



Rail Passengers Webinar Series

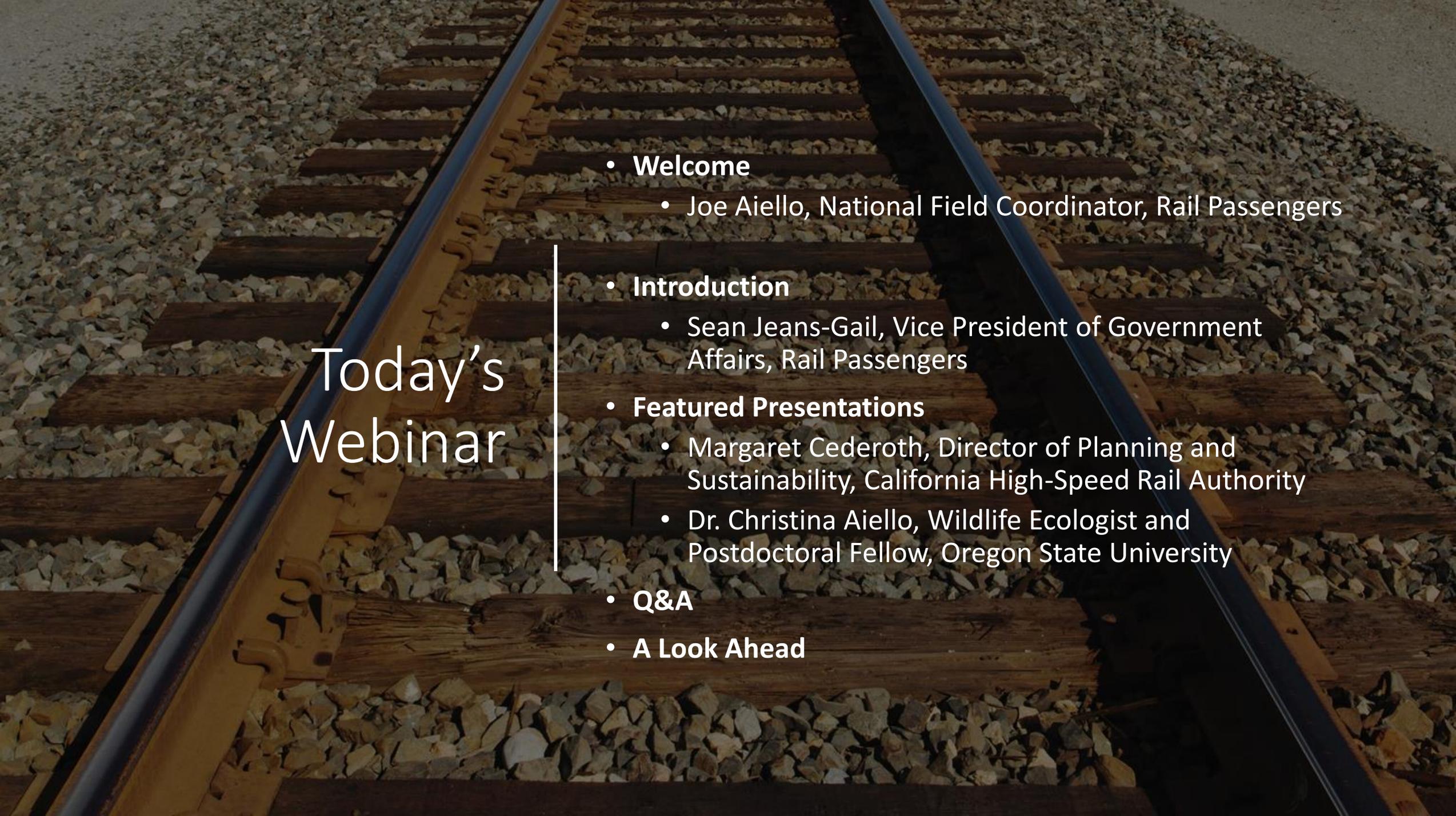
## Heavy Rail Gets Green:

How Modern Passenger Train Systems Can  
Partner With the U.S. Environmental Movement

May 25th, 2022



**RAIL PASSENGERS**  
ASSOCIATION



# Today's Webinar

- **Welcome**
  - Joe Aiello, National Field Coordinator, Rail Passengers
- **Introduction**
  - Sean Jeans-Gail, Vice President of Government Affairs, Rail Passengers
- **Featured Presentations**
  - Margaret Cederoth, Director of Planning and Sustainability, California High-Speed Rail Authority
  - Dr. Christina Aiello, Wildlife Ecologist and Postdoctoral Fellow, Oregon State University
- **Q&A**
- **A Look Ahead**



RAIL PASSENGERS  
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# Introduction

Sean Jeans-Gail, Vice President of Government Affairs  
Rail Passengers Association





RAIL PASSENGERS  
ASSOCIATION

# Margaret Cederoth

Director of Planning and Sustainability

California High-Speed Rail Authority





**CALIFORNIA**  
High-Speed Rail Authority

**Building Sustainable Rail  
Rail Passengers Association**

Webinar  
May 25, 2022

# CONNECTING CALIFORNIA

## Program Highlights

### Phase 1

- » 520 Miles
- » San Francisco to Los Angeles/Anaheim

### Phase 2

- » After Phase 1 - Extends 300 Miles
- » Connections to Sacramento and San Diego

**Travels at approximately 200 mph  
Up to 24 Stations**

**Result: 2 million metric tons of CO<sub>2</sub>e  
avoided annually**



# BUILDING BLOCK APPROACH

## Projects Underway

### Today:

- 119 Miles Under Construction
- Environmentally Clearing Full 500 Miles Between SF and LA—  
**Approximately 300 Miles Cleared**
- Bookend Projects:
  - » Caltrain Electrification
  - » LAUS Improvements
  - » Grade Separations
- Station Design Delivery
- MOU with Brightline West



# PROGRAM UPDATE

## Benefits Highlights

- **7,500+ Construction Jobs Created Since Construction Began**
  - » 1,000+ Construction Workers Dispatched to Sites Daily
  - » 34 Active Construction Sites
- **698 Small Businesses Employed**
  - » 224 are Disadvantaged Business Enterprises
  - » 79 Disabled Veteran Business Enterprises
- **CA High-Speed Rail will be 100% Electric Run on Renewable Energy**
  - » Currently Using Tier IV Equipment
  - » Will Reduce VMT by taking 400k cars off the road annually



# Strong Board and Executive Leadership Inspires Groundbreaking Commitments

**2008 Board Adopts 100% Renewable Energy for operations**

**2011 Incorporation in ARB Scoping Plan due to GHG emissions reductions**

**2012 New and leading-edge construction policies:**

- » Net-Zero direct GHG emissions for Construction
- » Net-Zero Air Quality emissions for Construction
- » Proactive construction requirements, including requiring Tier 4 vehicles & 100% recycling requirements

**2014 First infrastructure project to require disclosure on major materials, informed AB 262 Buy Clean California Act**

- » EMMA developed to track and monitor program & contractor progress

**2017 Incorporation in ARB Scoping Plan update**

**2019 Further strengthened construction policies:**

- » Requiring Track and Systems contractor to meet performance targets for embodied energy (concrete and steel)
- » Requiring zero emissions fleet vehicles (25% of on road fleet)
- » Specific target for direct GHG emissions in construction tied to a bonus/penalty

**2020 Climate Adaptation Plan**

**2021 100% zero emissions on-road fleets for future construction contracts**

**2022 Focusing on embodied carbon and supply chain**

# CALIFORNIA SETS SUSTAINABILITY STANDARD

How high-speed rail uses California policy to set a new direction for delivery



301,000 MT  
Carbon Sequestered and  
Avoided



7,500  
Jobs Created



\$2,400,000,000  
Disadvantaged  
Communities Benefited



140,000 lbs.  
Criteria Air Pollution  
Avoided



698  
Small Businesses Engaged



\$1B = 24K Jobs  
Economic Investment  
Multiplier

# ENVISION PLATINUM AWARD

Envision is a 3rd Party Verified certification program for sustainable infrastructure.

Certification is based on an iterative points-based framework.

## Highlights:

- » 100% Recycling of concrete and steel
- » Demonstrably cleaner construction sites
- » Climate adaptation planning & community resilience
- » Embodied carbon reduction & supply chain



# California's Sustainable Future

- Net-zero, clean energy operations
- Focused growth at station sites
- 3,500 tons of pollution avoided annually
- 2 million MTCO<sub>2</sub>e avoided annually

- Sustainability Report:

[https://hsr.ca.gov/wp-content/uploads/2021/09/Sustainability\\_Report\\_2021.pdf](https://hsr.ca.gov/wp-content/uploads/2021/09/Sustainability_Report_2021.pdf)



# Building Sustainable Rail

CALIFORNIA HIGH-SPEED RAIL



## Headquarters

California High-Speed Rail Authority

770 L Street, Suite 800

Sacramento, CA 95814

[www.hsr.ca.gov](http://www.hsr.ca.gov)

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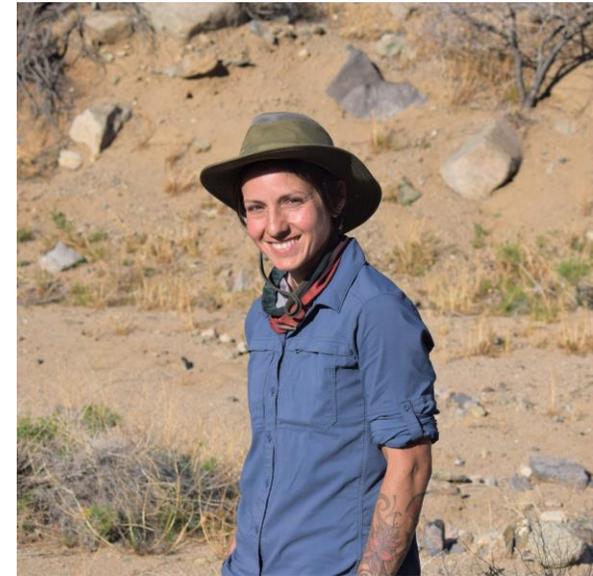


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# Dr. Christina Aiello

Wildlife Ecologist and Postdoctoral Fellow

Oregon State University



An aerial photograph showing a multi-lane highway interchange cutting through a dense, green forest. In the background, a city skyline with numerous high-rise buildings is visible under a hazy sky. A large white rectangular box with a black border is centered over the image, containing the title text.

# TRANSPORTATION & WILDLIFE

Efficient movement for all species



Biologist 2010 - 2018



PhD Ecology 2018  
Conservation Biology

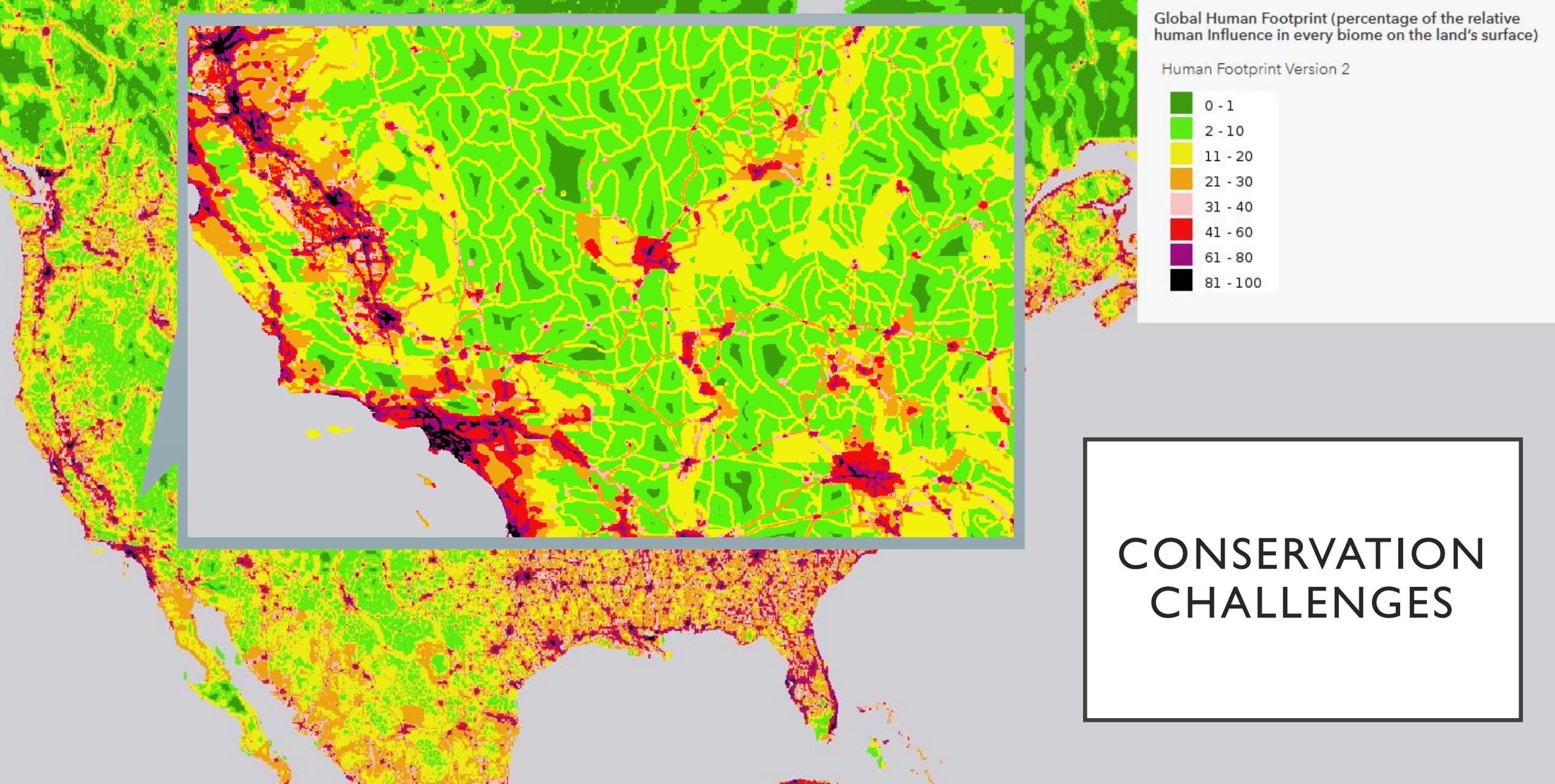


Science Fellow 2019  
Oregon State University



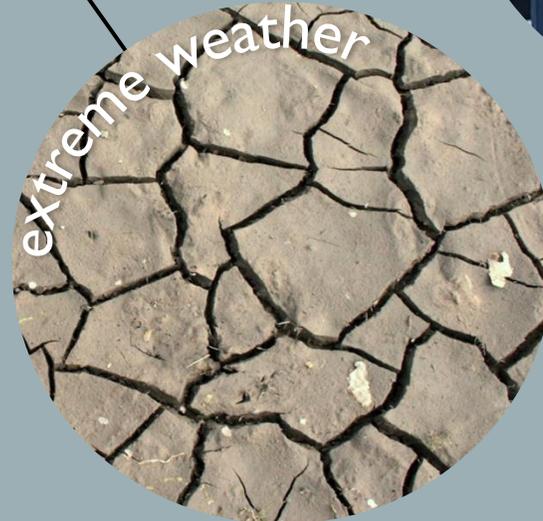
# RESEARCH





## CONSERVATION CHALLENGES

# INTERACTING THREATS



## LIMITED RECOVERY

**2.5x**

**more threats affect species  
at time of listing**

2017 v. 1975

*Leu et al. 2019 Conservation Science & Practice*

**84%**

**of species listed under ESA  
are conservation reliant**

*Scott et al. 2010 Conservation Letters*

# WILDLIFE CONNECTIVITY

A photograph of a herd of deer in a natural, open landscape. The deer are in the foreground and middle ground, looking in various directions. The background shows rolling hills under a cloudy sky. The lighting suggests late afternoon or early morning.

Resilient

Adaptable

Self-sustaining

# RESTORE & MAINTAIN MOVEMENT

by building better



An aerial photograph of a multi-lane highway winding through a dry, hilly landscape. Two wildlife crossings, which are tunnels with corrugated metal interiors and concrete exteriors, are visible. The surrounding terrain is sparsely vegetated with small shrubs and grasses. In the background, there are rolling hills under a clear blue sky.

# WILDLIFE CROSSINGS

Popular

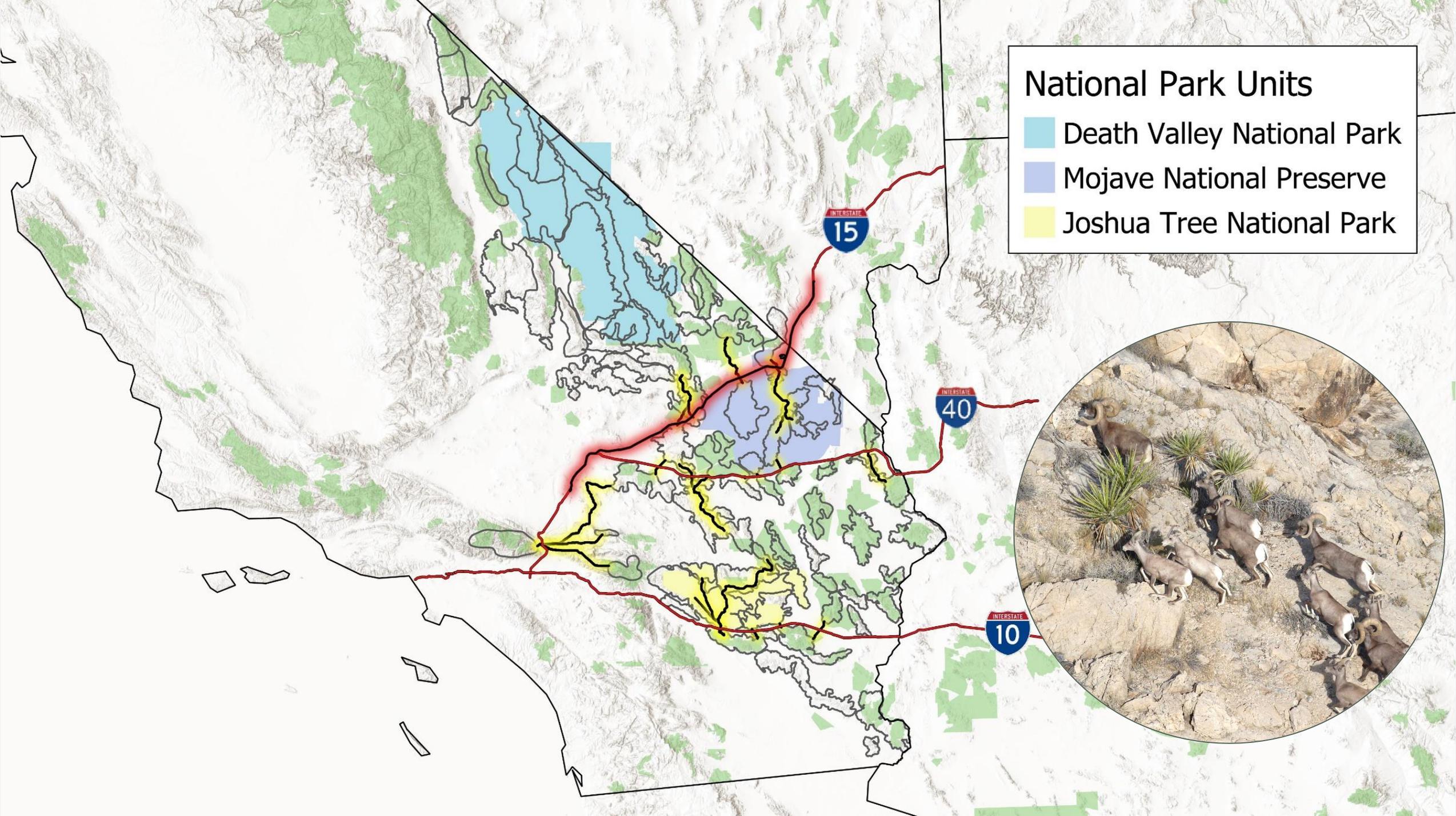
Proven effective

Long-term benefits

# BRIGHTLINE WEST

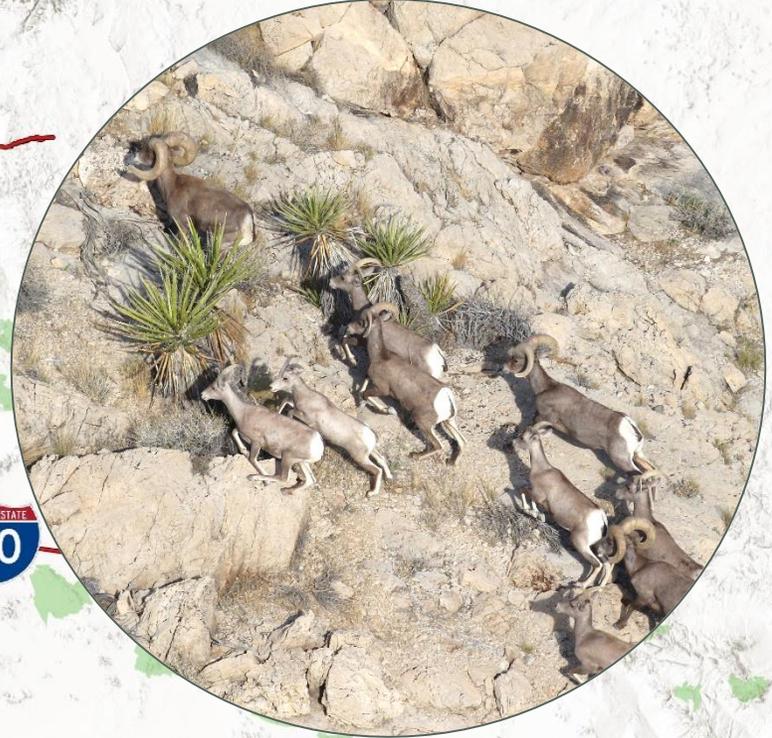
An opportunity to  
move people & wildlife





### National Park Units

- Death Valley National Park
- Mojave National Preserve
- Joshua Tree National Park

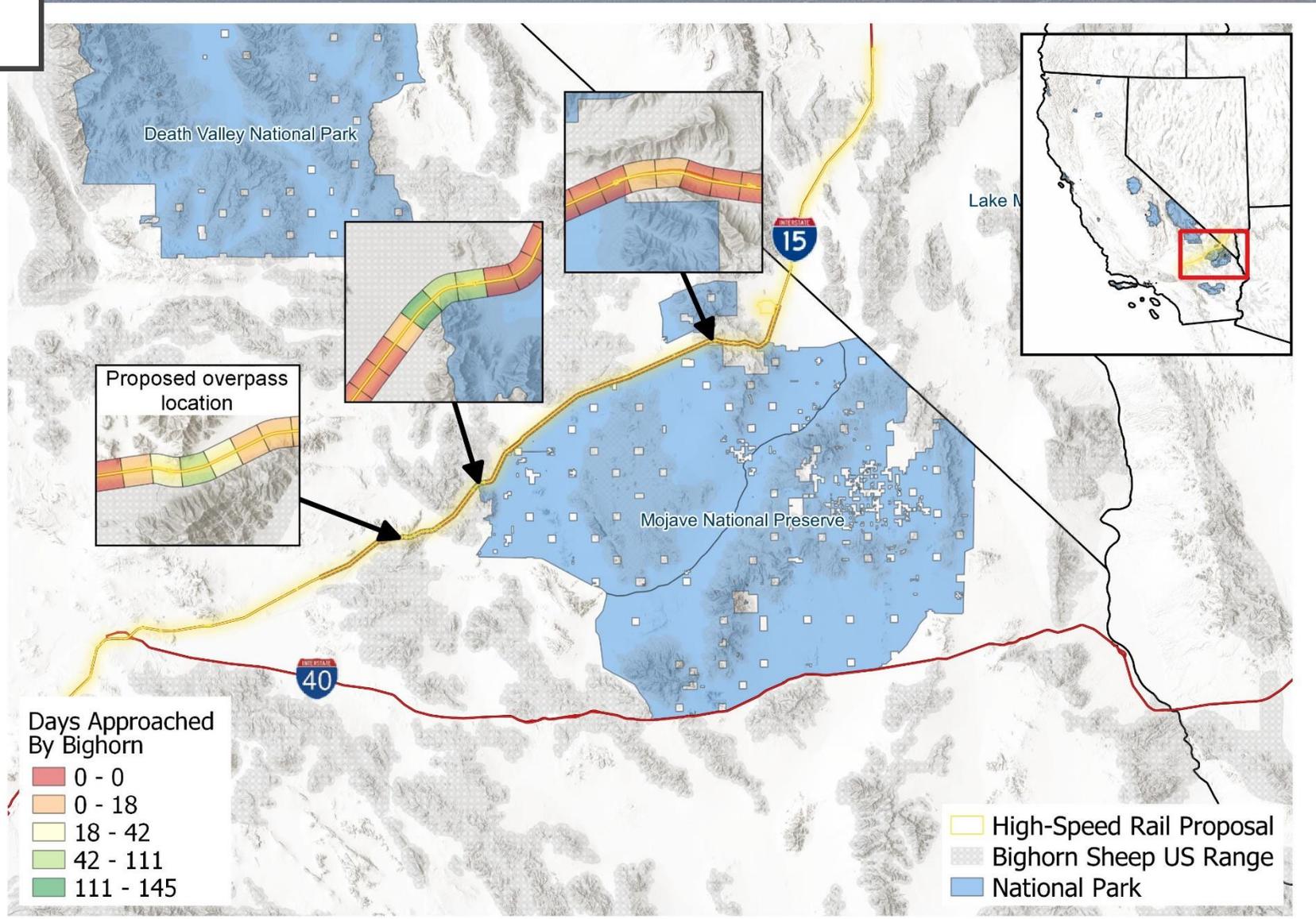


# LESSONS LEARNED

NEPA

Communication

Special Interest Groups



# ARC



## Road Ecology Center

University of California, Davis

CENTER *for* LARGE LANDSCAPE CONSERVATION

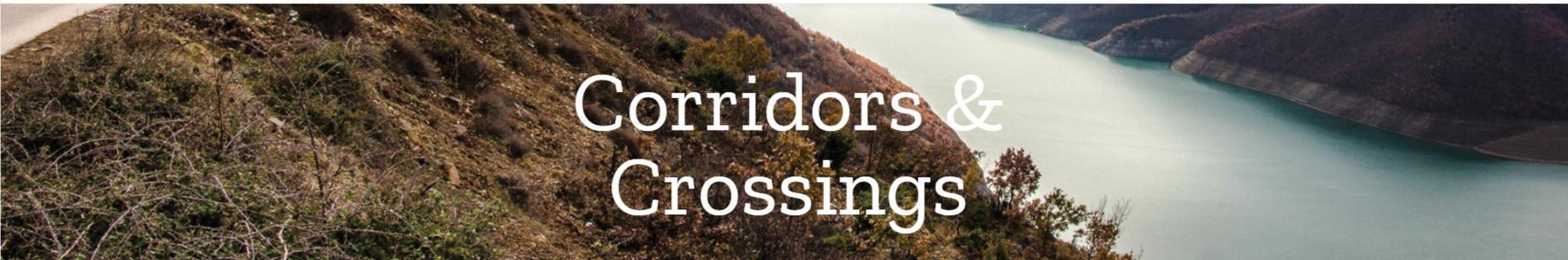
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## Corridors & Crossings

# PARTNERSHIP OPPORTUNITIES

April 20, 2022 | High Performance

## CHSRA Advances Wildlife Protection Project

Written by Marybeth Luczak, Executive Editor



Environmental approval of the CHSRA's San Jose to Merced project section through the Pacheco Pass will be considered at the its April 27-28 Board meeting.

A \$3.125 million California Wildlife Conservation Board grant will fund the planning, design, environmental review and permitting of a proposed wildlife overcrossing spanning State Route 152, near the San Jose to Merced high-speed rail project section, the California High-Speed Rail Authority (CHSRA) reported on April 19.



## A Toolkit for Developing Effective Projects Under the Federal Wildlife Crossings Pilot Program

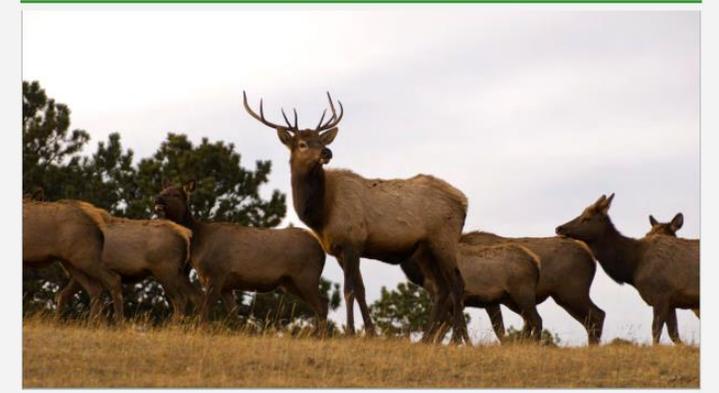
By: Kylie Paul, Anna Wearn, Rob Ament, Elizabeth Fairbank & Zack Wurtzebach

December 2021

**CENTER**  
for  
**LARGE LANDSCAPE  
CONSERVATION**



## Opportunities to Improve Sensitive Habitat and Movement Route Connectivity for Colorado's Big Game Species



In cooperation with



September 27, 2021



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Q&A

## NEXT EVENT:

FRA Metrics & Standards:  
Customer On-Time Performance

Late June: TBD

MORE INFO:  
[railpassengers.org/events](http://railpassengers.org/events)



# Amtrak TRAIN INFORMATION

Time	Number	Train	TO	From	Status	Stairway
8:12	2107	ACELA EXPRESS	WASHINGTON	NEW YORK	ON TIME	5
8:19	600	KEYSTONE	PHILADELPHIA	HARRISBURG	ON TIME	9
8:28	130	REGIONAL	NEW YORK	WASHINGTON	ON TIME	3
8:35	2154	ACELA EXPRESS	BOSTON	WASHINGTON	ON TIME	
8:42	183	REGIONAL	WASHINGTON	NEW YORK	ON TIME	
9:00	641	KEYSTONE	HARRISBURG	PHILADELPHIA	ON TIME	
9:01	4617	N. J. TRANSIT	ATLANTIC CITY	PHILADELPHIA	ON TIME	

TAXIS ARE AVAILABLE ON JFK BLVD  
29TH STREET SIDE OF THE STATION ONLY-

 ClubAcela Behind Stairway One

solarisc. udine, italy  
systems america