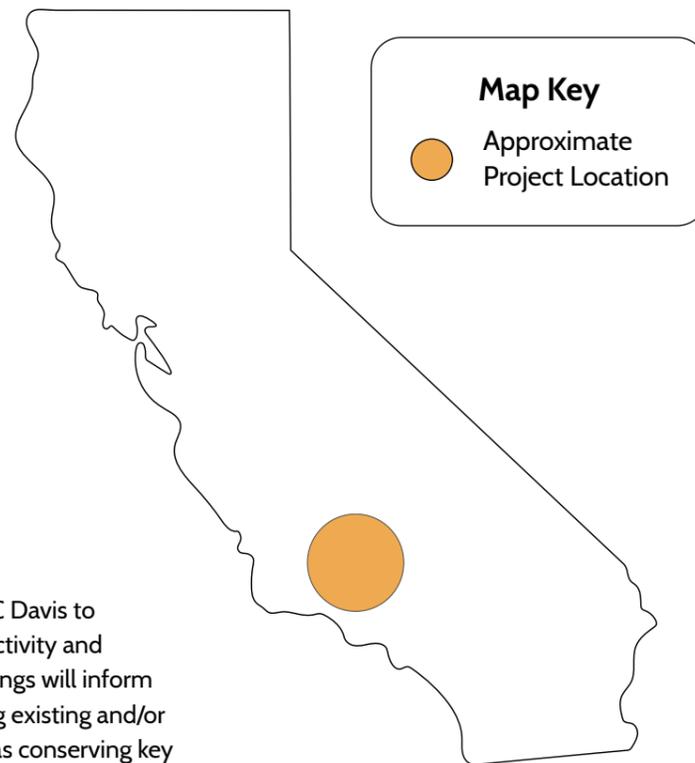
## PROGRESS INDICATOR

Wildlife and habitat considerations incorporated into land use policy. Connectivity measures integrated into transportation policy and practice. Science-based tools are developed, disseminated, and utilized to enhance functional connectivity and promote coexistence (e.g., management practices for planners and landowners).

## EXAMPLE FROM CWP PROJECT PORTFOLIO

Grant of \$827,253 to the Wildlife Health Center at UC Davis to conduct studies to understand current wildlife connectivity and gene flow throughout the Tehachapi Mountains. Findings will inform efforts to protect or restore connectivity by improving existing and/or constructing new wildlife crossing structures, as well as conserving key habitat areas, especially in key wildlife movement areas and adjacent to highway crossing sites.

## Project Highlight: UC Davis





# There are Many Ways to Partner with the California Wildlife Program

If you and/or your organization are protecting California's wildlife and working towards protecting connectivity in California's landscapes there may be ways we can partner.

## Apply for funding:

The CWP is funding a constellation of organizations that are conducting scientific studies, planning and building wildlife crossing infrastructure, protecting key habitats, or improving policies. Learn more about the kinds of projects we support at [wildnet.org/california-wildlife-program](https://wildnet.org/california-wildlife-program) and reach out to [info@wildnet.org](mailto:info@wildnet.org) with questions on how to apply for grants.

## Explore partnerships:

If your work intersects with ours, we may be able to partner to have a bigger impact and learn from one another. Contact [info@wildnet.org](mailto:info@wildnet.org) if you want to explore opportunities to partner.

## Support the CWP:

Our work is entirely reliant on generous, forward-thinking donors; if you are a donor who is passionate about protecting California's wildlife you may want to invest in the California Wildlife Program. Contact [donate@wildnet.org](mailto:donate@wildnet.org) with any questions and visit [wildnet.org/cwp](https://wildnet.org/cwp) to donate online.

We invite you to join us in safeguarding connectivity for wildlife in California—to cultivate a state where people coexist with healthy wildlife populations and ecological integrity is sustained.

## California Wildlife Program Strategic Plan

Written by Neal Sharma, Paul Thomson, Chris Wilmers, and Rebecca Patton.  
First published 2023.

The authors are grateful to the many colleagues who provided valuable input towards development of this document.

The California Wildlife Program is managed by



### Contact Us

Neal Sharma, Senior Manager of the California Wildlife Program  
Wildlife Conservation Network  
info@wildnet.org

### Governance

Leadership Team + Granting Committee:

- Neal Sharma\*, Senior Manager, California Wildlife Program, WCN
- Paul Thomson, Director of Conservation Programs, WCN
- Chris Wilmers, Professor of Environmental Studies, University of California, Santa Cruz
- Rebecca Patton, Director and Vice President/Board Director, WCN

*\*Provides input but does not vote on grants*

### Suggested Citations

Sharma, N.P., Thomson, P., Wilmers C.C., Patton, R. (2023). California Wildlife Program Strategic Plan. Wildlife Conservation Network. 209 Mississippi Street, San Francisco, CA 94107, USA

### Literature Cited

California Department of Fish and Wildlife (CDFW) (2015). California State Wildlife Action Plan, 2015 Update: A Conservation Legacy for Californians. Edited by Armand G. Gonzales and Junko Hoshi, Ph.D. Prepared with assistance from Ascent Environmental, Inc., Sacramento, CA.

California Natural Resources Agency. (2021 draft). [Draft California Climate Adaptation Strategy](#).

Conservation Science Partners. (2016). [Description of the approach, data, and analytical methods used to estimate natural land loss in the western U.S.](#) Submitted to the Center for American Progress.

Convention on the Conservation of Migratory Species of Wild Animals. [Website](#). Accessed March 20, 2022.

Crist, E., Kopnina, H., Cafaro, P., Gray, J., Ripple, W.J., Safina, C., Davis, J., DellaSala, D.A., Noss, R.F., Washington, H. and Rolston III, H. (2021). Protecting Half the Planet and Transforming Human Systems Are Complementary Goals. *Frontiers in Conservation Science*, 91.

Crooks, K.R. and Sanjayan, M.A. (2006). [Connectivity Conservation: Maintaining Connections for Nature](#). Cambridge University Press, Cambridge, 1-20.

Gustafson, K. D., Gagne, R. B., Buchalski, M. R., Winston Vickers, T., Riley, S. P. D., Sikich, J. A., Rudd, J. L., Dellinger, J. A., LaCava, M. E. F., & Ernest, H. B. (2022). Multi-population puma connectivity could restore genomic diversity to at-risk coastal populations in California. *Evolutionary Applications*, 15(286– 299).

### Literature Cited (Continued)

Gustafson, K.D., Gagne, R.B., Vickers, T.W., Riley, S.P.D., Wilmers, C.C., Bleich, V.C., Pierce, B.M., Kenyon, M., Drazenovich, T.L., Sikich, J.A., Boyce, W.M., Ernest, H.B. (2019). [Genetic source-sink dynamics among naturally structured and anthropogenically fragmented puma populations](#). *Conservation Genetics*, 20(215–227).

Hilty, J.\* , Worboys, G.L., Keeley, A.\* , Woodley, S.\* , Lausche, B., Locke, H., Carr, M., Pulsford I., Pittock, J., White, J.W., Theobald, D.M., Levine, J., Reuling, M., Watson, J.E.M., Ament, R., and Tabor, G.M.\* (2020). Guidelines for conserving connectivity through ecological networks and corridors. Best Practice Protected Area Guidelines Series No. 30. Gland, Switzerland: IUCN. \*Corresponding authors: Hilty (jodi@y2y.net), Keeley (annika.keeley@yahoo.com), Woodley (woodleysj@gmail.com), Tabor (gary@largelandscapes.org)

Johri, S., Carnevale, M., Porter, L., Zivian, A., Kourantidou, M., Meyer, E.L., Seevers, J., and Skubel, R.A. (2021). Pathways to Justice, Equity, Diversity, and Inclusion in Marine Science and Conservation. *Front. Mar. Sci.* 8:696180. doi: 10.3389/fmars.2021.696180

Lackey, N.Q., Tysor, D.A., McNay, G.D., Joyner, L., Baker, K.H., and Hodge, C. (2021). [Mental health benefits of nature-based recreation: a systematic review](#). *Annals of Leisure Research*, 24:3(379-393), DOI: 10.1080/11745398.2019.1655459

M's-it No'kmaq, Marshall, A., Beazley, K.F., Hum, J, joudry, s., Papadopoulos, A., Pictou, S., Rabesca, J., Young, L., and Zurba, M. (2021). "Awakening the sleeping giant": re-Indigenization principles for transforming biodiversity conservation in Canada and beyond. *FACETS* 6(839–869). doi:10.1139/ facets-2020-0083

Pörtner, H.O., Scholes, R.J., Agard, J., Archer, E., Arneeth, A., Bai, X., Barnes, D., Burrows, M., Chan, L., Cheung, W.L., Diamond, S., Donatti, C., Duarte, C., Eisenhauer, N., Foden, W., Gasalla, M. A., Handa, C., Hickler, T., Hoegh-Guldberg, O., Ichii, K., Jacob, U., Insarov, G., Kiessling, W., Leadley, P., Leemans, R., Levin, L., Lim, M., Maharaj, S., Managi, S., Marquet, P. A., McElwee, P., Midgley, G., Oberdorff, T., Obura, D., Osman, E., Pandit, R., Pascual, U., Pires, A. P. F., Popp, A., Reyes- García, V., Sankaran, M., Settele, J., Shin, Y. J., Sintayehu, D. W., Smith, P., Steiner, N., Strassburg, B., Sukumar, R., Trisos, C., Val, A.L., Wu, J., Aldrian, E., Parmesan, C., Pichs-Madruga, R., Roberts, D.C., Rogers, A.D., Díaz, S., Fischer, M., Hashimoto, S., Lavorel, S., Wu, N., Ngo, H.T. (2021). IPBES-IPCC co-sponsored workshop report on biodiversity and climate change; IPBES and IPCC. DOI:10.5281/zenodo.4782538.

Sandifer, P.A., Sutton-Grier, A.E., Ward, B.P. (2015). [Exploring connections among nature, biodiversity, ecosystem services, and human health and well-being: Opportunities to enhance health and biodiversity conservation](#). *Ecosystem Services*, 12(1-15), ISSN 2212-0416, <https://doi.org/10.1016/j.ecoser.2014.12.007>.

Spencer, W.D., Beier, P., Penrod, K., Winters, K., Paulman, C., Rustigian-Romsos, H., Strittholt, J., Parisi, M., and Pettler, A. (2010). California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

The Nature Conservancy in California. [TNC Omniscience Connectivity](#).

Vucetich, J.A., Burnham D., Macdonald, E.A., Bruskotter, J.T., Marchini, S., Zimmermann, A., Macdonald, D.W. (2018). Just conservation: What is it and should we pursue it? *Biological Conservation*, 221(23-33) DOI: [10.1016/j.biocon.2018.02.022](#).

White, M.P., Alcock, I., Grellier, J., Wheeler, B.W., Hartig, T., Warber, S.L., Bone, A., Depledge, M.H., and Fleming, L.E. (2019). Spending at least 120 minutes a week in nature is associated with good health and wellbeing. *Scientific Reports* 9, 7730.

Yap, T., Cummings, B., and Rose, J.P. (2019). A Petition to List the Southern California/Central Coast Evolutionarily Significant Unit (ESU) of Mountain Lions as Threatened under the California Endangered Species Act (CESA). Center for Biological Diversity and the Mountain Lion Foundation.

### Photo Credits

Front/Back Cover: Sebastian Kennerknecht/pumapix.com

Page 4, 5, 9-10, 11-14, 15, 17-18, 20, 21-22, 24-25: Sebastian Kennerknecht/pumapix.com

Page 8: National Park Service

Page 10: (First pillar: Sebastian Kennerknecht/pumapix.com, Second Pillar: Nyland - CWP, Third Pillar: Neal Sharma)

Design: Janel Padoan

The California Wildlife Program is managed by



Wildlife Conservation Network

[wildnet.org](http://wildnet.org)

