



Nature-Based Solutions to our Most Wicked Problems

Panelists

Dana Coelho – Alliance Director, Metro Denver Nature Alliance

Josh Phillips – Director of Implementation & Planning, High Line Canal Conservancy

Moderator

Cathy McCague – Program Manager, High Line Canal Conservancy

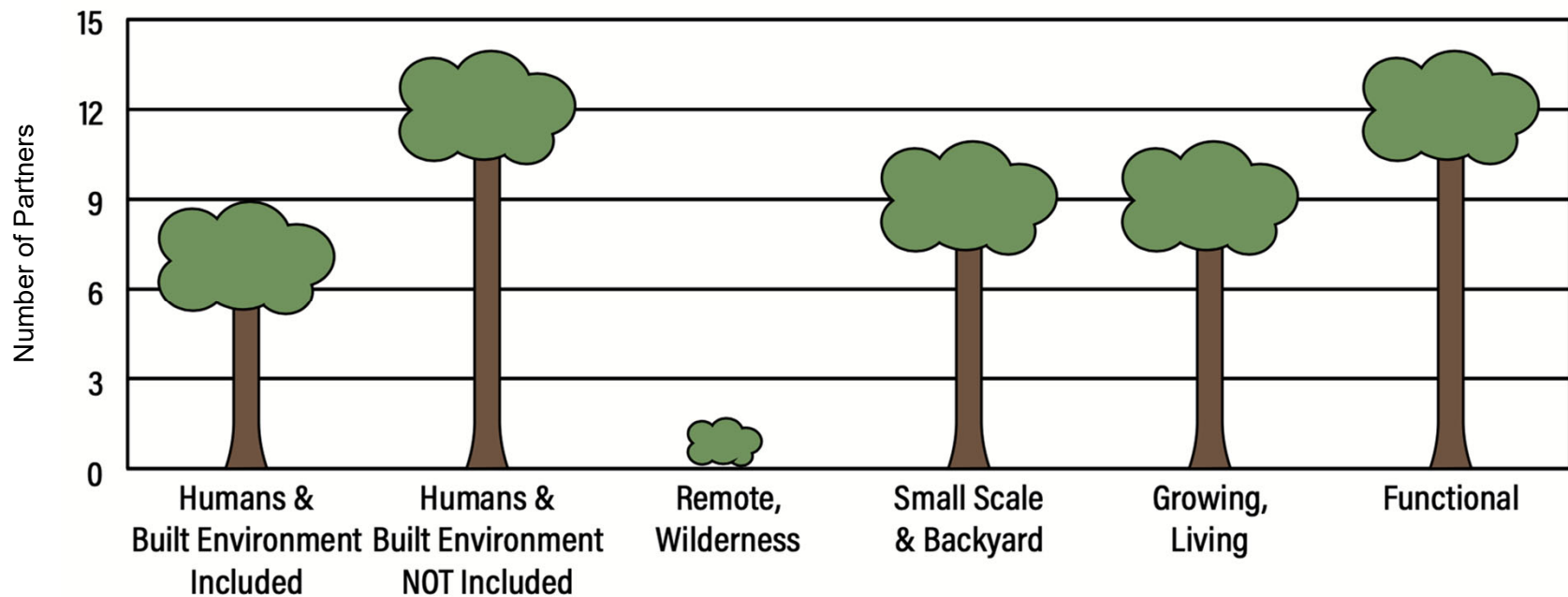
Polling question #1

What does nature mean to you?

- Go to www.menti.cm
- Use code 90 70 34
- Enter up to 3 responses

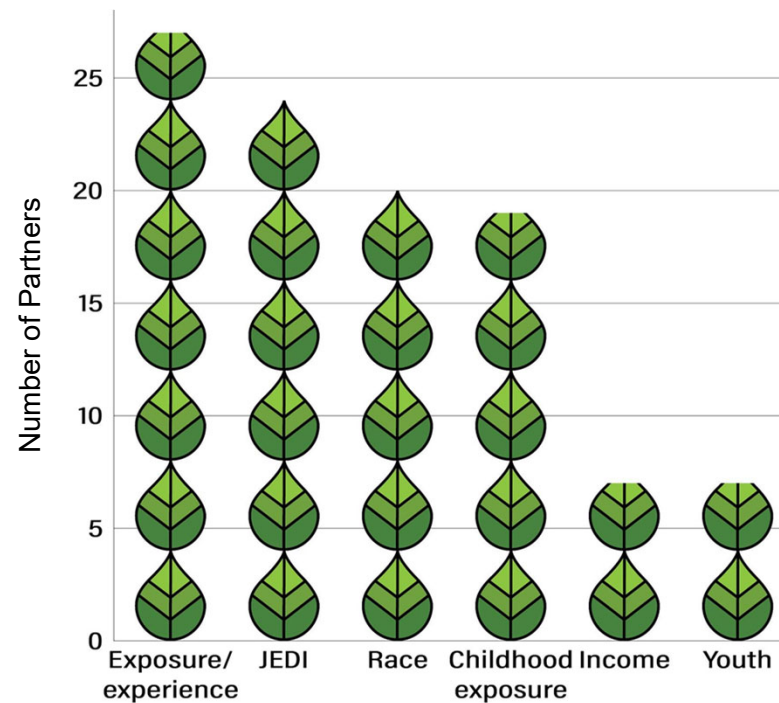
Metro Denver Nature Alliance

How do you define nature?



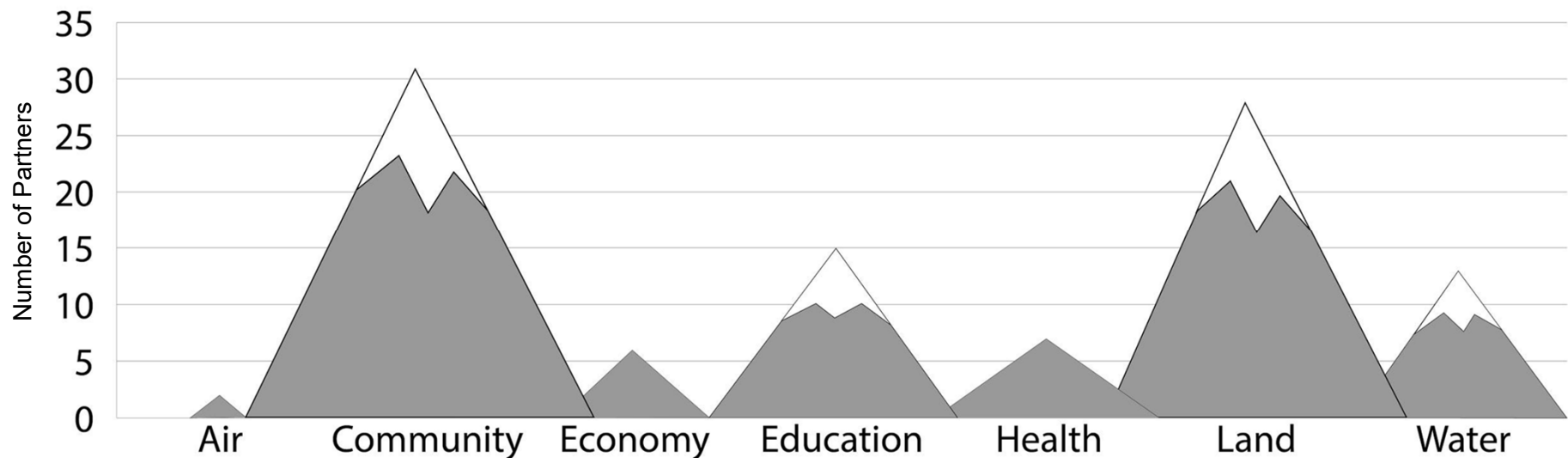
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What cultural factors influence your definition of nature?



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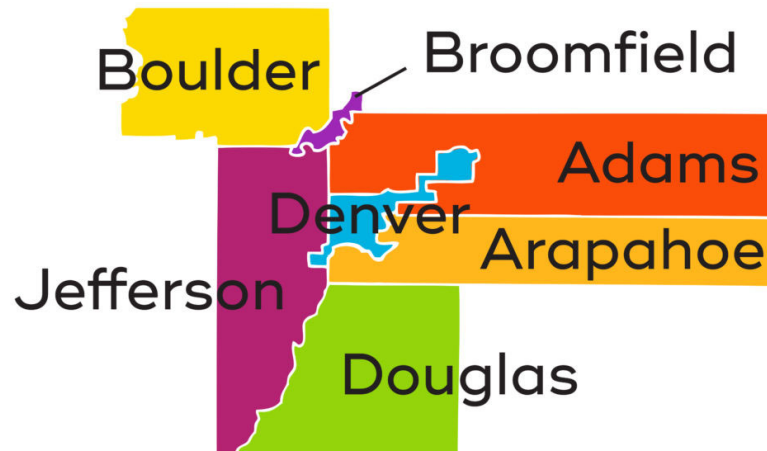
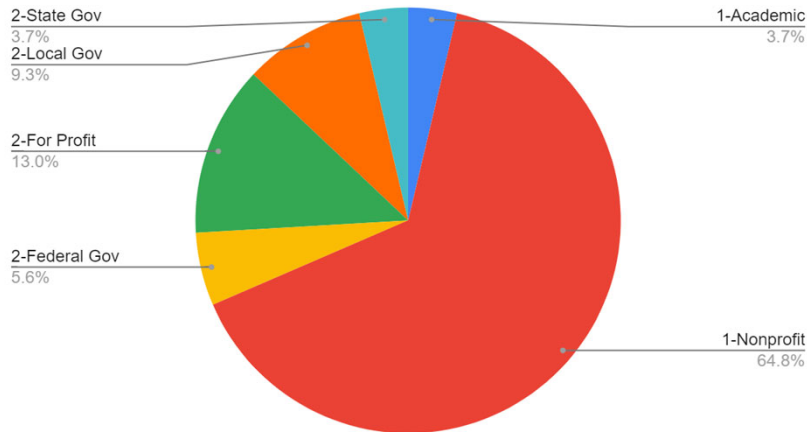
What is your vision for nature in the Metro Denver region?



Metro Denver Nature Alliance

Connecting People. Championing Nature.

PARTNERSHIP TYPE



We are: a growing coalition of non-profit, government, research, and private sector partners active in the seven-county Metro Denver region.

Our mission is: to align nature-based efforts to ensure more equitable access to nature and to promote healthy people, communities, and natural places.

Metro Denver Nature Alliance

Co-Creating a Regional Vision for People + Nature

We are working toward a future in which:

- Metro Denver residents have equitable access to parks, open spaces, and other kinds of nature meaningful to them.
- Metro Denver communities integrate nature to promote healthy, active residents.
- The metro Denver region protects, restores, and stewards natural systems that support people, wildlife, and ecological function.

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Wicked problems – development pressure

DP “We need more open spaces”: Denver residents...



NEWS > ENVIRONMENT

“We need more open spaces”: Denver residents feeling stifled by city’s building boom seek room to roam

Lack of sufficient green space has become a common complaint among Denverites



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Wicked problems – convergence

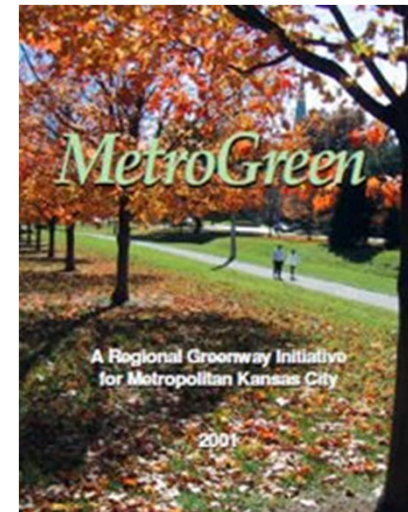
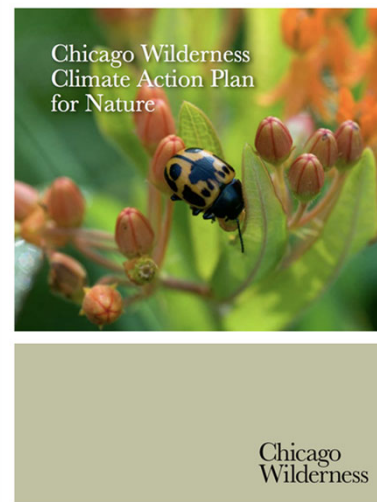
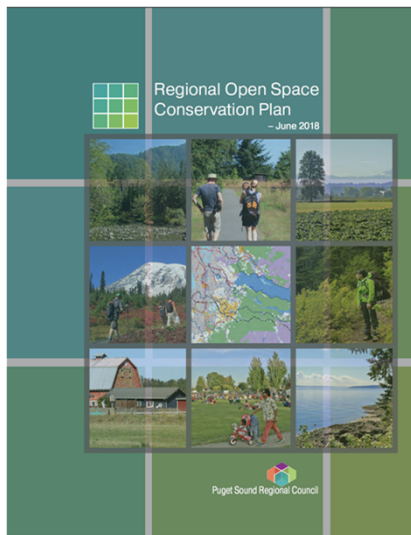
Water/Climate + Habitat Loss + Environmental Justice



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Learning networks

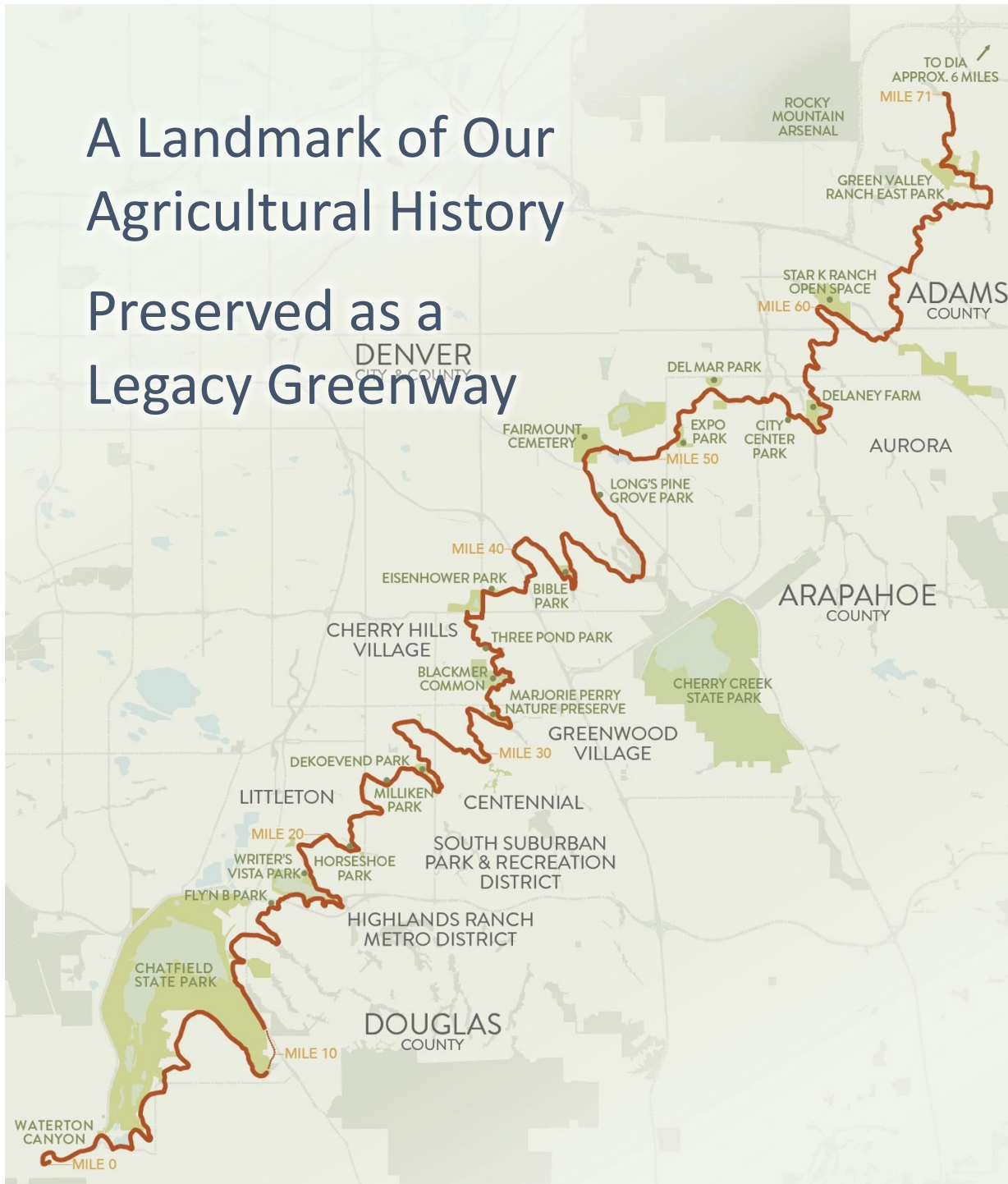
We are building on successful models of regional planning from around the country and **working across multiple scales** to better understand and support our ecosystems and natural resources and diverse human communities.



Stormwater Transformation Along the High Canal: Getting our Feet Wet

A Landmark of Our Agricultural History

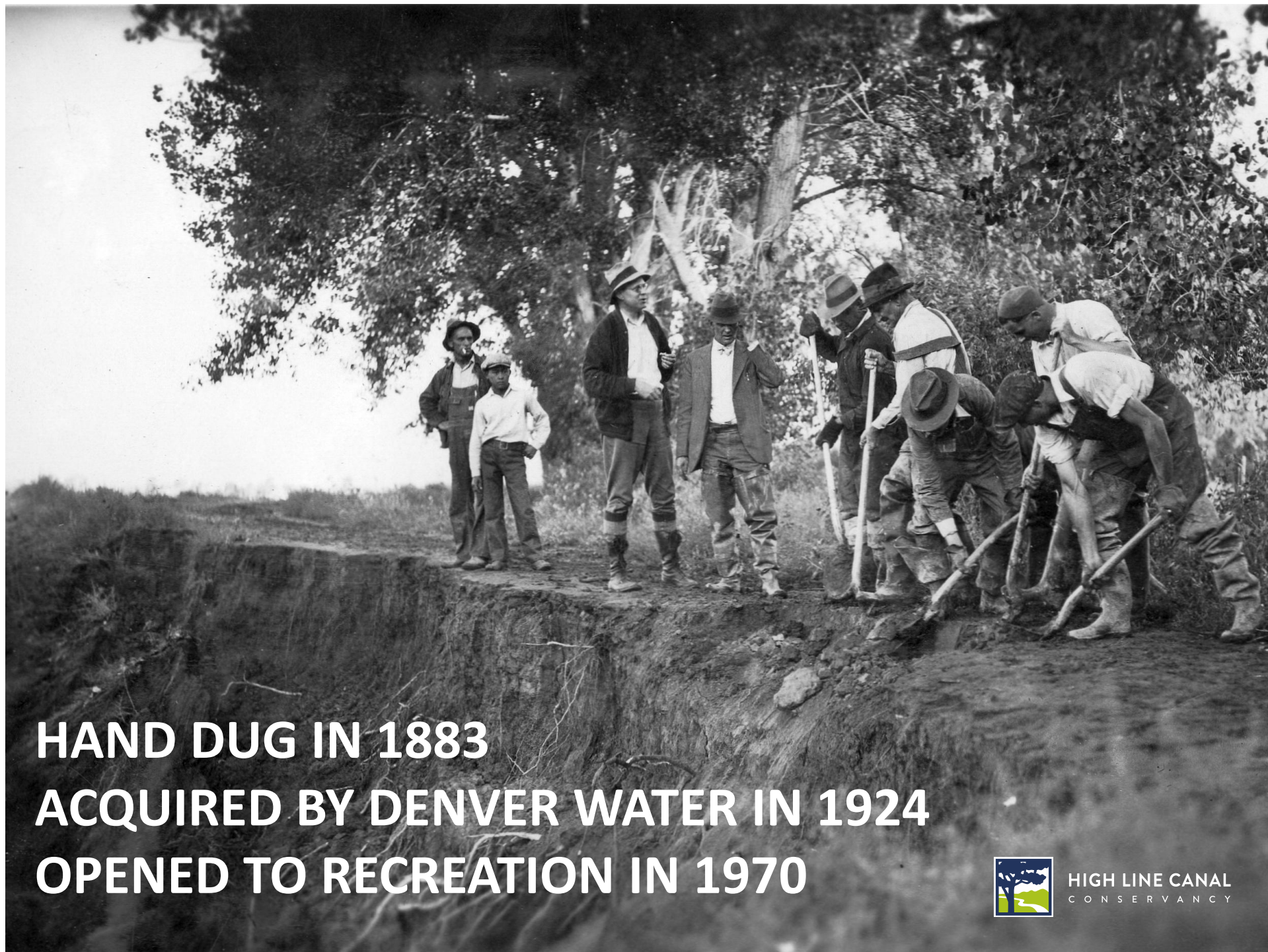
Preserved as a Legacy Greenway



350,000
residents
within one mile



500,000+
trail users
per year



**HAND DUG IN 1883
ACQUIRED BY DENVER WATER IN 1924
OPENED TO RECREATION IN 1970**



**HIGH LINE CANAL
CONSERVANCY**

LAST CENTURY'S INFRASTRUCTURE



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THIS CENTURY'S OPEN SPACE NETWORK



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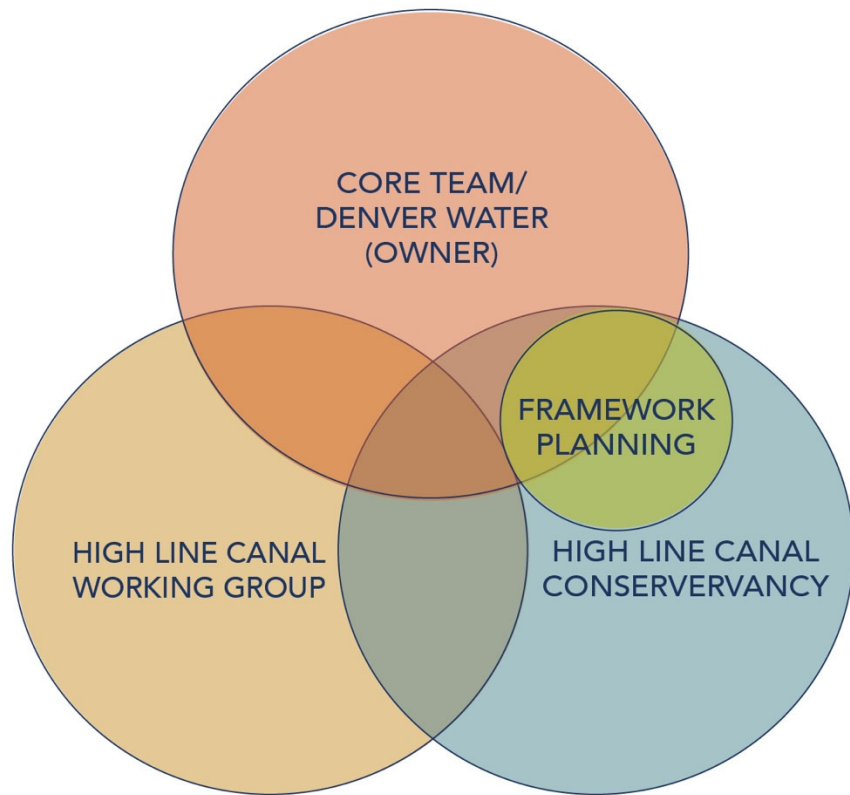


**PRESERVE, PROTECT AND ENHANCE THE 71
MILE LONG CANAL IN PARTNERSHIP WITH
THE PUBLIC**



**HIGH LINE CANAL
CONSERVANCY**

OUR STRATEGY: PARTNERSHIPS



High Line Canal Working Group

Adams County	Douglas County
Arapahoe County	Greenwood Village
Arapahoe County OSTAB	Highlands Ranch Metro District
City of Aurora	Littleton
Aurora Open Space Advisory Board	South Suburban Parks and Rec. District
Centennial	High Line Canal Conservancy
Cherry Hills Village	HLC Preservation Association
City and County of Denver	South Metro Land Conservancy
Denver	Cherry Hills Land Preserve

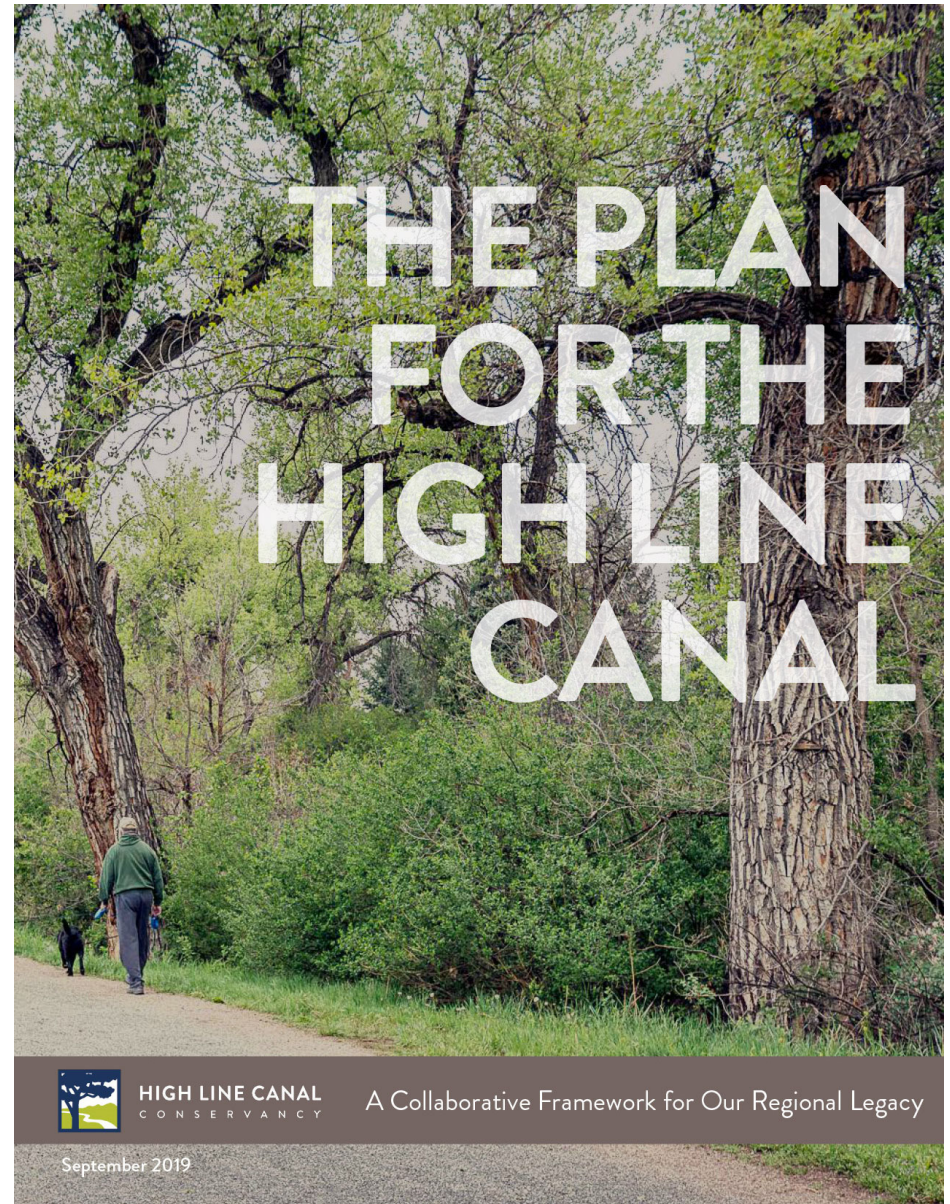
High Line Canal Core Team

Arapahoe County
City of Aurora
City and County of Denver
Denver Water
Douglas County
High Line Canal Conservancy

High Line Canal Conservancy



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A Collaborative Framework for Our Regional Legacy

September 2019


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- 8333 . #shrsdn#hojdjhq
- 483 . #frppxqlw| #hdghw
- 933 . #sxdffp wj #dwhoghvh#
- 433 . #wdnhkroghu# hhwqj v#
- 833 . #|rxw#hojdjhq
- 533 . #frppxqlw| #hyhqw
- ;33 . #xuyh| #hvsrqvhv



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Voice of the Rocky Mountain Empire

THE DENVER POST

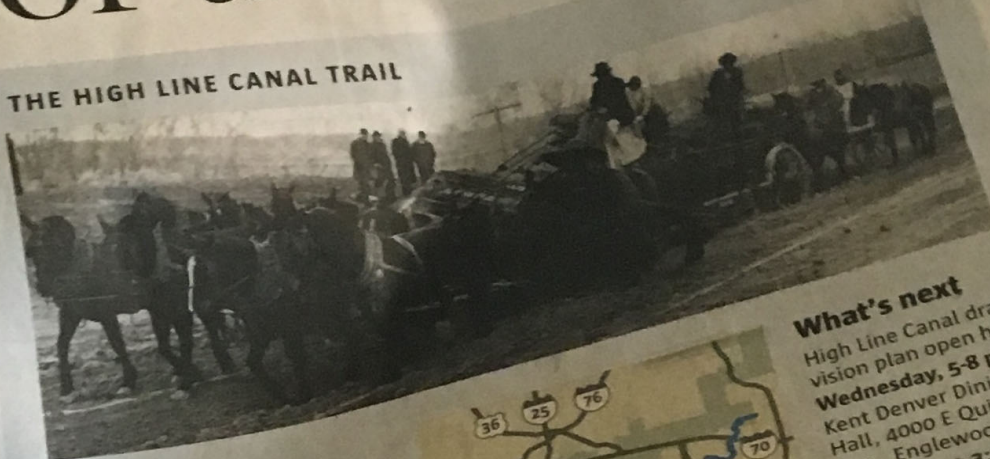
WEDNESDAY, SEPTEMBER 7, 2016



MOSTLY CLOUDY ▲85° ▼53° »18A • © THE DENVER POST • \$2 PRICE MAY VARY OUTSIDE METRO DENVER

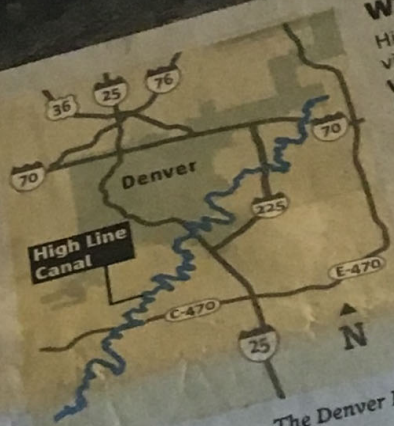
“One big resource” for the metro area

THE HIGH LINE CANAL TRAIL



History

The High Line Canal, designated as a National Landmark Trail, was completed in 1883 to deliver irrigation water. The photo above depicts work being done in 1913. Today, the canal is owned and operated by Denver Water. It begins at a diversion dam on the South Platte River, 1.8 miles above the mouth of Waterton Canyon. The original canal ran 71 miles to Green Valley Ranch, passing through Douglas, Arapahoe, Denver and Adams counties. The High Line Canal is 71 miles long.



What's next

High Line Canal draft vision plan open houses
Wednesday, 5-8 p.m.
Kent Denver Dining Hall, 4000 E Quincy Ave., Englewood

Thursday, 1-3:30 p.m.
Green Valley Ranch Library, 4856 Andes Court, Denver

Thursday, 5:30-8 p.m.
Westridge Recreation Center, 9650 Foothills Canyon Blvd., Highlands Ranch

The Denver Post

parallel to the High Line Canal near Road. Andy Cross, The Denver Post

By John Aguilar
The Denver Post

WATERTON CANYON It stretches clear across the metro area, spanning 71 miles from the jagged rock walls of Waterton Canyon to the windswept prairie south of Denver International Airport. But most people who wander alongside the High Line Canal, which boasts one of the longest urban trails in America, see only a mile or two of it when venturing out by foot or perhaps a more ambitious 10 to 15 miles if pedaling a bike.

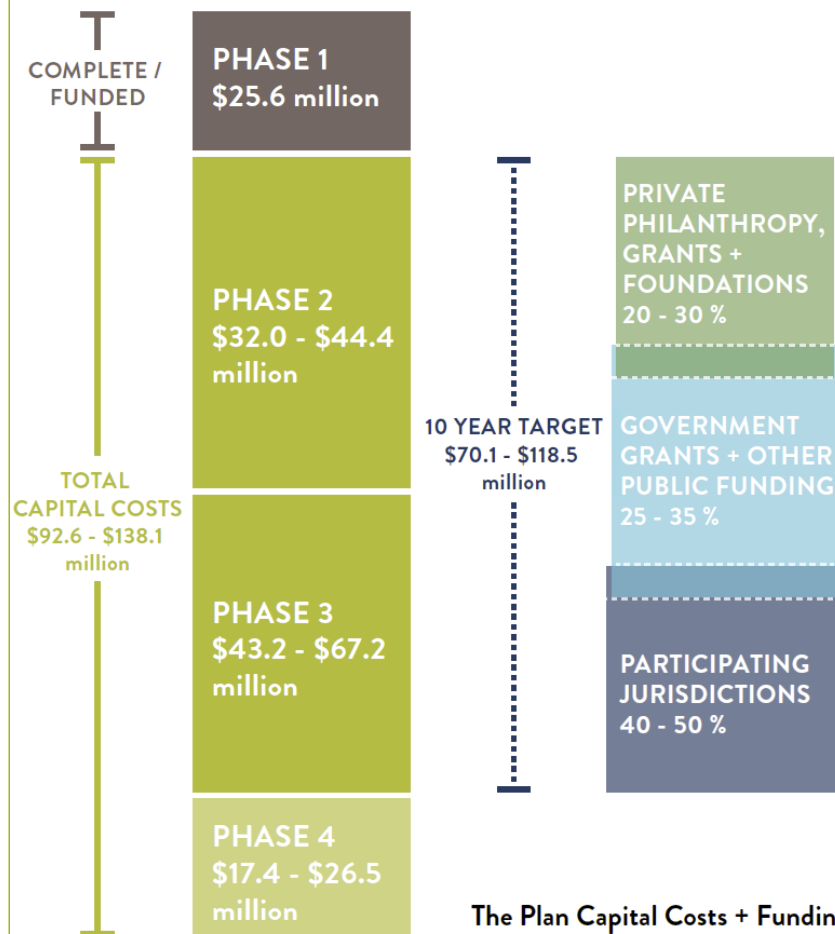
That's all Jennifer Miller and her husband, from Evergreen, saw during a 15-mile bike ride on the trail Tuesday afternoon. Taking off from the trailhead at Platte Valley Reservoir, the couple headed to Chatfield State Park before turning back.

"I thought it was pretty nice," Miller said. "I would probably explore it more."

Urban planners hope to fill those gaps and bring the trail — which comprises 66,71 miles through four counties, several cities and towns — into a plainer view by emphasizing regional importance and connecting to an expanding trail network.

The High Line Canal vanguard, formed last year, held three public meetings — one Wednesday in Foothills and one Thursday in I-70 corridor.

IMPLEMENTING THE PLAN



Summfw#lqfoqhg#b#Wkh#Solq

Dp hqLhv 0 ' 4 / 37 / 877

Dffhw 0 ' ; / 76 / 583

Dfwydwlrq 0 ' ; 38 / 333

Frqghfwylw 0 ' 88 / : < 8 / 333

Vwup z dwu#Hqkdqfhp hqw# 0 ' 45 / ; 3 / 333

Odqgvfdsh#Hqkdqfhp hqw# 0 ' 4 < / 4 < 3 / 333

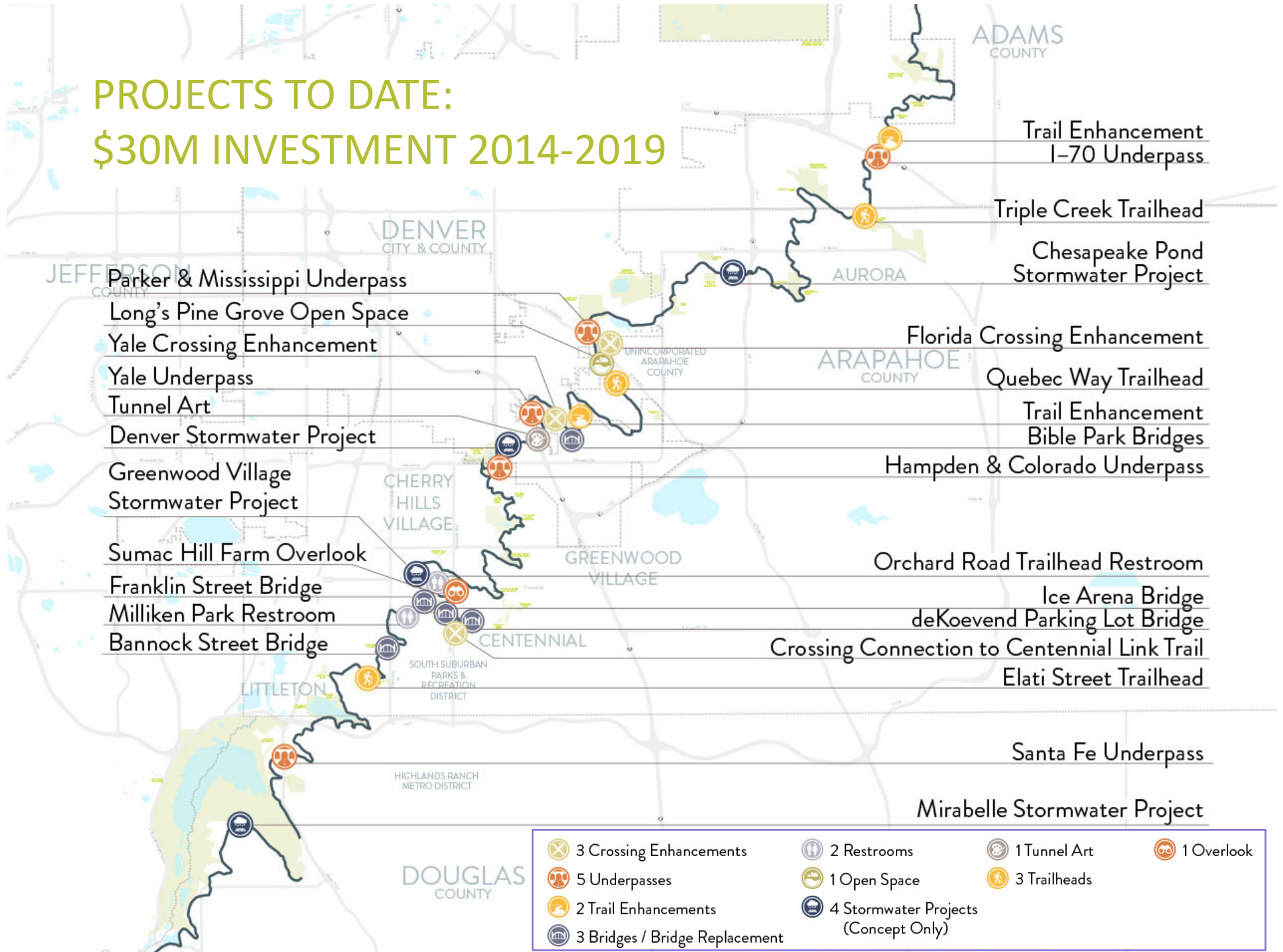
Vljgdjh 0 ' < 9 : / 333

Wrvdo' < < / 3 ; 8 / 5 < 7

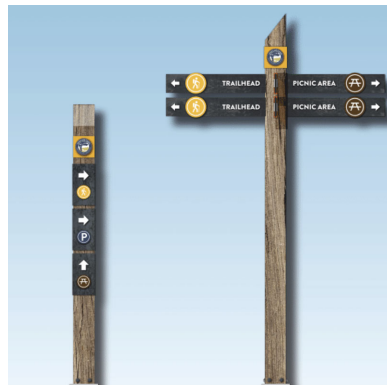


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PROJECTS TO DATE: \$30M INVESTMENT 2014-2019



ACCESS AND SIGNAGE



1 71
new mile
markers

51
new wayfinding
signs

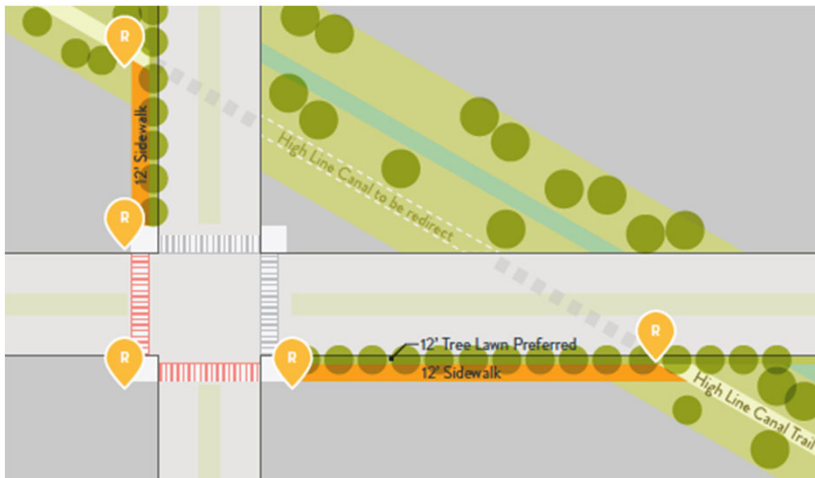
5
new trail
heads

7
improved
access points



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SAFETY AND CROSSING ENHANCEMENTS



 **4**
new underpasses

 **20**
improved crossings

 **5**
trail gaps connected



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NEIGHBORHOOD IMPROVEMENTS



 **89**
new
benches

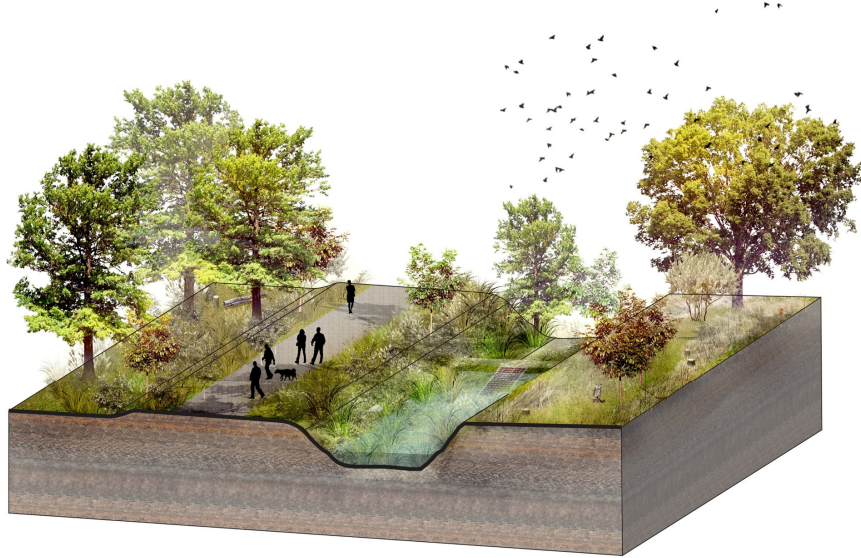
 **4**
new picnic
areas

 **15+**
new community
spaces



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LANDSCAPE AND TREE CARE



caring for
24,000
mature trees


450
plant species
identified

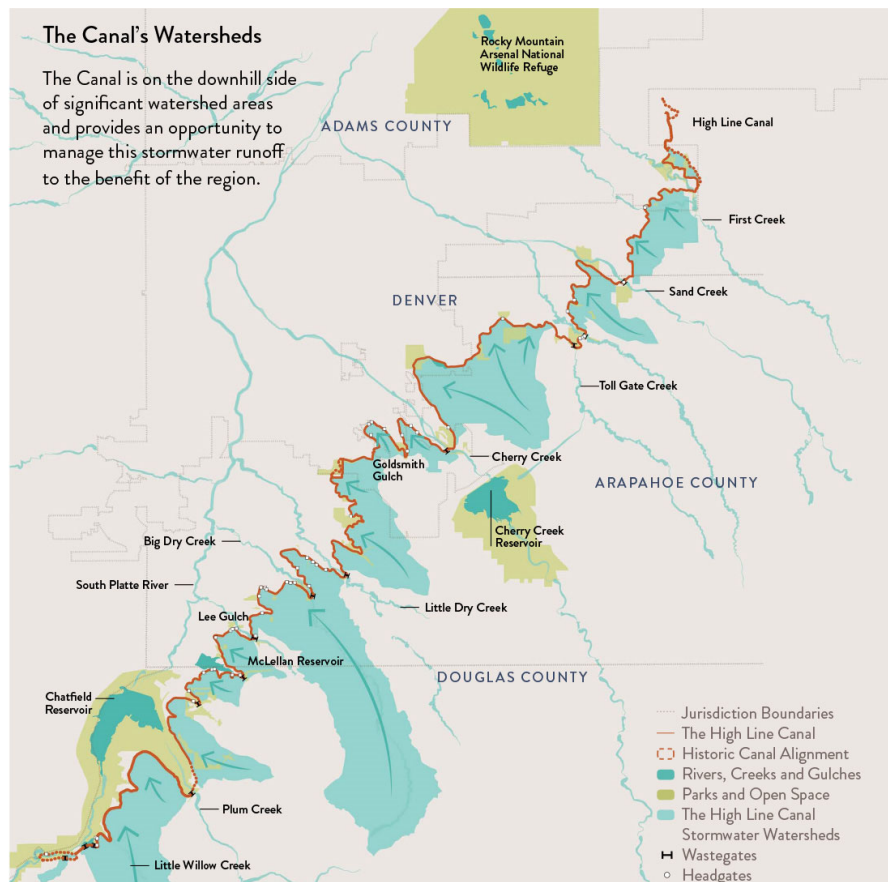


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STORMWATER MANAGEMENT

The Canal's Watersheds

The Canal is on the downhill side of significant watershed areas and provides an opportunity to manage this stormwater runoff to the benefit of the region.



40%

cleaner water
with stormwater
management

Canal
will be
wet

100

more
days per
year



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Vwryp z dwhu#Sumhfw

41#Grxj olv#Frqxw|

Wrowfh#Ghyhorsp hqw,

Sumhfw|sh#Frqyh|dqfh

51#Olwchwrq

Sumhfw|sh#Frqyh|dqfh

61#J uhqz rrg#Y koljh

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71#Ghgyhu

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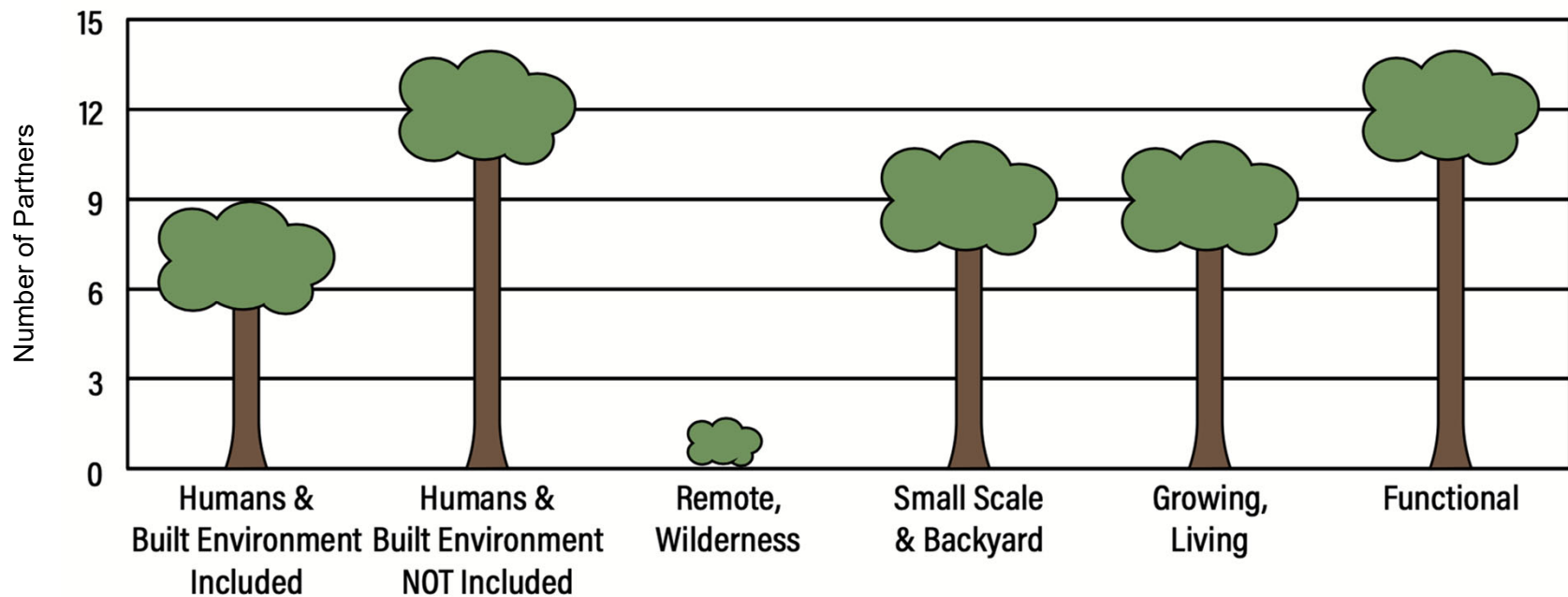
Polling question #2

What do you think of when hear the term
“Green Infrastructure”?

- Go to www.menti.com
- Use code 90 70 34
- Enter up to 3 responses

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How do you define nature?



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Regional Conservation Assessment

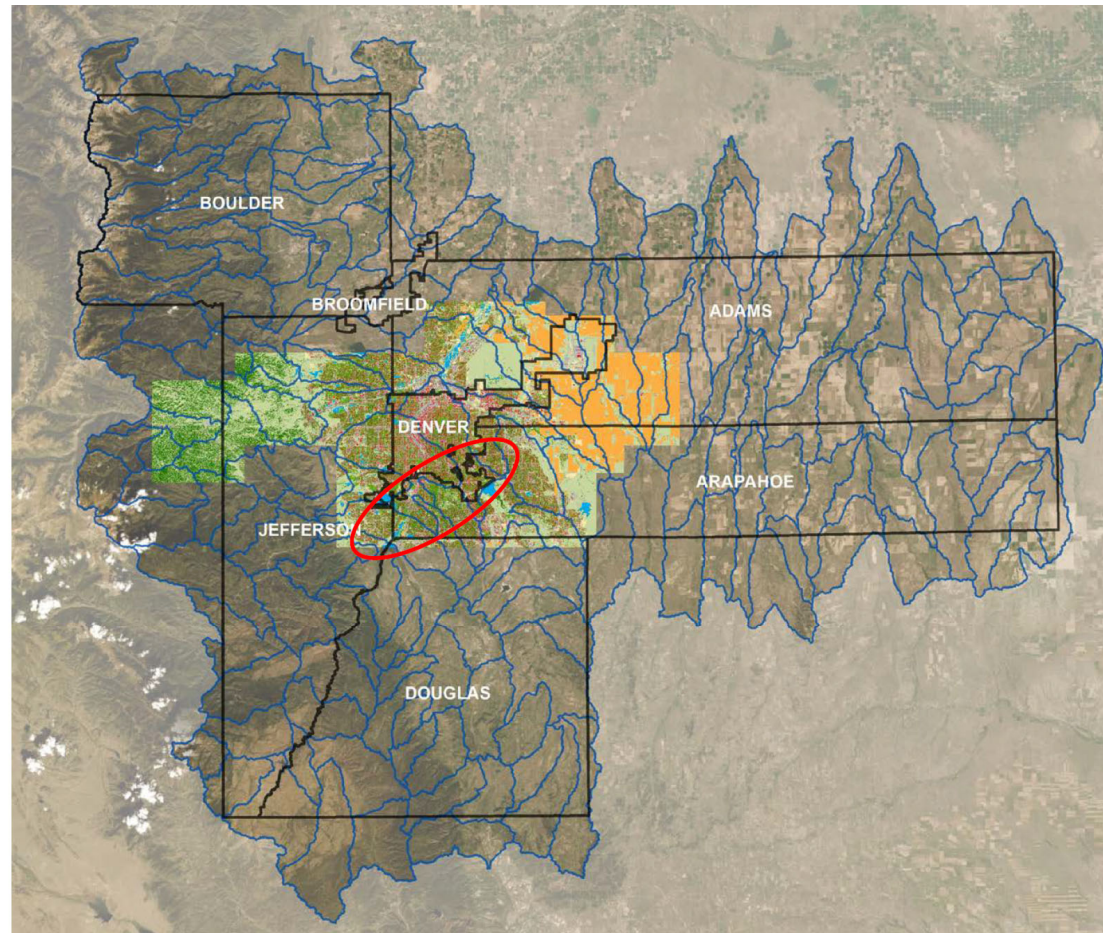
Regional Initiatives

TNC: Urban ecology and state conservation initiatives

MDNA: 7 county collaborative conservation planning

DRCOG: 7 counties,
Data for high resolution land cover

HIGHLINE CANAL:
Stormwater Transformation
Pisces Grant

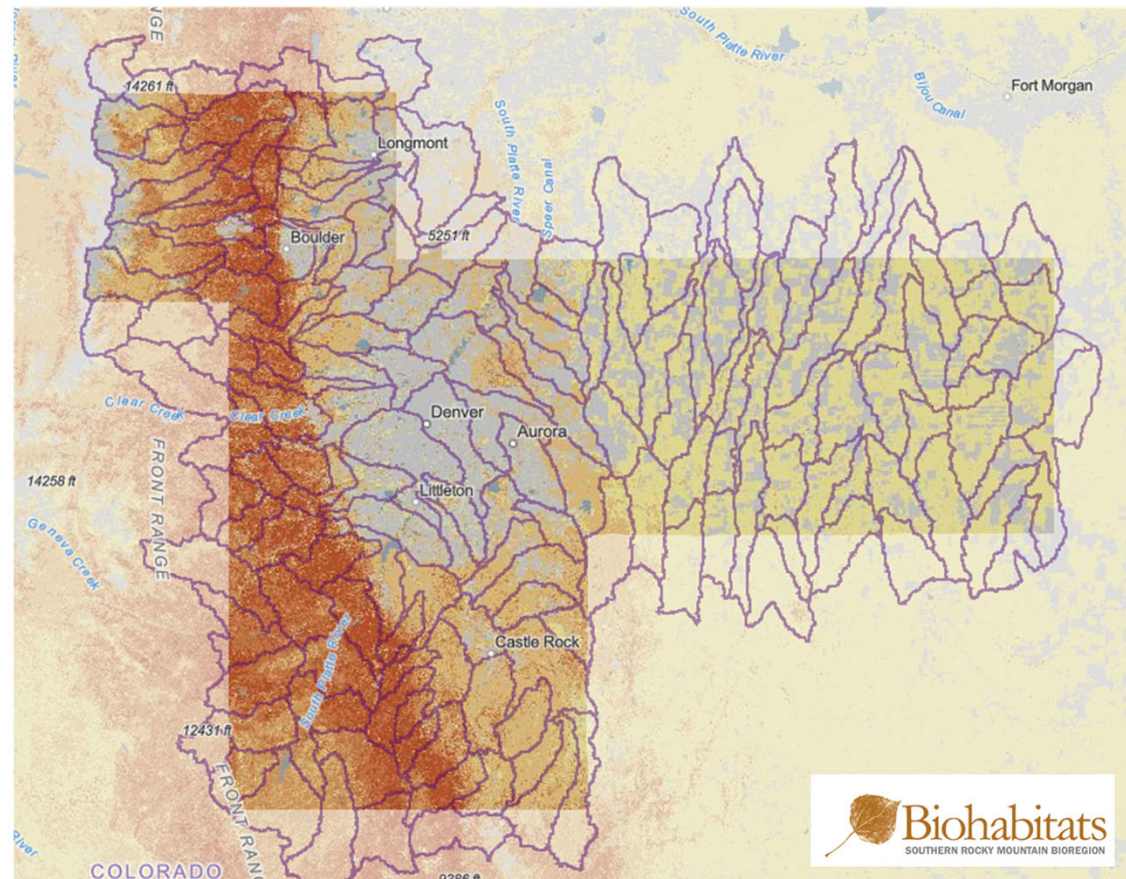


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Regional Conservation Assessment

Nexus with NFWF Large Landscape Grants Focus (ReSTORE Colorado)

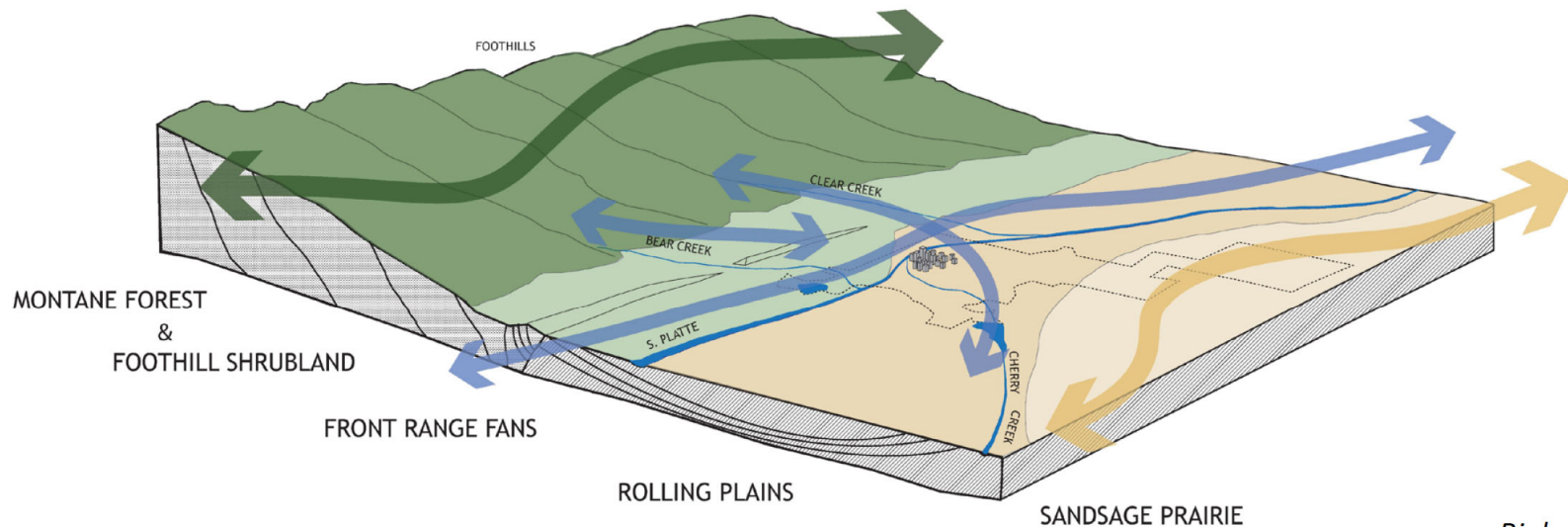
- South Platte Watersheds (HUC12) &
- Potential Wildfire Risks



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Regional Conservation Assessment

Regional planning framework & ecoregions

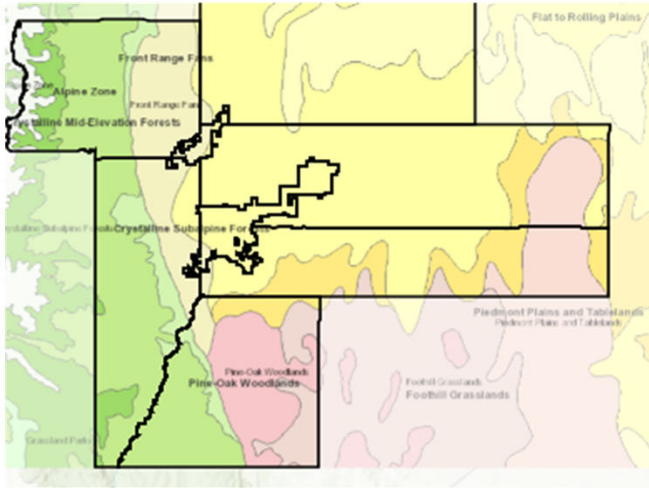


Biohabitats

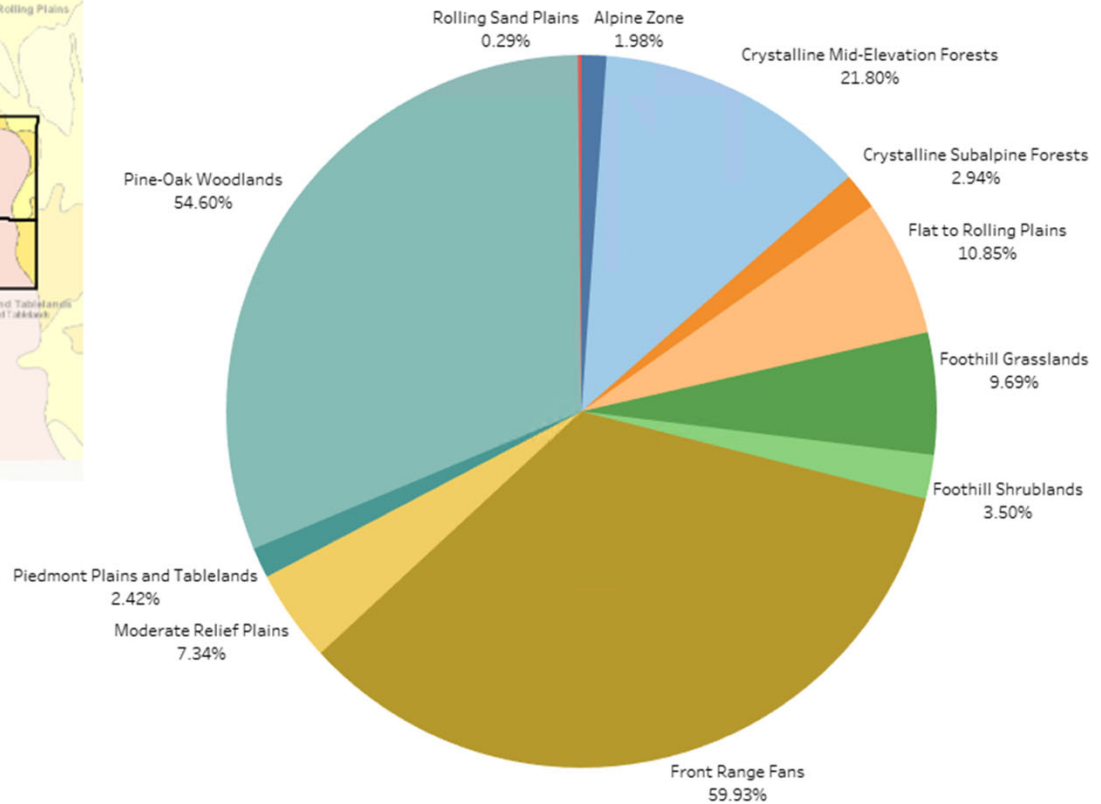
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Regional Conservation Assessment

METRO DNA ECO REGIONS



1	Alpine Zone
2	Crystalline Mid-Elevation Forests
3	Crystalline Subalpine Forests
4	Flat to Rolling Plains
5	Foothill Grasslands
6	Foothill Shrublands
7	Front Range Fans
8	Moderate Relief Plains
9	Piedmont Plains and Tablelands
10	Pine-Oak Woodlands
11	Rolling Sand Plains



 **Biohabitats**
SOUTHERN ROCKY MOUNTAIN BIOREGION

 **MetroDNA**
METRO DENVER NATURE ALLIANCE

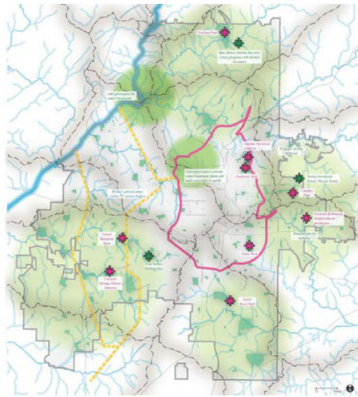


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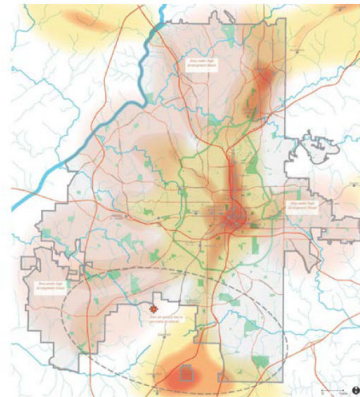
Metro Denver Nature Alliance

Regional Conservation Assessment

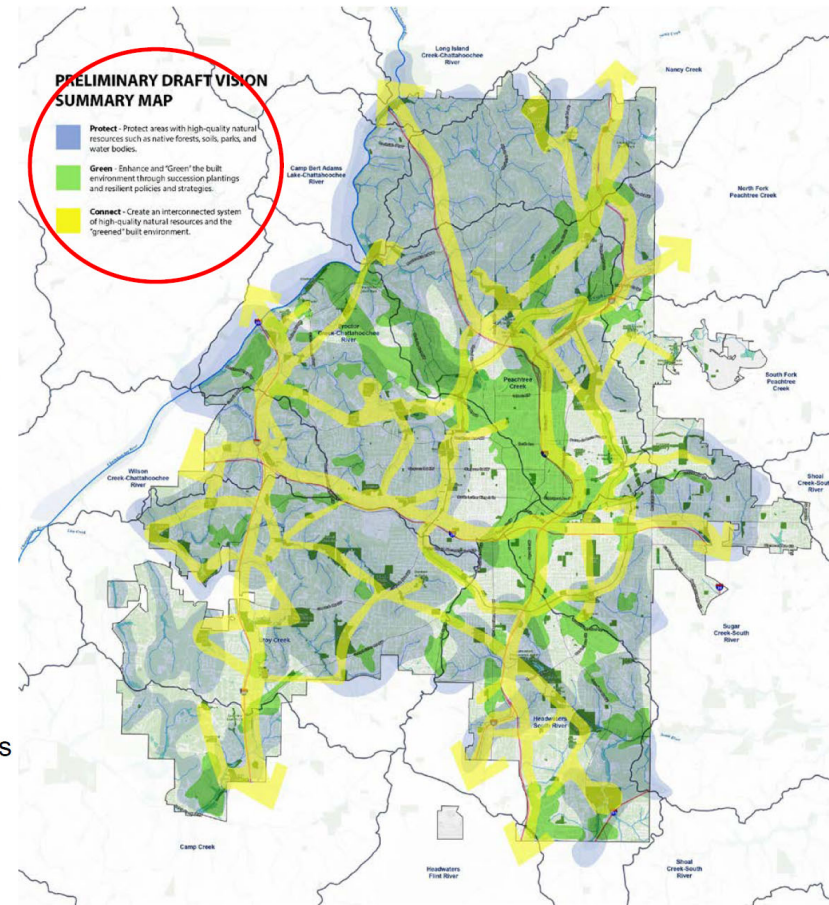
Atlanta Ecological Framework



Ecological Needs



Ecological Threats and Risks

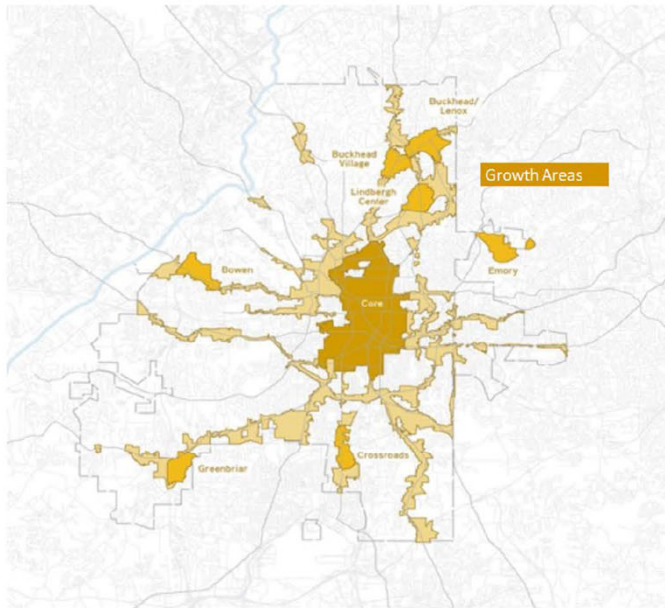


Metro Denver Nature Alliance

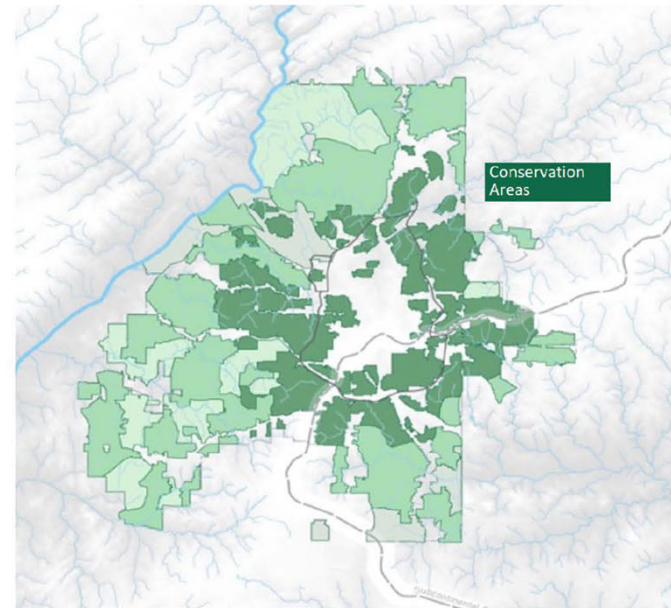
Regional Conservation Assessment

Urban Ecology Framework | Atlanta, GA

City Design Strategies



Growth Areas will be designed to connect people and accommodate growth.



Conservation Areas will be designed to connect nature and protect other things that we value.



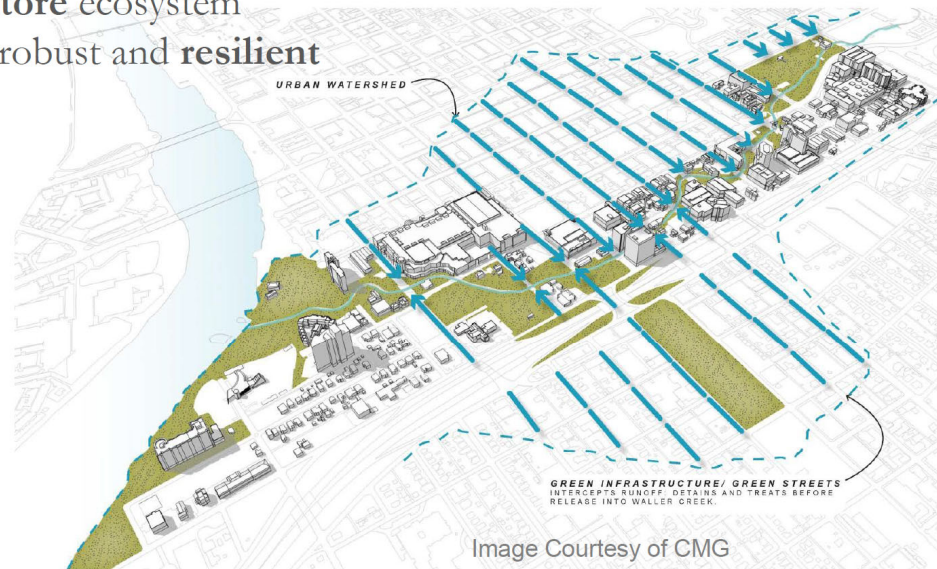
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Regional Conservation Assessment

Living infrastructure

A strategically planned and **managed** **network** of working landscapes, natural lands and waterways at multiple scales that **conserve** ecosystem functions, **restore** ecosystem processes and **regenerate** healthy, robust and **resilient** communities.



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Stormwater Transformation Along the High Canal: Getting our Feet Wet

Multi-layered Benefits: Environmental - Stormwater



- **Adaptive and Innovative Reuse**
- **Vibrant Canopy**
 - Canal bottom would be wetter 100 more days per year
- **Environmental Health**
 - ❖ Improves water quality
 - **Stormwater 72-hour hold provides 40% cleaner water**
 - ❖ Improves air quality
 - ❖ Improves Wildlife and environmental habitat
 - ❖ Improves community health and livability

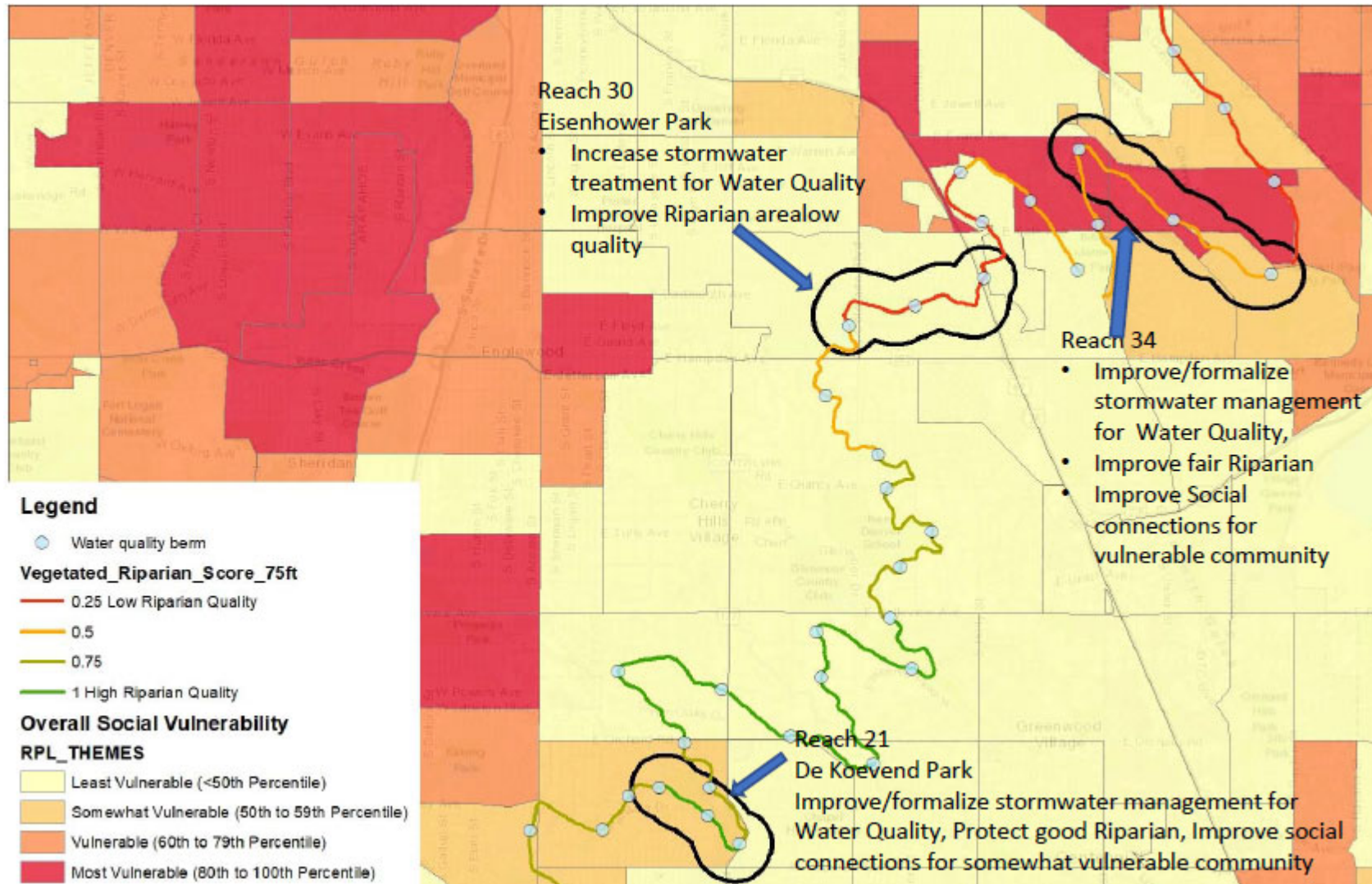
Reduces Gray Infrastructure Costs

- **\$39 Million in Potential Savings**
 - Cost for High Line Canal stormwater system is ~\$36m
 - Cost for traditional infrastructure is ~\$75m



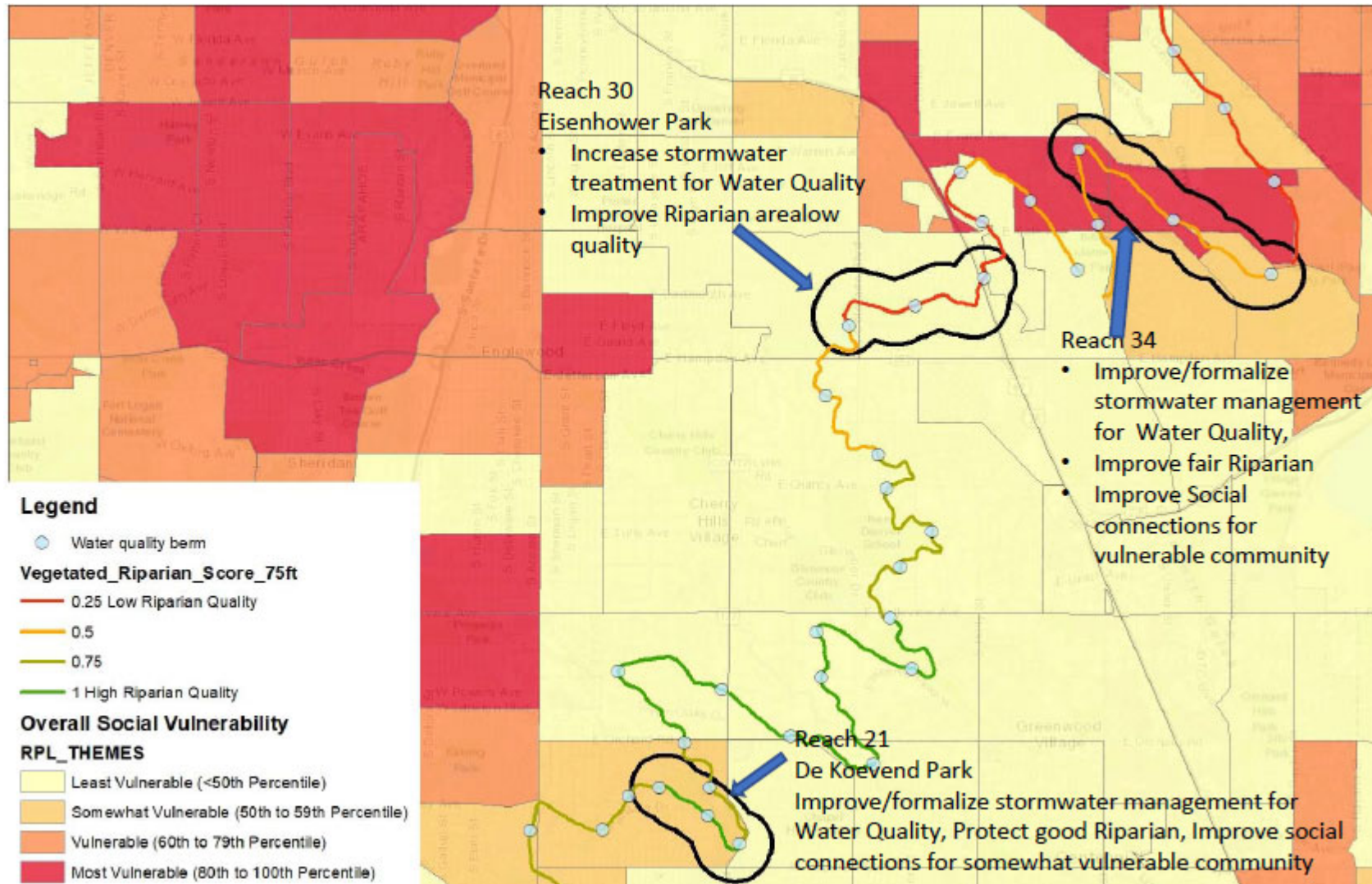
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Stacked Benefits Analysis: Placeholder 7-8 slides



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Stacked Benefits Analysis



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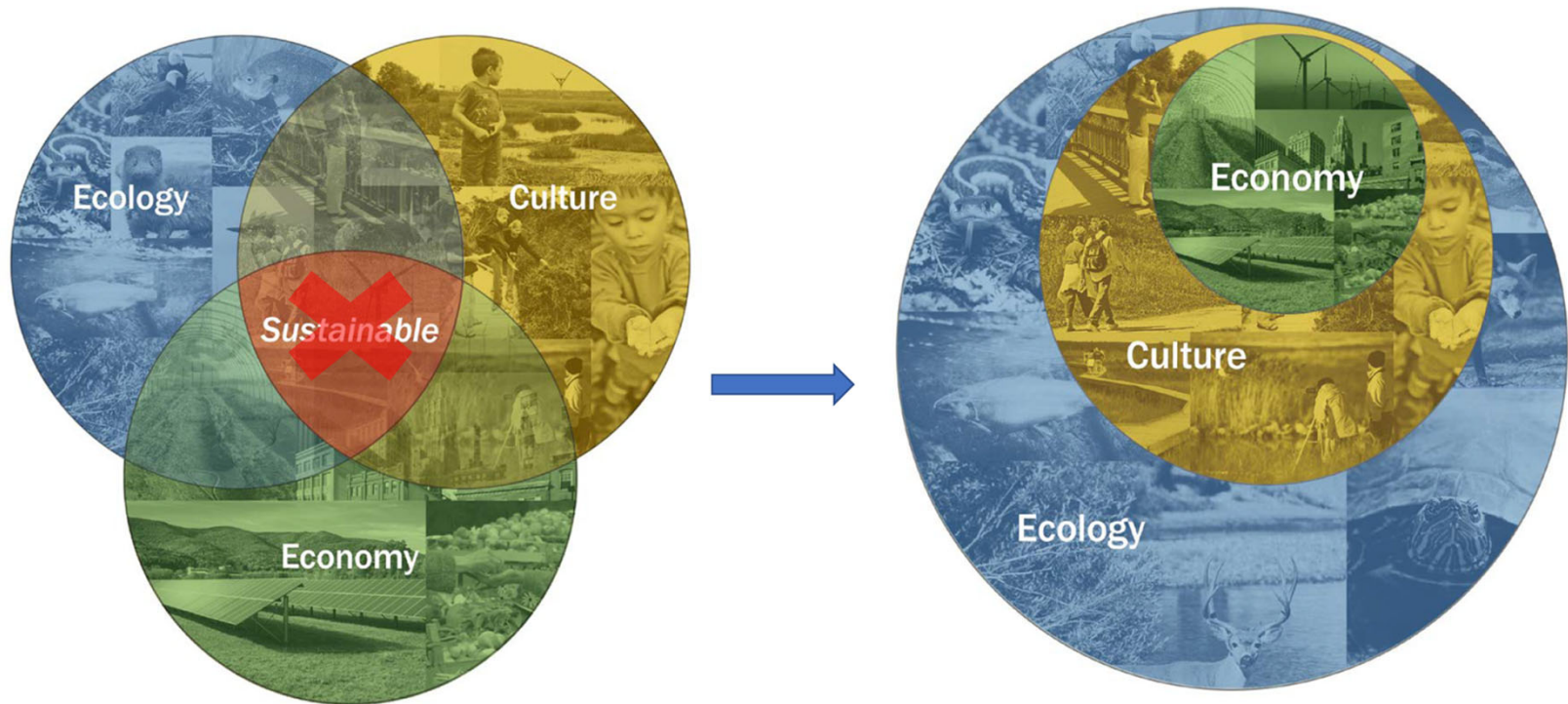
Co-Creating a Regional Vision for People + Nature

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- The metro Denver region protects, restores, and stewards natural systems that support people, wildlife, and ecological function.

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Regional Vision for People + Nature – Resilience Framework



Polling question #3

What is the scale of your work
(site-specific, city, county, region, state, etc.)?

- Go to www.menti.com
- Use code 90 70 34

Polling question #4

In what sector do you work
(private, public, non-profit, etc.)?

- Go to www.menti.cm
- Use code 90 70 34

We invite you to think about ...

how you will engage with this work and encourage you to stay in touch.



THANK YOU.

