



Partnering for Watershed and Forest Health

NWCCOG Spring QQ Meeting

March 26, 2025

Overview



About
Northern
Water



Road Map



What We Are
Up Against



Strategies



Current
Collaboration
& Initiatives



Partnering
for the
Future

Northern Water Today



District population 1,021,000



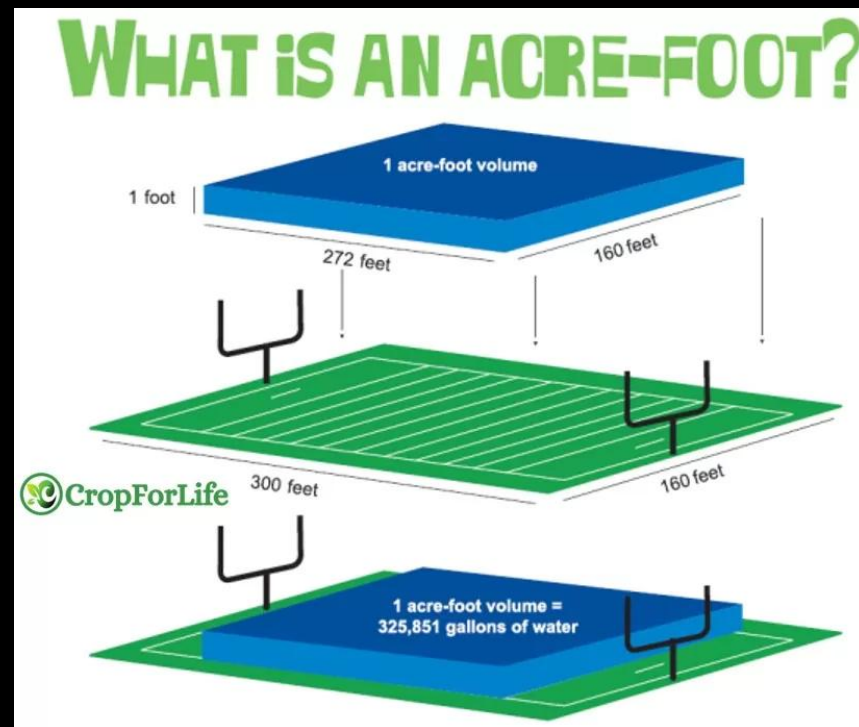
Ownership
Ag: 29%
M&I: 71%



Deliveries (2020)
Ag: 40%
M&I: 60%



Raw Water Provider 210,000 acre-foot/year

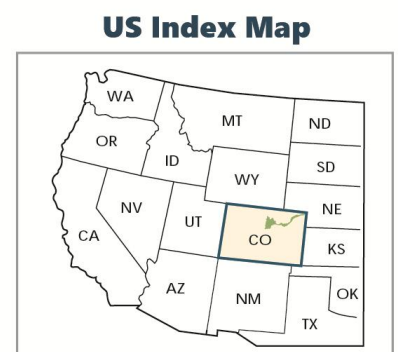
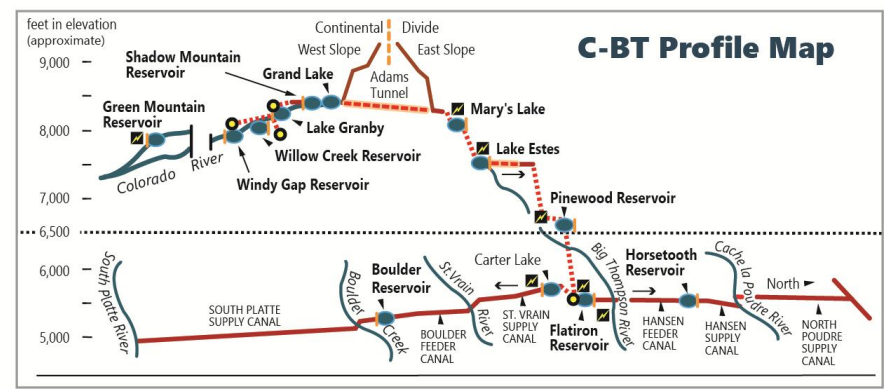
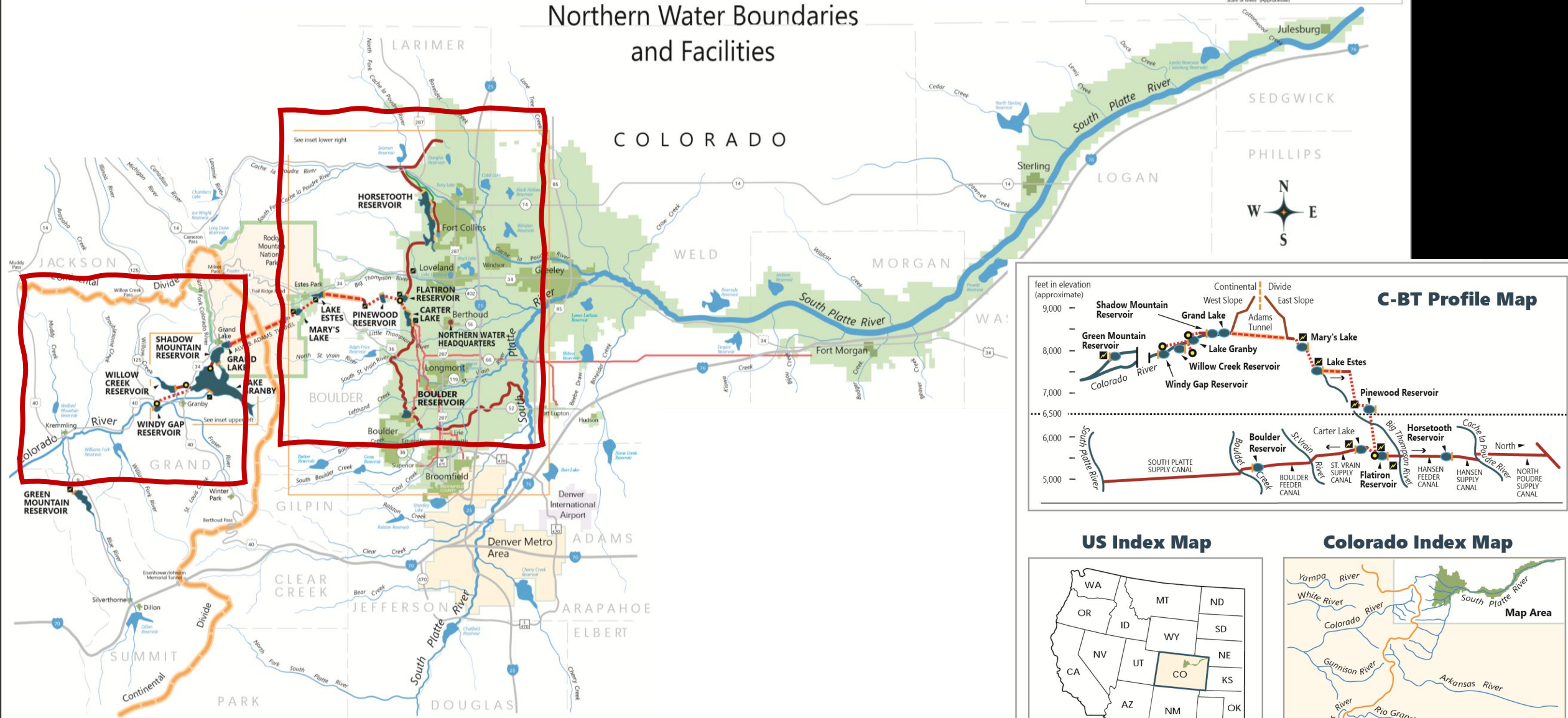
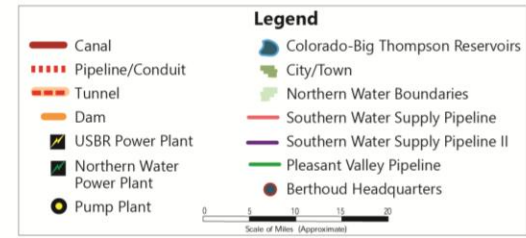


C-BT is a Supplemental Supply

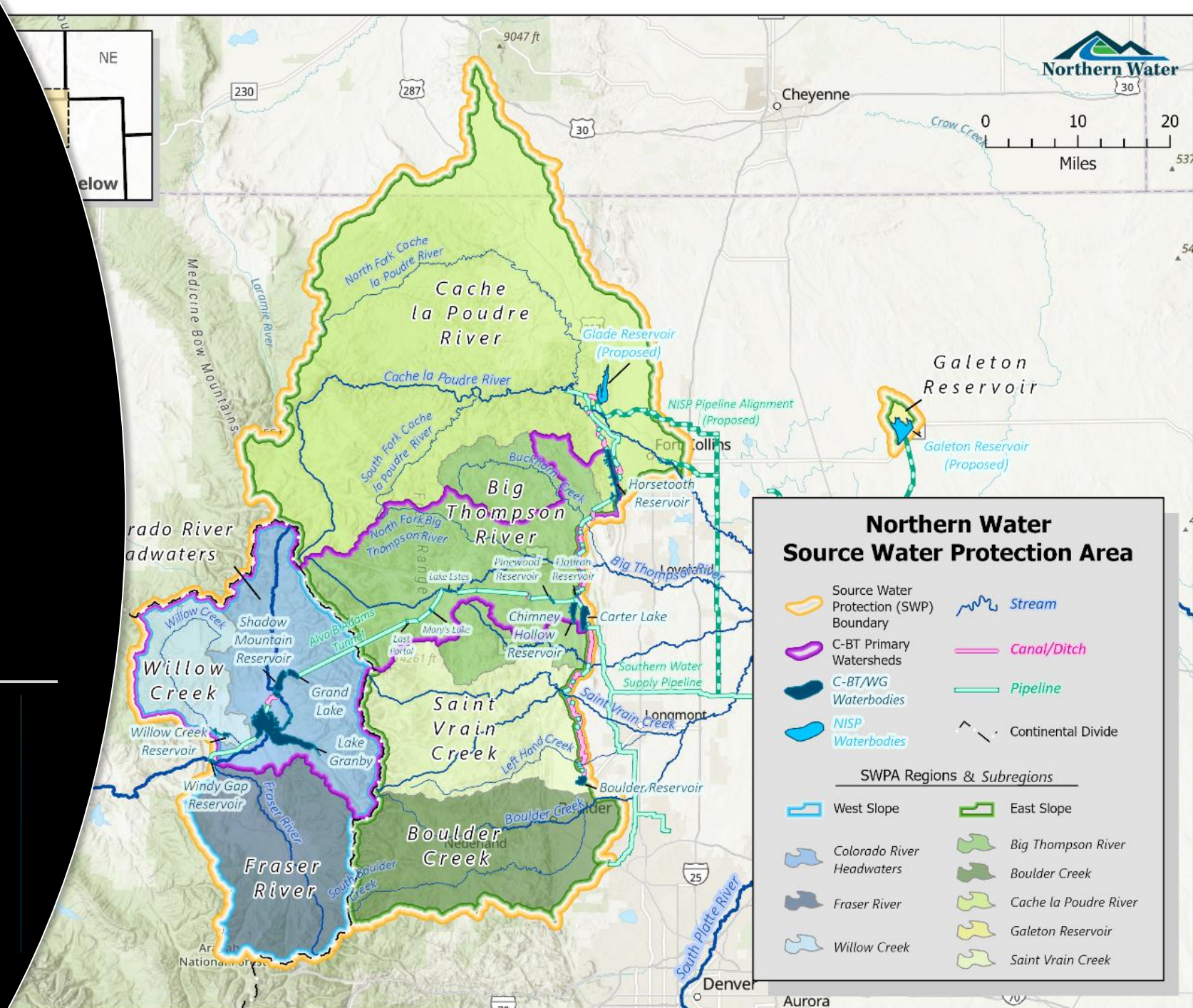
Northern Water

Colorado-Big Thompson Project

Northern Water Boundaries and Facilities



Source Water Protection Area

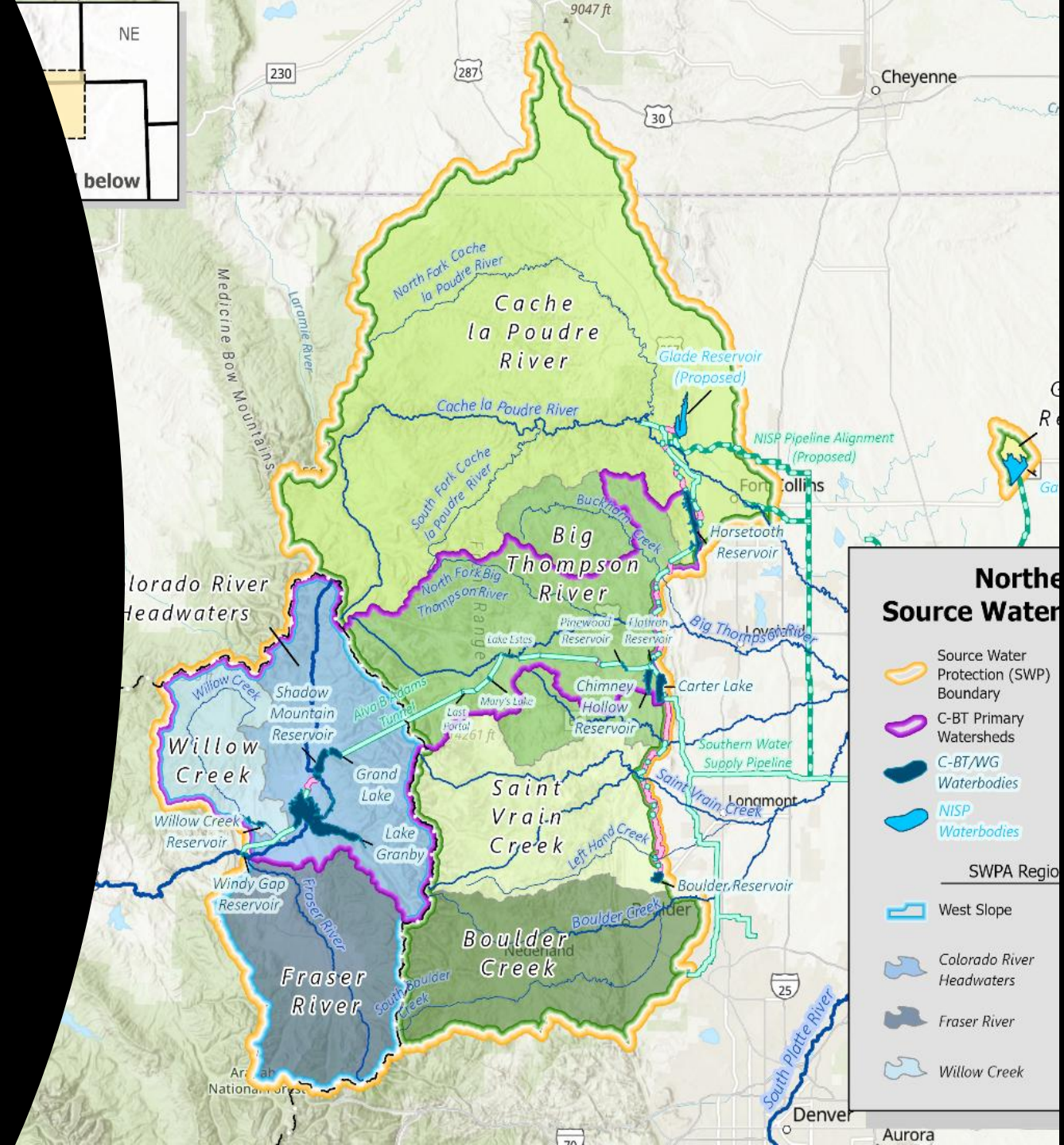


	SWPA (ac)	%
East Slope	1,595,122	76.2%
West Slope	498,126	23.8%
Total	2,093,247	

FORESTED ACREAGE IN SOURCE WATER PROTECTION AREA (ACRES)

West Slope, 347,639, 27%

East Slope, 949,207, 73%

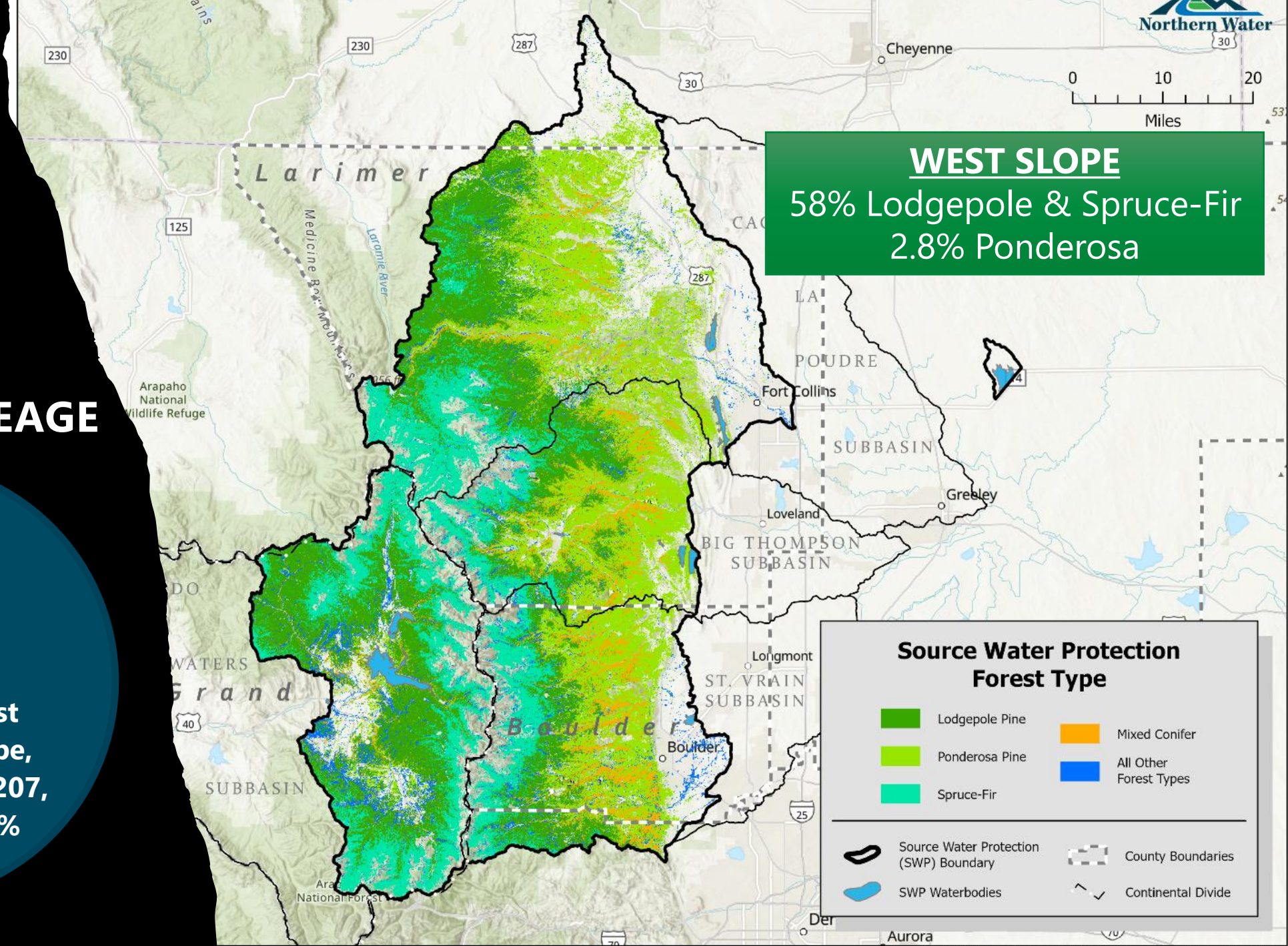


Forest Types

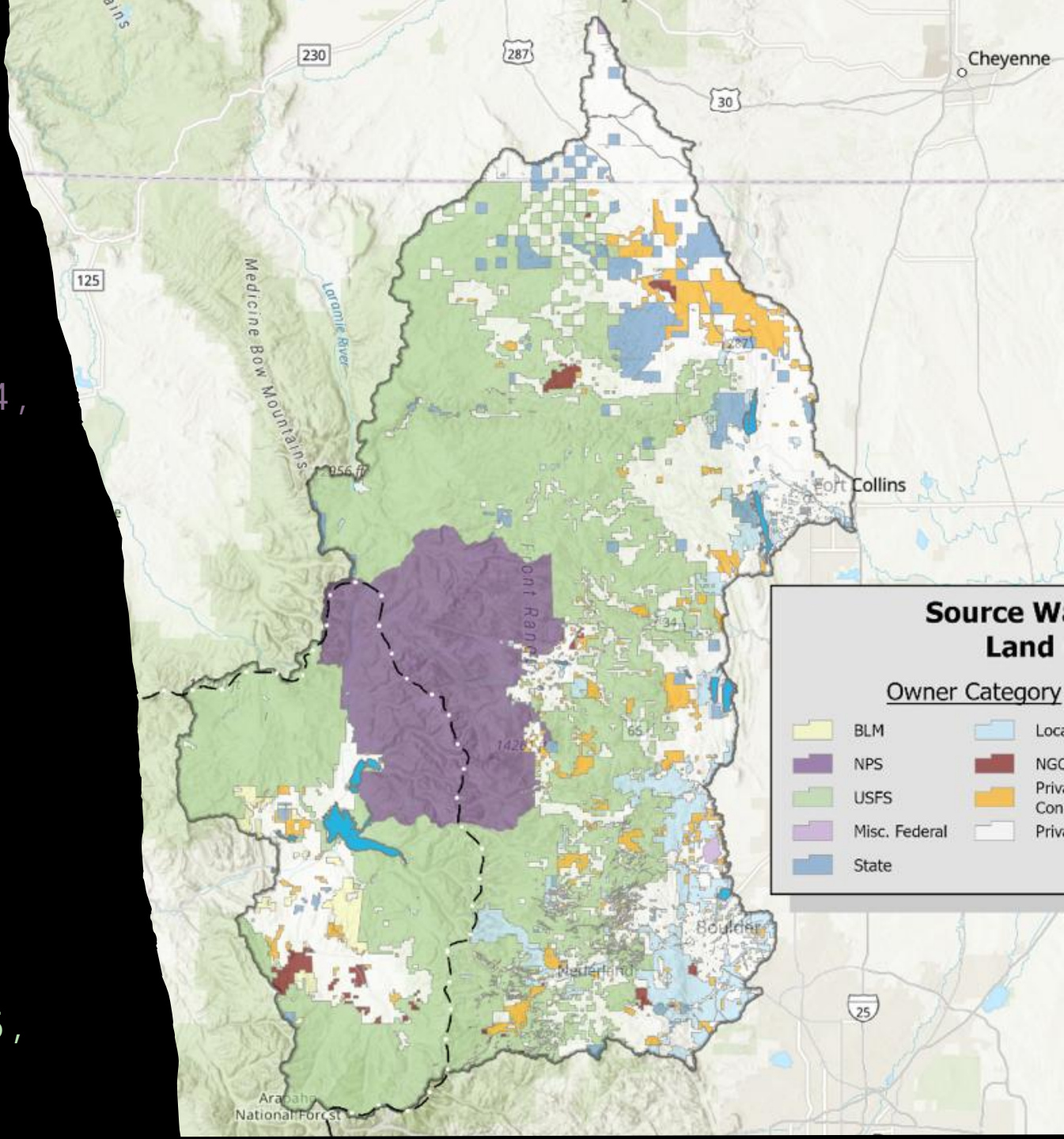
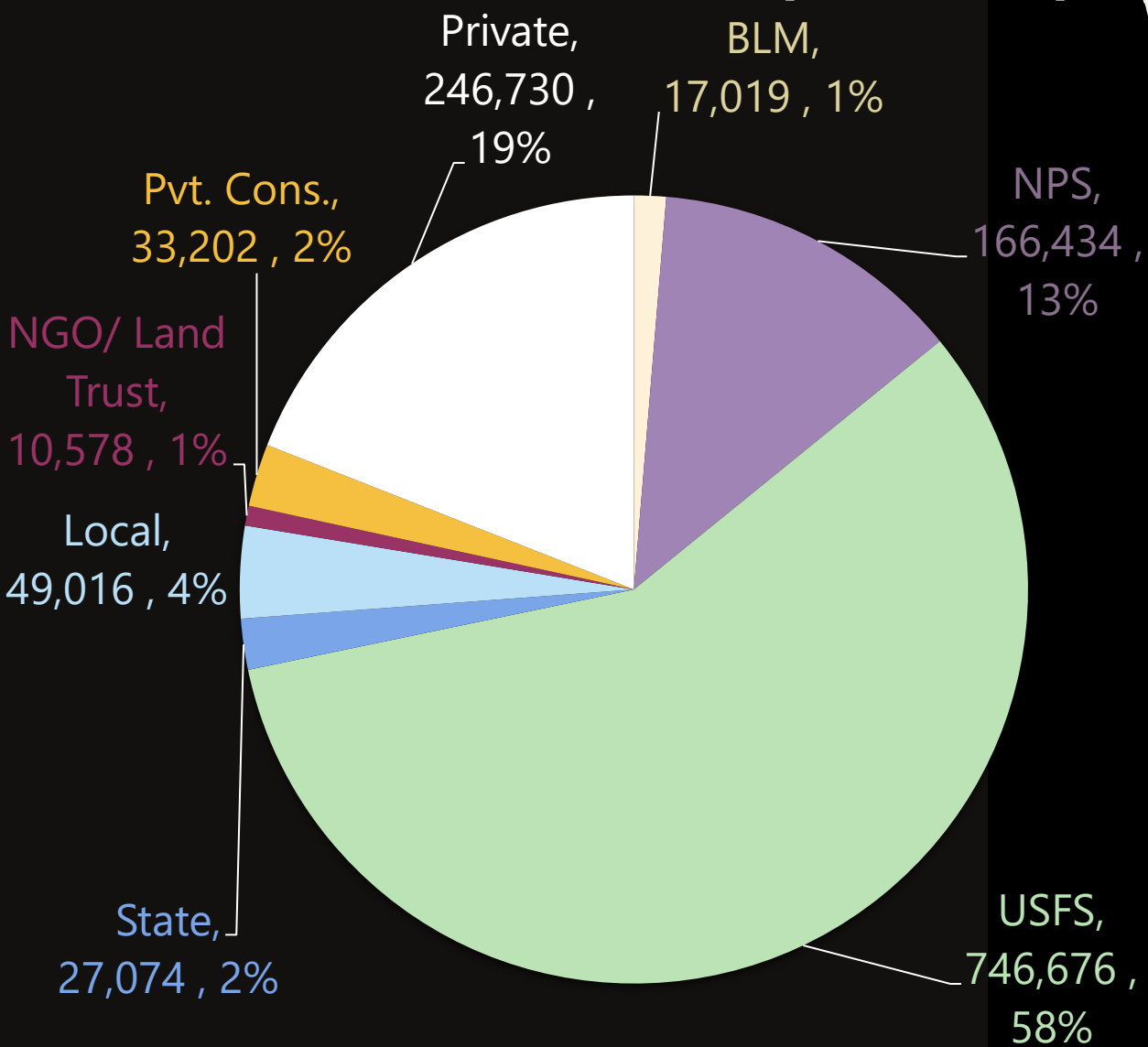
FORESTED ACREAGE

West Slope,
347,639
, 27%

East Slope,
949,207,
73%



Land Ownership of Forested Area within SWPA (acres, %)





STRATEG

**Key
Strategies**

1

Development of Planning & Decision Support Tools

Establishment of a comprehensive geospatial database to facilitate assessment and planning of forest and watershed health projects.

Cultivation of geospatial partnerships to ensure database maintenance and currency.

Enhancement of GIS capabilities, whether internally developed or externally supported.



2

Fostering Strategic Partnerships



Leverage Northern Water's capacity with that of partners, including through direct funding mechanisms.

Creating the social license to implement forest health & stream restoration projects through active community engagement and outreach facilitated by watershed coalitions and local partners.

Develop a communication plan and consistent messaging.

Explore collaboration opportunities with private timber industry.

Targeted Fuels Treatment & Stream Restoration



Development of a prioritization scheme to identify areas of greatest concern and opportunity for treatment.



Assessment of suitable methods for fuels treatment, including mechanical removal and prescribed burning.



Implementation of stream and watershed restoration projects to bolster resilience against wildfire events.



Identifying roles where Northern Water can provide support or monitoring to partners rather than leading and coordinating efforts.

4

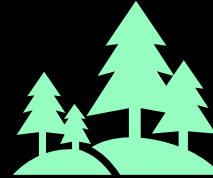
Legislative and Policy Advocacy



Secure state, federal and private funding.



Support legislative initiatives and policy discussions to streamline planning and implementation processes.



Identify & promote land use management strategies beneficial to forest and watershed health



Advocate for the development of a regional private timber industry.

Development of Funding Strategies



ACQUISITION OF
EXTERNAL FUNDING
THROUGH GRANTS
AND PRIVATE
PARTNERSHIPS



ESTABLISHMENT OF
STRATEGIC RESERVES
FOR WILDFIRE
RESPONSE



FORMATION OF
COOPERATIVE
AGREEMENTS THAT
LEVERAGE EXTERNAL
RESOURCES



EXPLORATION OF
OPPORTUNITIES
WITHIN CARBON
MARKETS TO FUND
FUELS TREATMENT
PROJECTS

Education & Outreach

To garner support from

Northern
Water's
allottees

the water
community
at large

watershed
coalitions

Agencies

local
communities

legislators

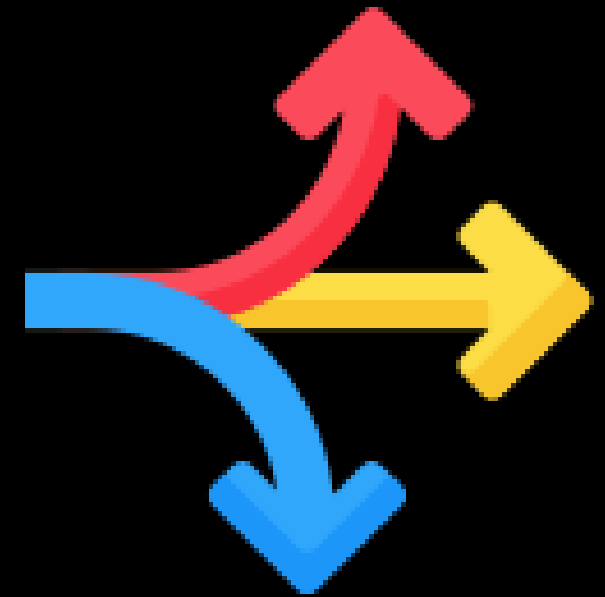
decision
makers

Northern
Water's
Board

Emphasizing the critical importance of forest health and stream restoration work in safeguarding water resources and green infrastructure

7

Stay Abreast of Advancements



Monitor

- New technologies
- R&D



Adapt

- Evolving paradigms
- Understanding in forest health management



Ensure

- responsiveness

Challenges



Tree mortality



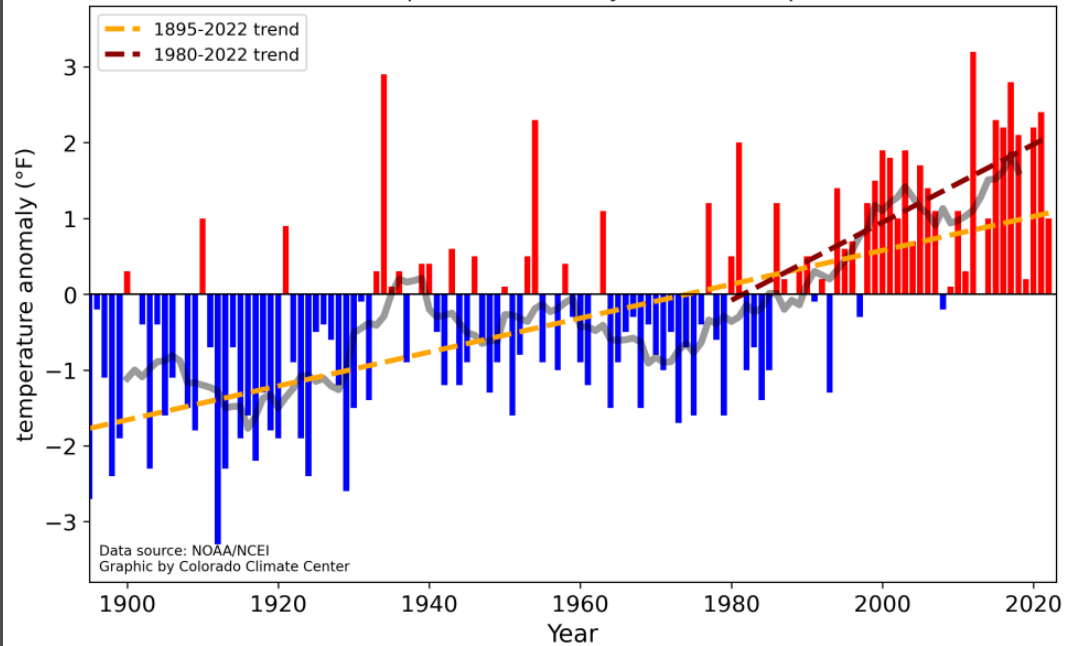
Fire
Suppression



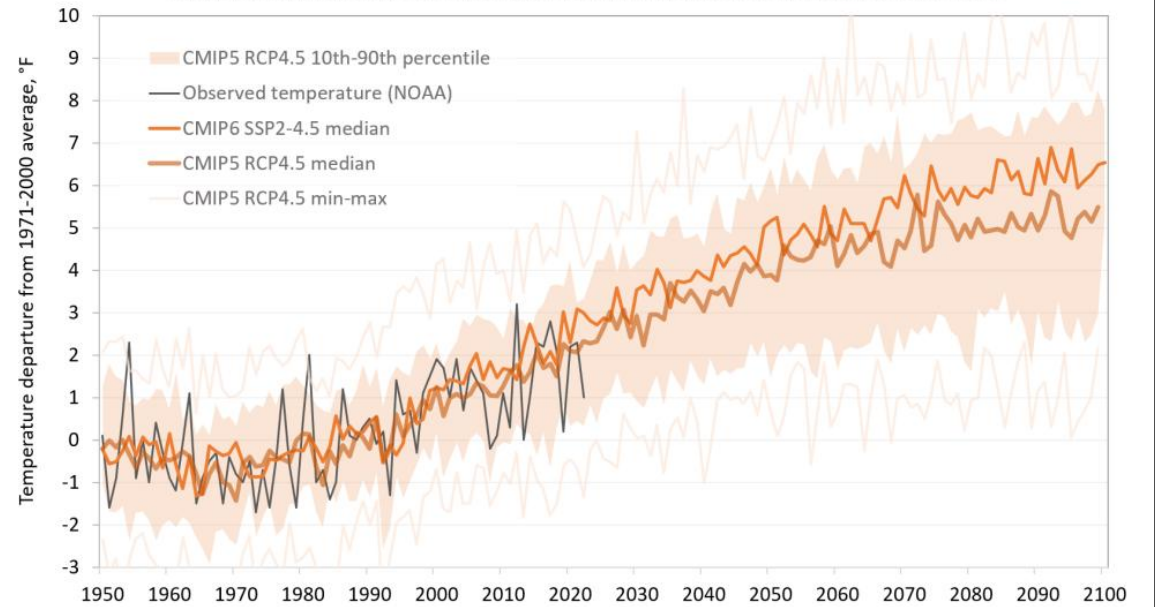
Climate
Change



Colorado statewide annual temperature anomaly (°F), with respect to 1971-2000 average



Observed vs. projected Colorado statewide annual average temperature, 1950-2100



Source: Colorado Climate Center



September 11, 2005

September 28, 2011

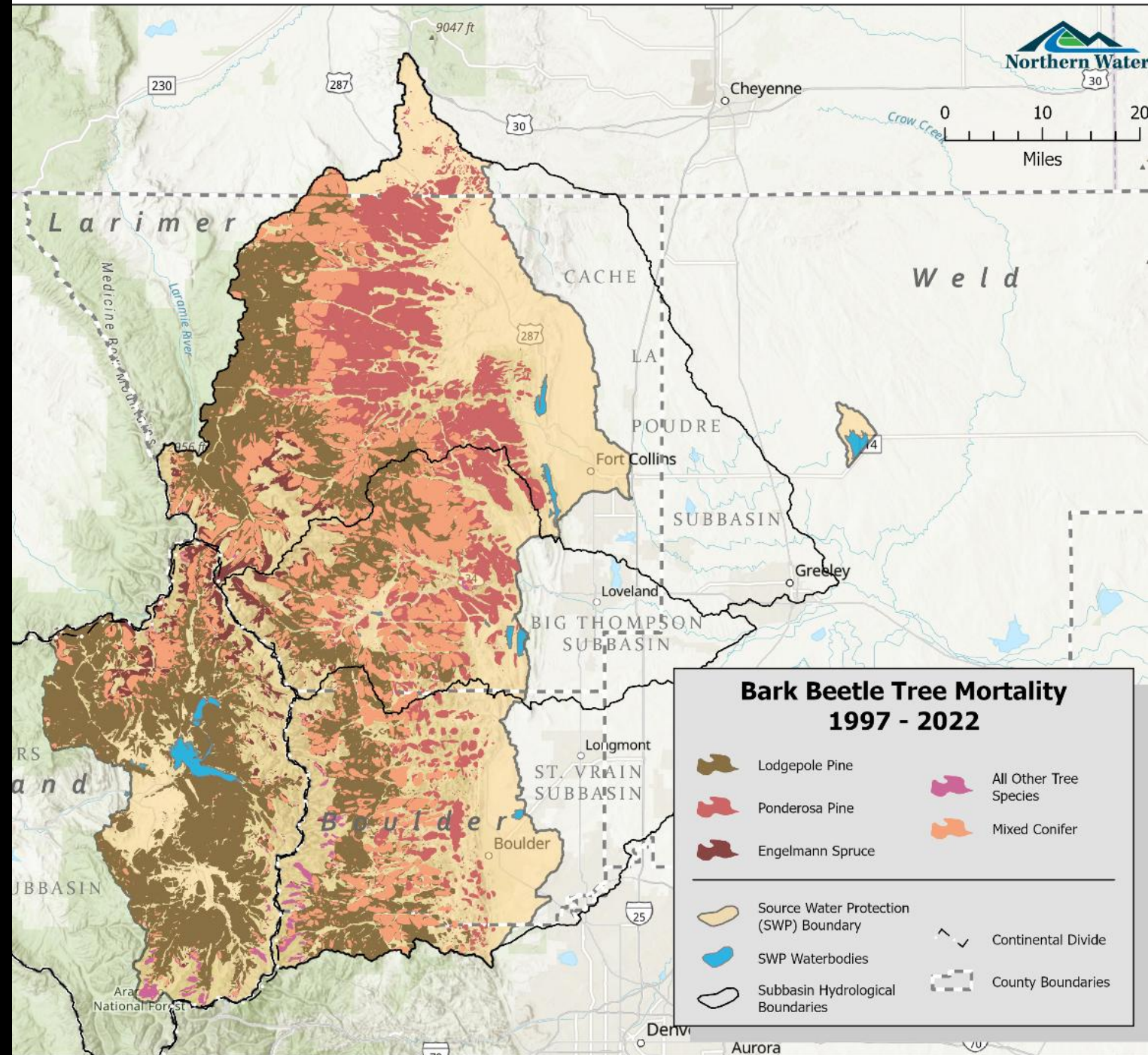
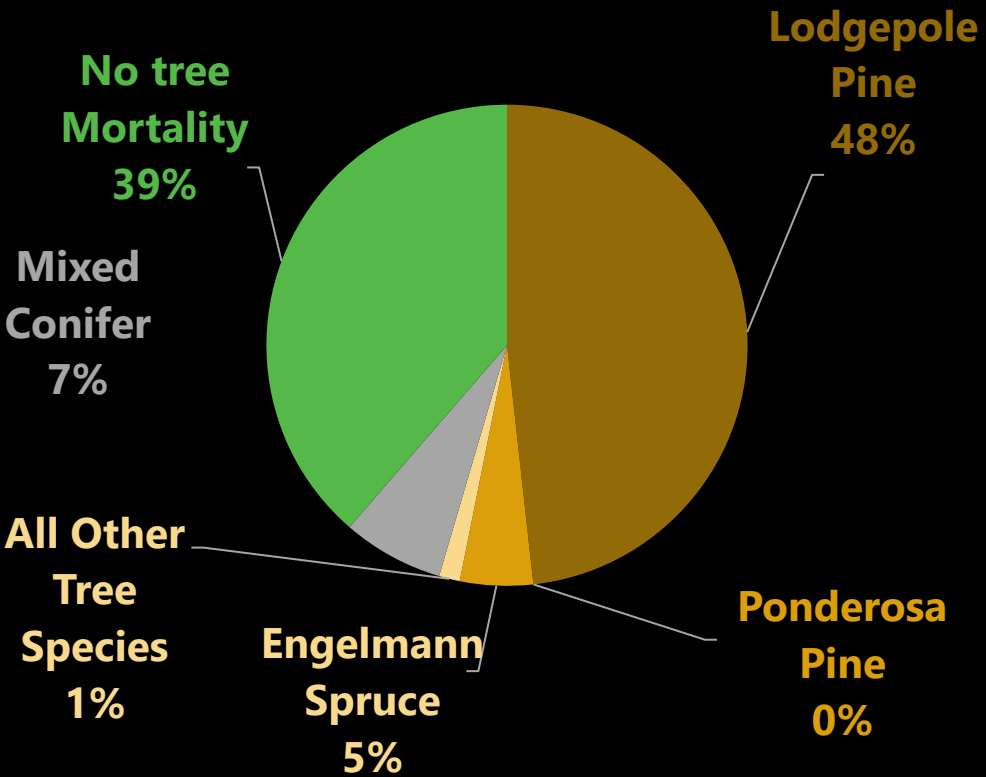


Bark Beetle Epidemic

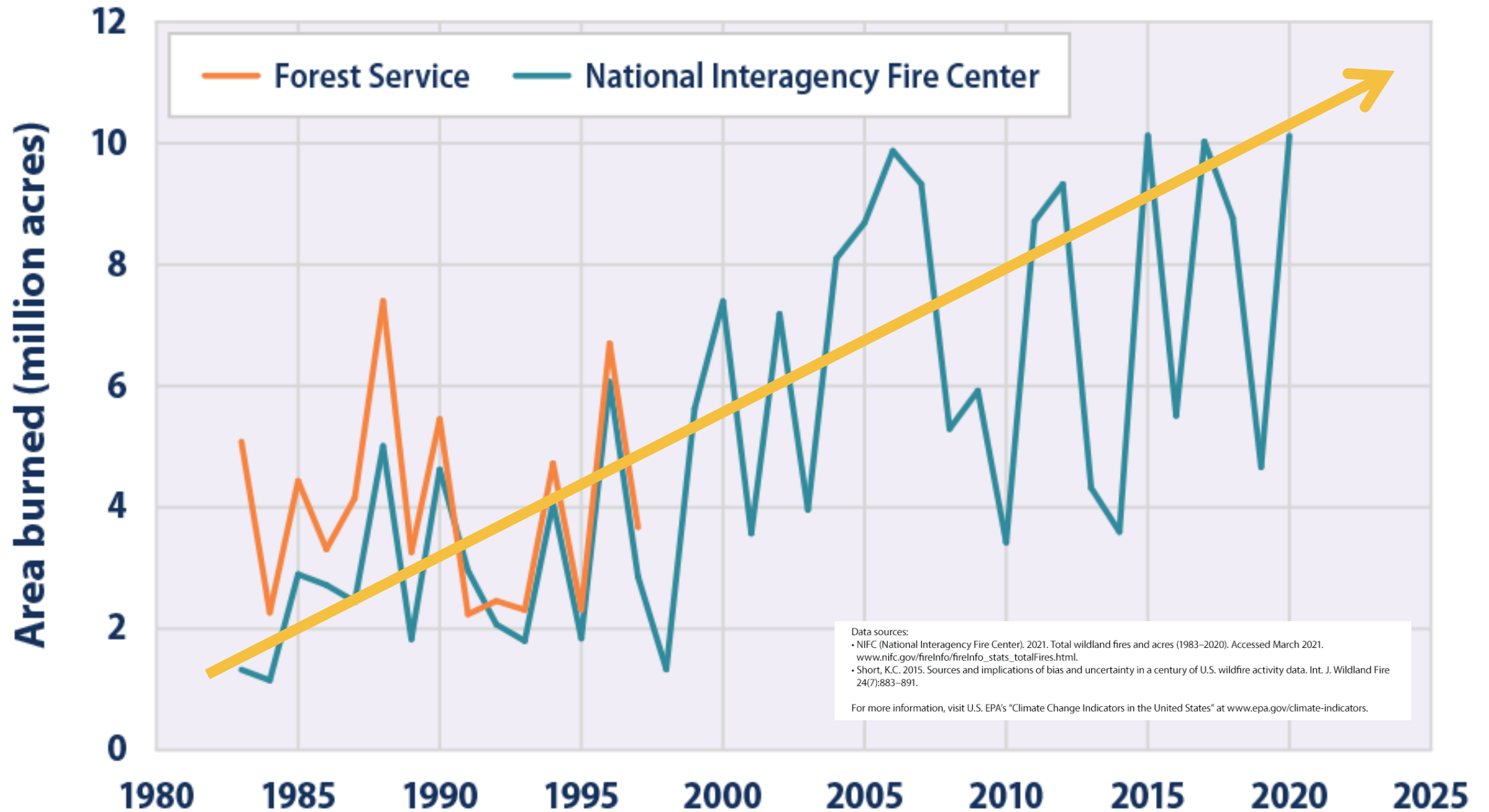


WEST SLOPE TREE MORTALITY (% OF WATERSHED AFFECTED)

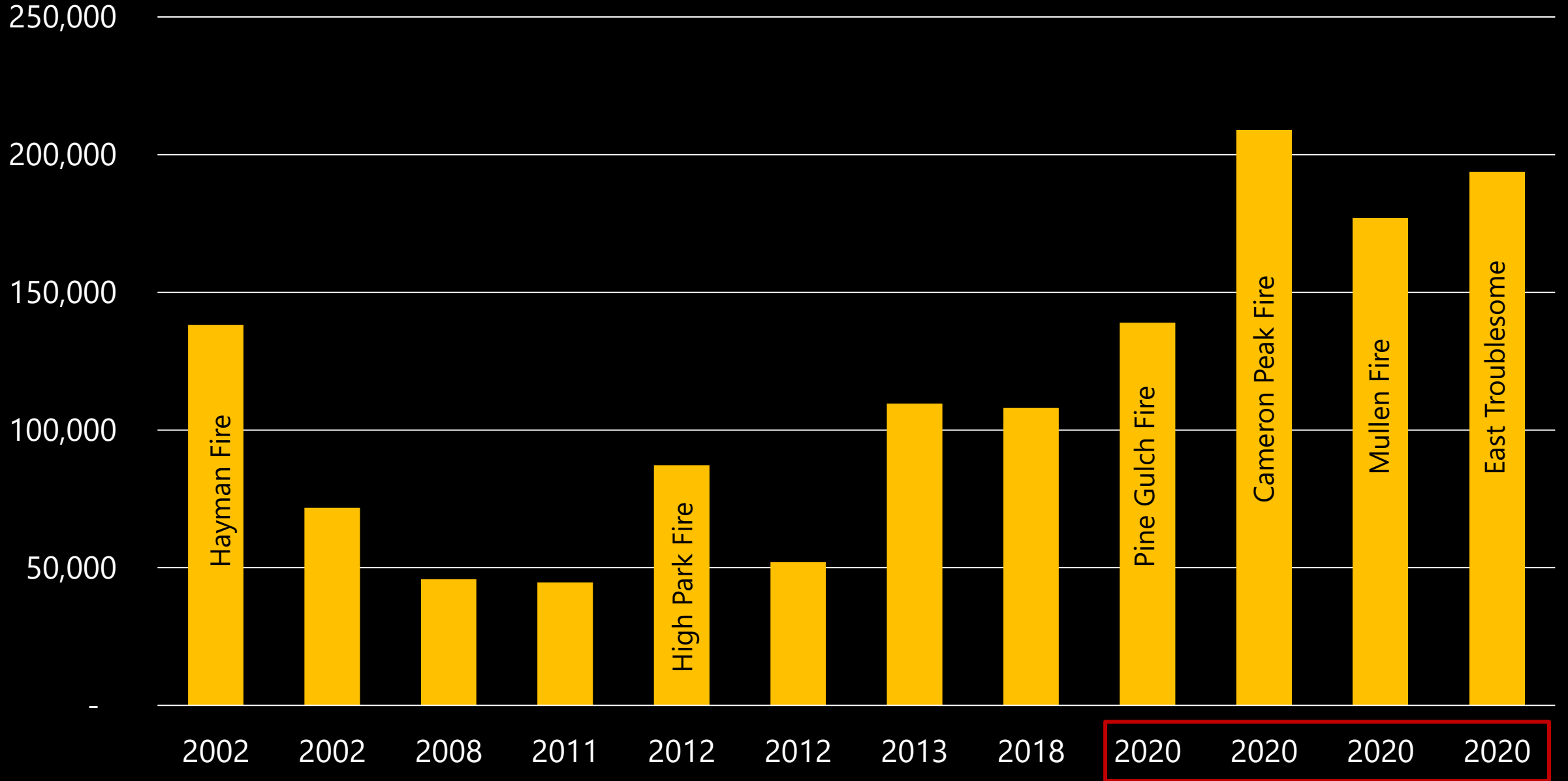
TOTAL 61.40 %



Wildfire Extent in the United States, 1983–2020



Largest Wildfires in Colorado - Burn Area (acres)





**We are
behind...**

...and running out of
time



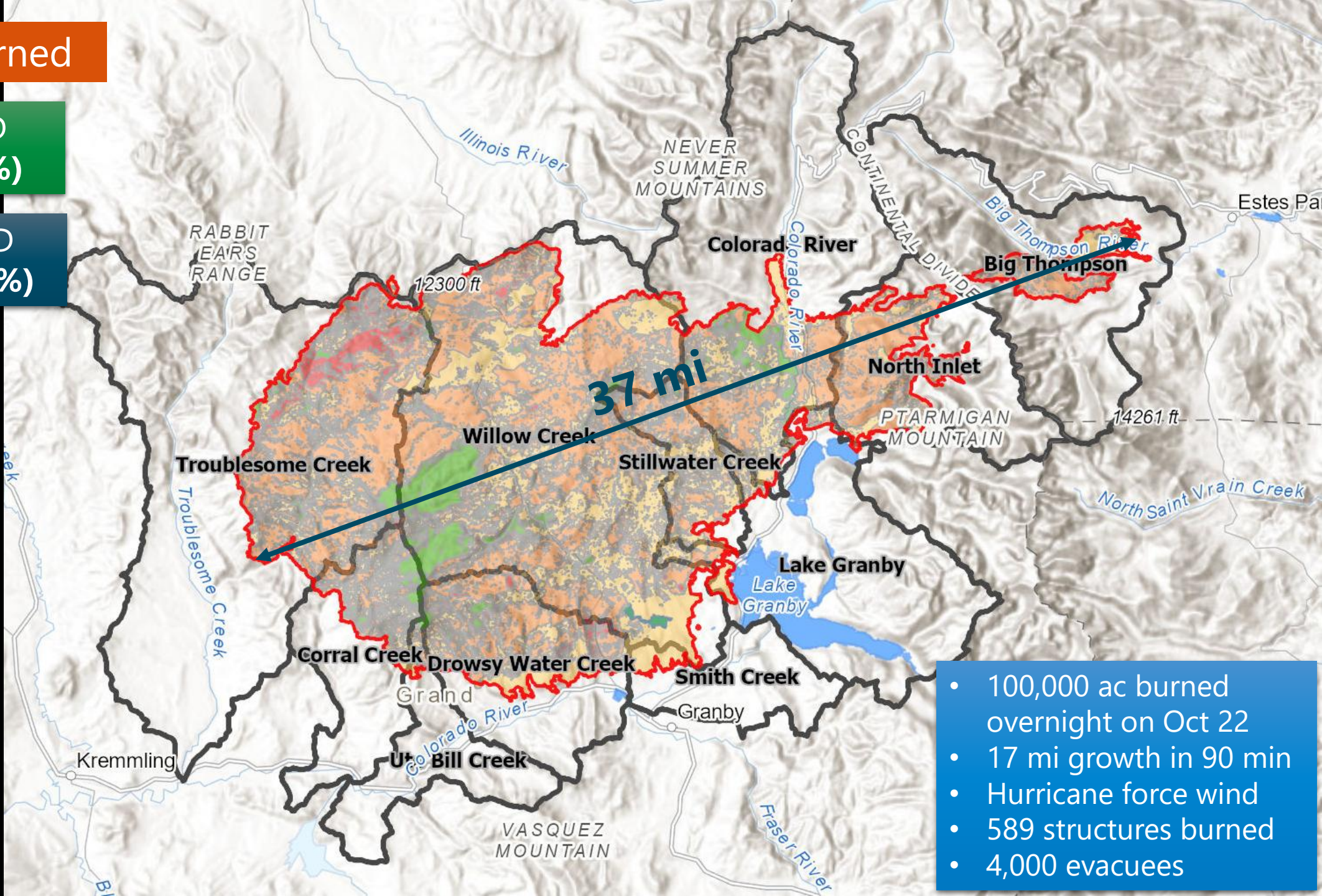
193,559 ac Burned

PRIVATE LAND
19,757 ac (10%)

FEDERAL LAND
168,908 ac (90%)

Soil Burn Severity

- High
- Moderate
- Low
- Unburned/Very Low
- Burn Area



- 100,000 ac burned overnight on Oct 22
- 17 mi growth in 90 min
- Hurricane force wind
- 589 structures burned
- 4,000 evacuees

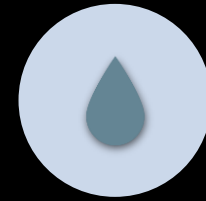
OBSERVED IMPACTS



Debris flows



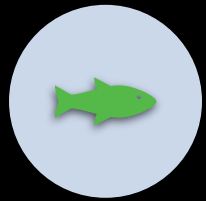
Flooding



Water
Treatment
Intakes Shut Off



Loss of storage
capacity



Harmful algae
blooms



Property loss



Frequent Road
Closures





Willow Creek Reservoir
August 9, 2021



Aug 4, 2021
Grand Lake Beach



**Willow
Creek
Reservoir
August
22, 2022**

Wildfire Costs



**Annual
Nationwide Cost
of Wildfires
\$394B- \$893B**



**East
Troublesome Fire**

Watershed Restoration
costs to-date: \$50M+
RMNP daily closure
cost: \$1M



**Grizzly Peak Fire
I-70 closure cost
per day: \$2M**

13-day closure during
the fire
Weeks of additional
closures post-fire



**\$4 return for
every \$1 spent
on Wildfire
Mitigation
Strategies**

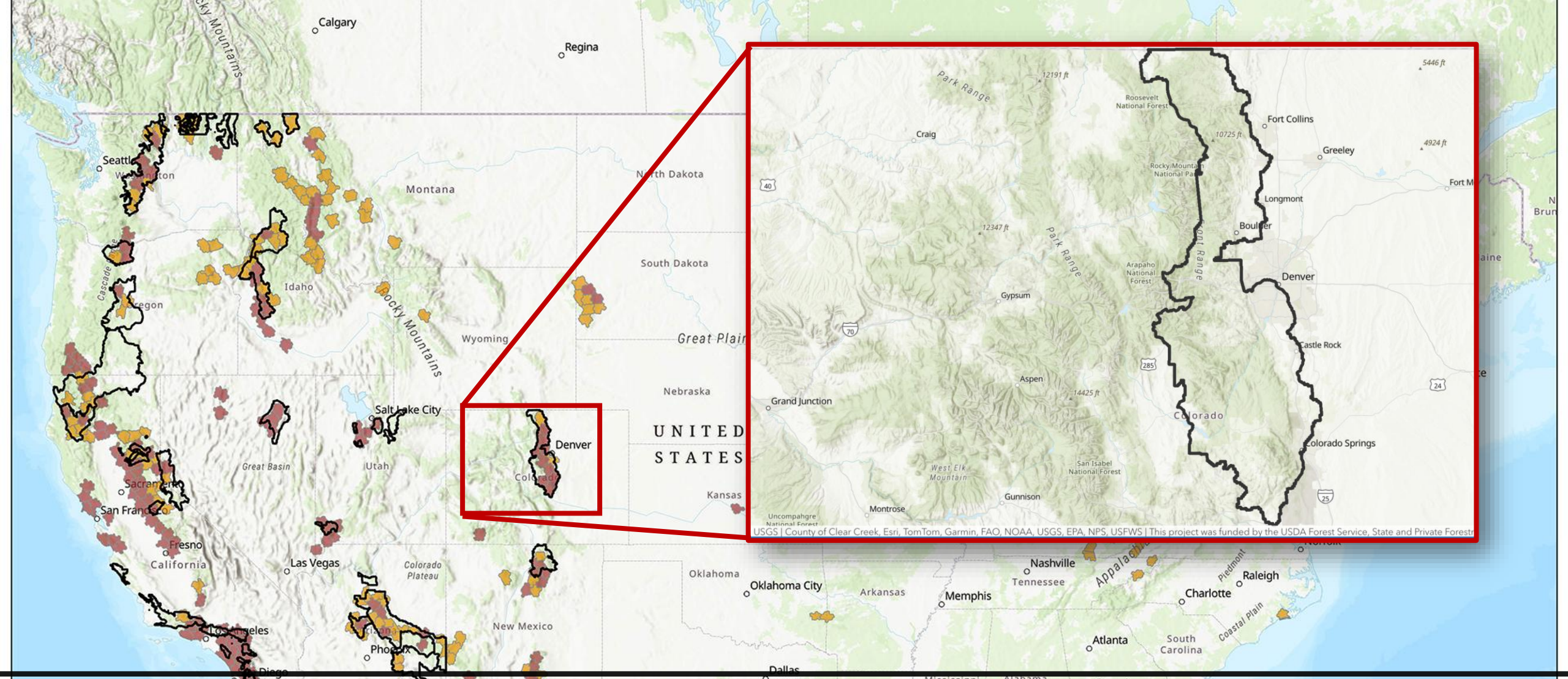


**No Action
1 million acres
annually burned
by 2040**

\$1-2 billion potential
annual losses in direct
& indirect costs to
Colorado businesses
and infrastructure.

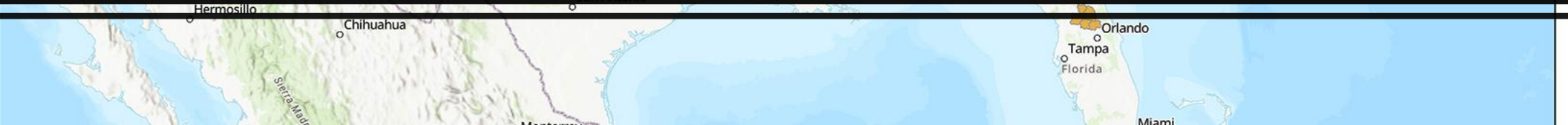


Getting to Pace & Scale



USFS Wildfire Crisis Strategy Priority Landscapes

- WILDFIRE CRISIS STRATEGY LANDSCAPES
- HIGH RISK FIRESHEDS



Types of Forest Treatments



Hand Thinning

Forest Types:
Ponderosa pine,
Dry mixed-
conifer

Cost per acre:
\$1500-\$2000



Mechanical Thinning*

Forest Types:
Ponderosa pine,
Dry mixed-
conifer

Cost per acre:
\$1500-\$2000



Mastication

Forest Types:
Ponderosa pine

Cost per acre:
\$335 - \$1395



Pile Burning

Forest Types:
Ponderosa pine,
dry mixed-
conifer, lodgepole
pine

Cost per acre
(burning only):
\$150 - \$500



Prescribed Burn

Forest Types:
Ponderosa pine,
dry mixed-
conifer, lodgepole
pine

Cost per acre:
\$100-\$1000

Challenges



Geographic Scope



Land Ownership



Forest Type



USFS Constraints

Priorities (WUI)

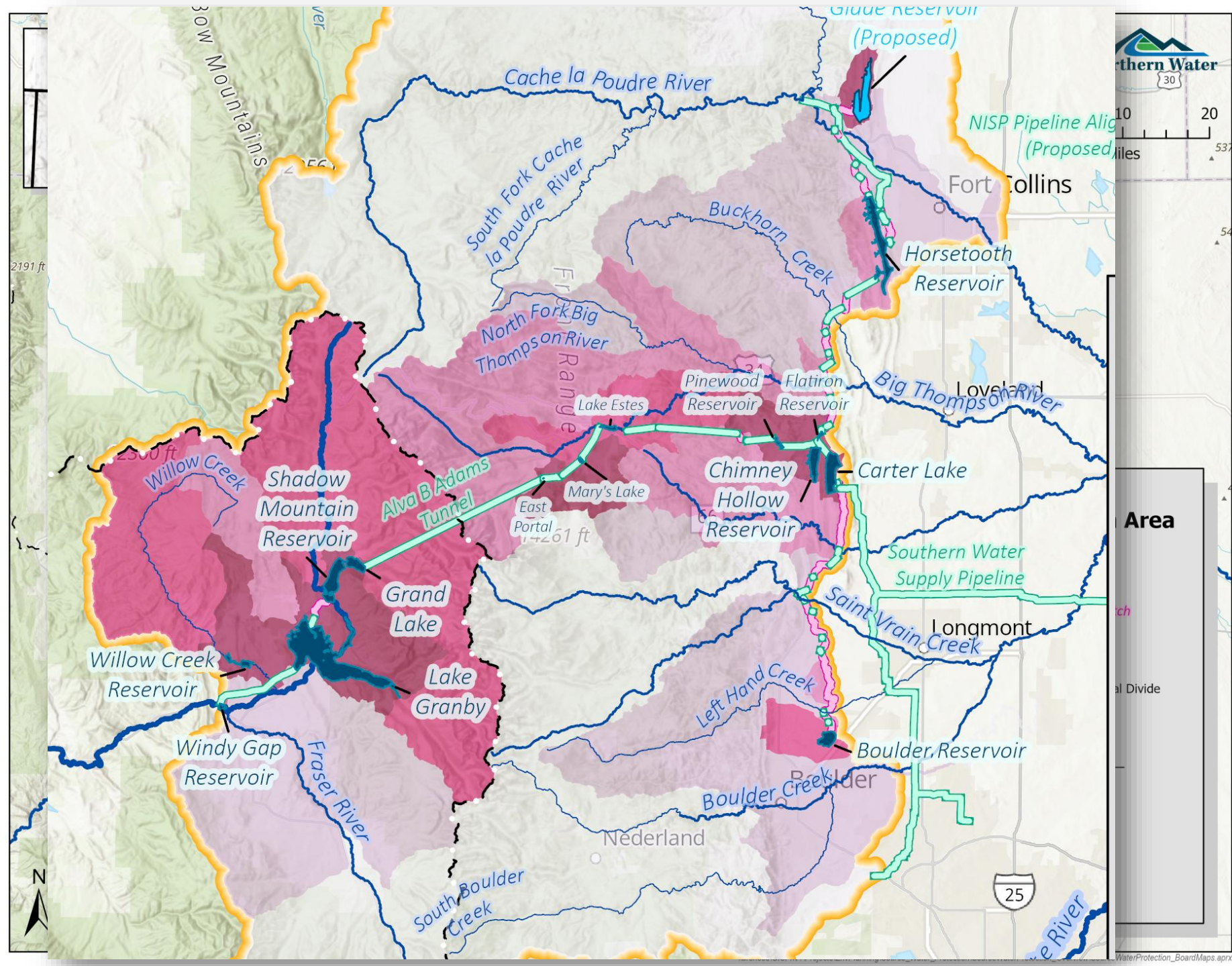
Capacity

Permitting

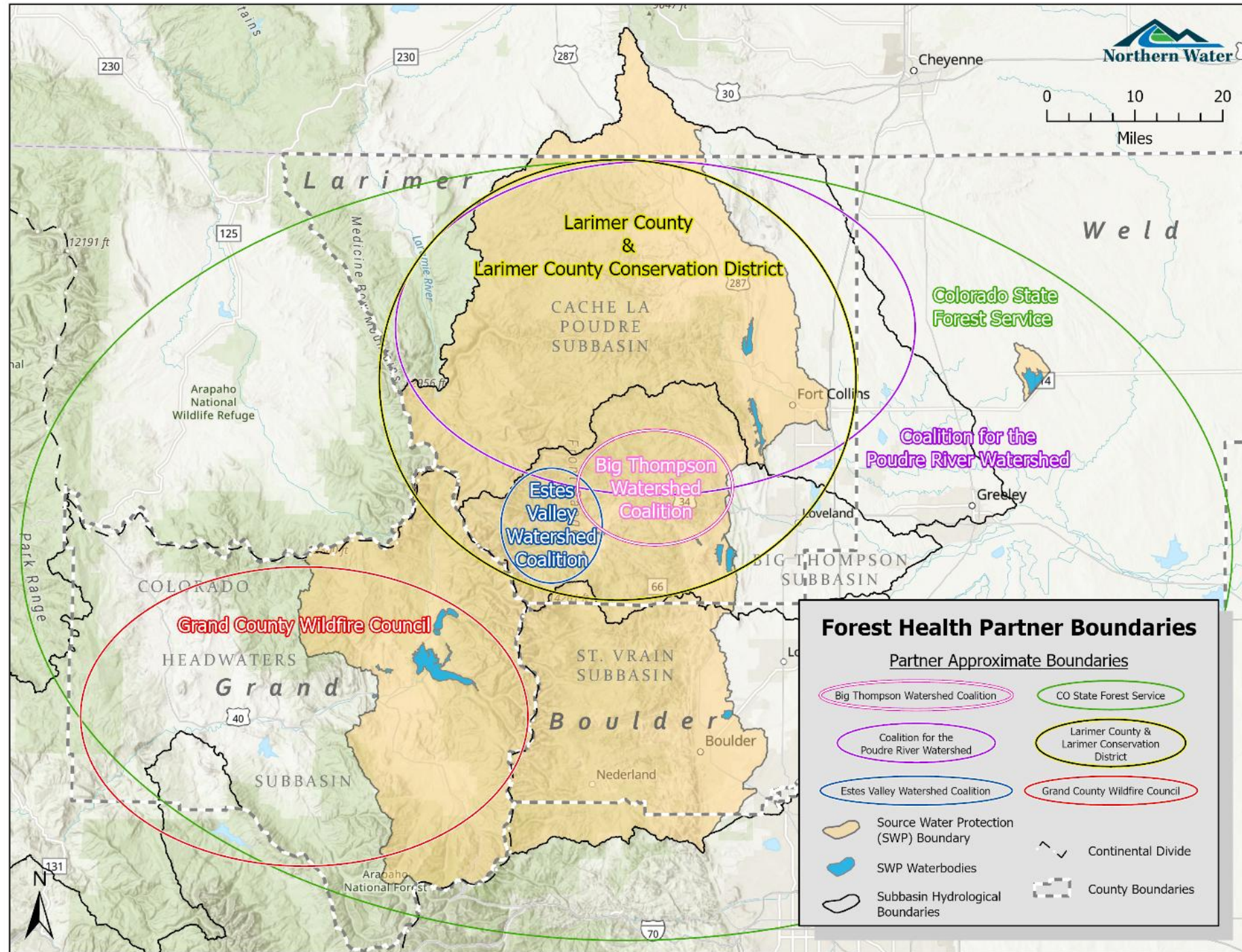


Funding

SWPA Prioritization Rankings (draft)

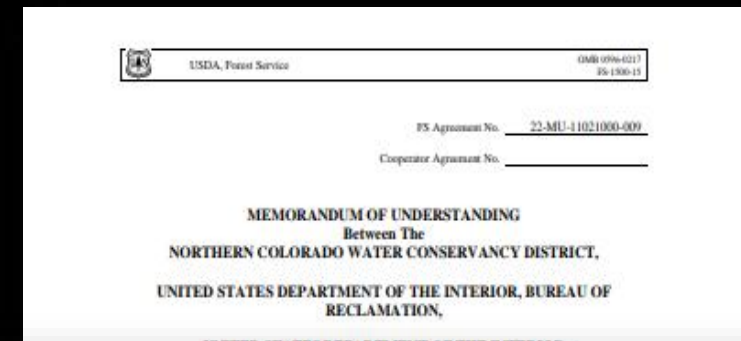
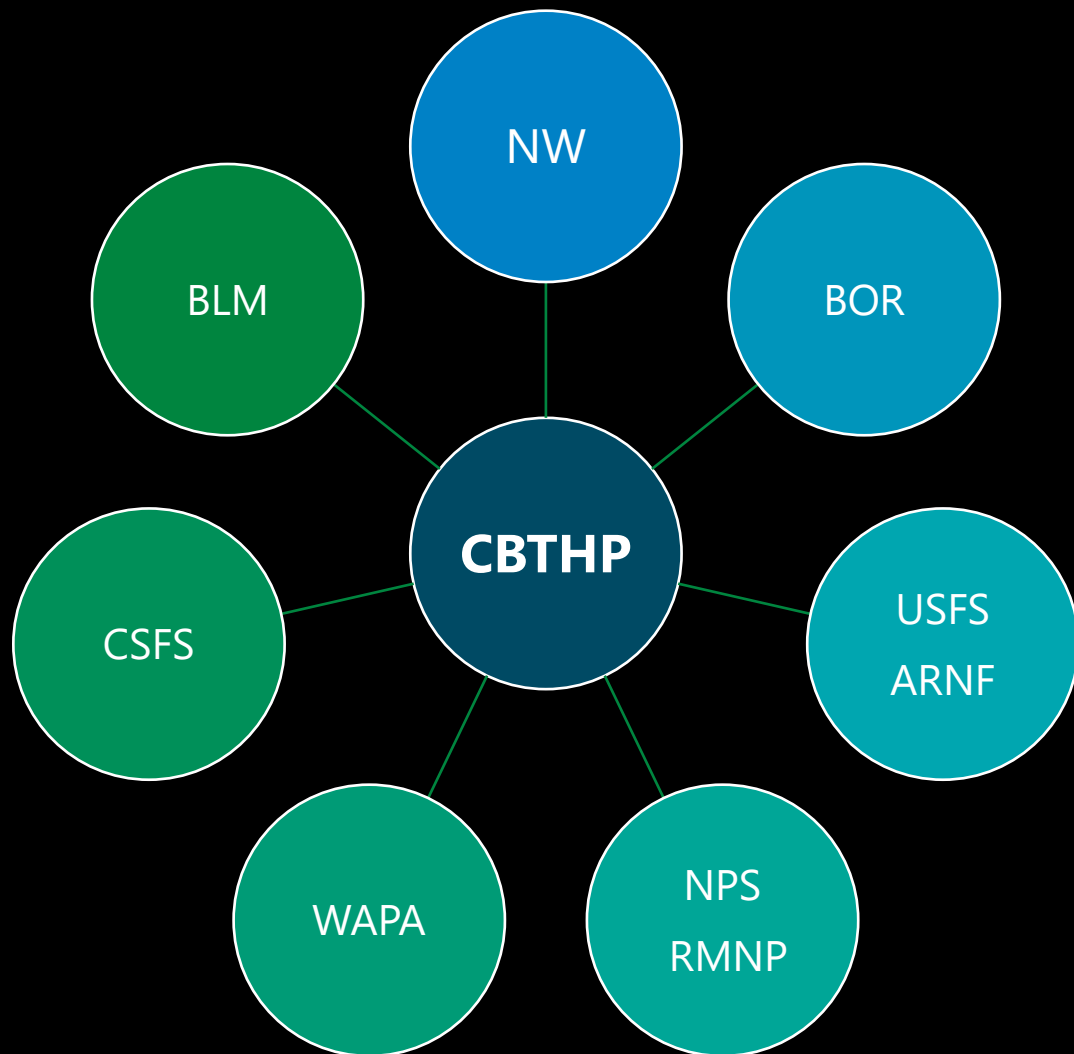


Partners* we work with



*Implementers

C-BT Headwaters Partnership (CBTHP)



- I. **PURPOSE:** The purpose of this MOU is to document the cooperation between the parties to proactively improve the health and resiliency of forests and watersheds and to preplan for post-wildfire response actions in areas critical for delivering water and generating and transmitting hydro-electric power through C-BT Project facilities in the Upper Colorado River, the Big Thompson River, and the Cache la

Page 2 of 15



USDA, Forest Service

OMB 0596-0217
FS-1500-15

Poudre River Watersheds, hereinafter referred to as C-BT watersheds. The Partners will work together in accordance with the following provisions.

CBTHP MOU



Mutual Benefits & Interests

Conduct forest/watershed restoration & postfire recovery projects

Develop a five-year operating plan

Coordinate public outreach & communications

Engage & coordinate with other partners



Term Limit

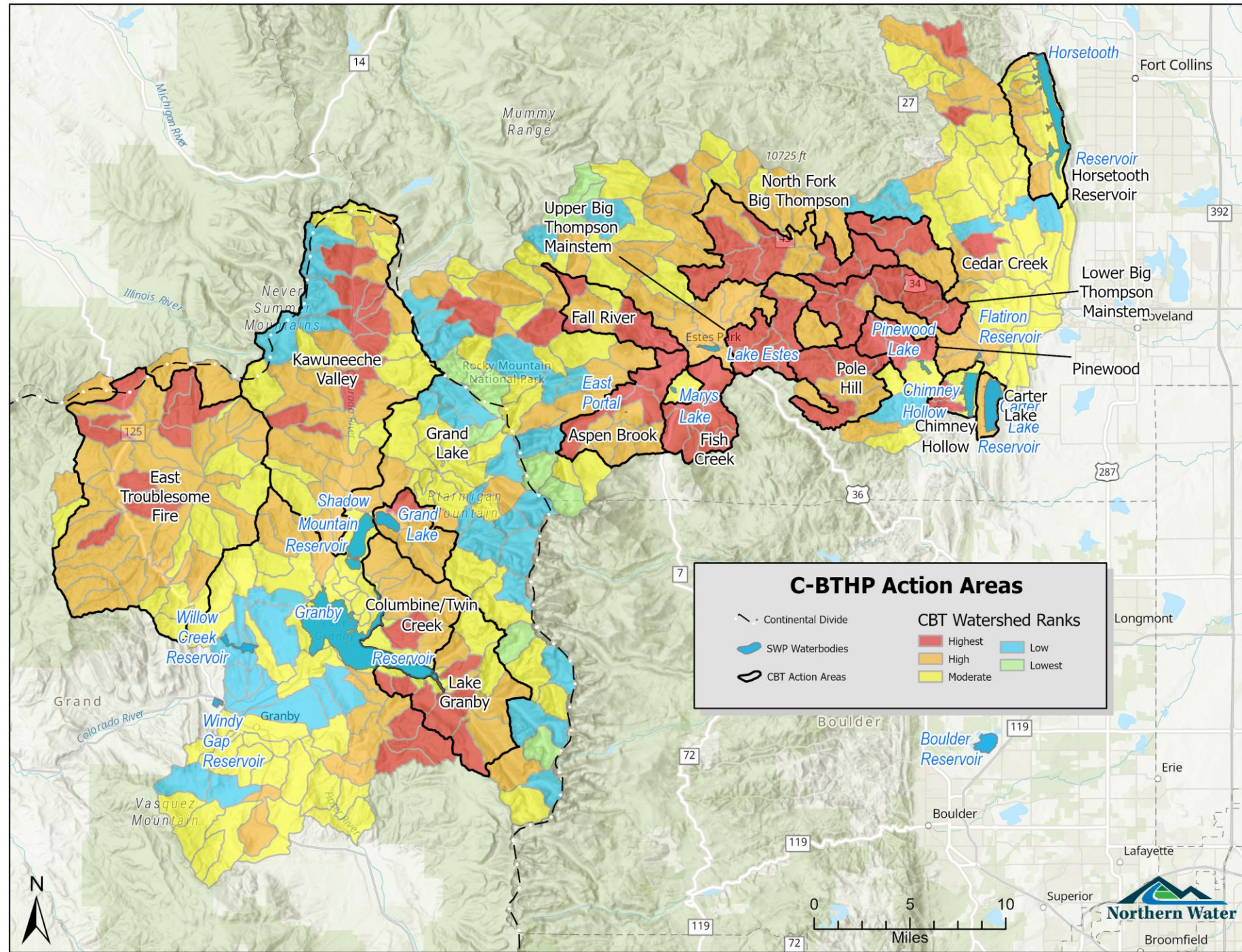
Five Years



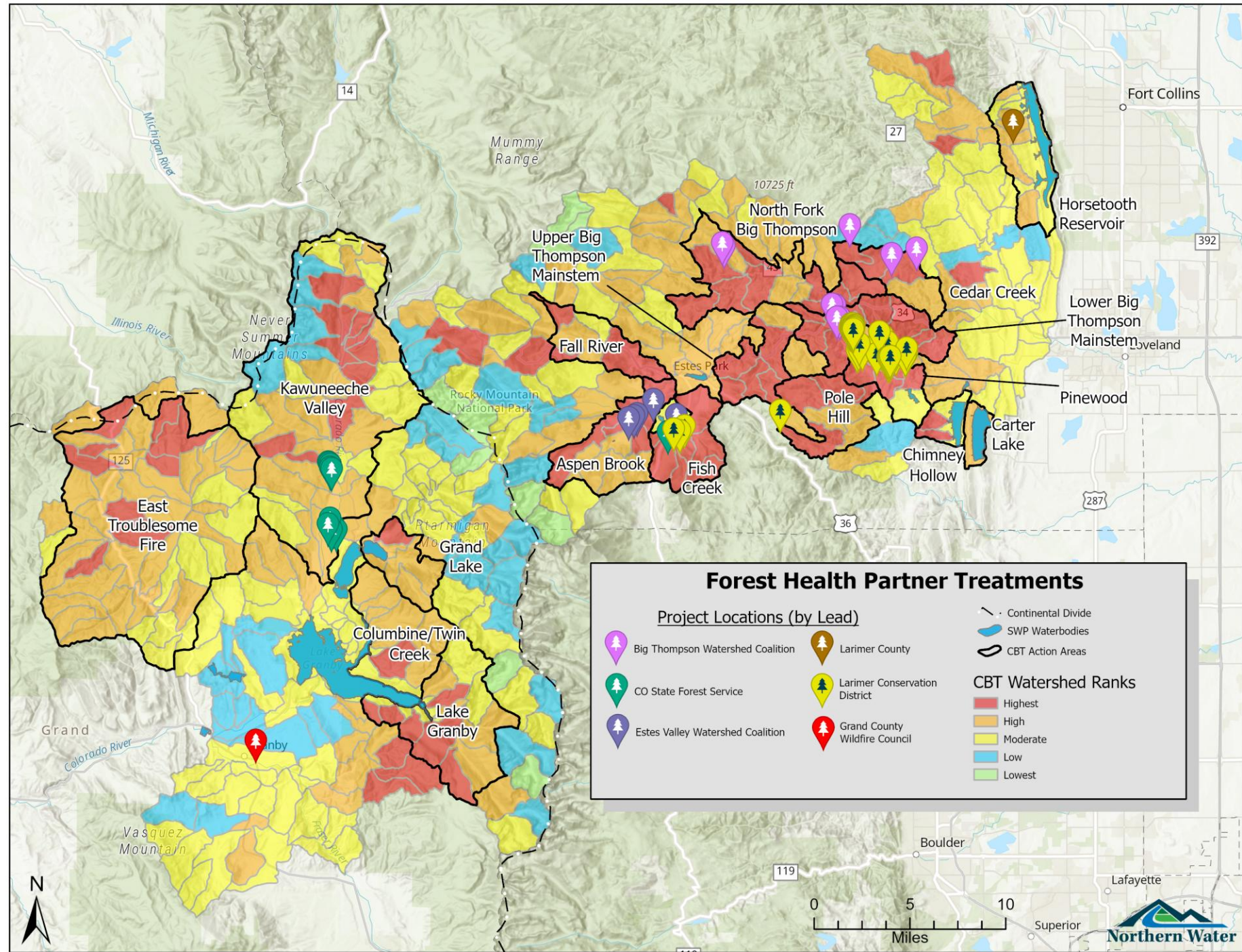
Signatories

- Northern Water
- US Bureau of Reclamation
- US Forest Service - ARNF
- National Park Service – RMNP
- Western Area Power Administration
- Colorado State Forest Service

Action Areas



Treatments



Forest Health Partner Treatments

Project Locations (by Lead)

- Big Thompson Watershed Coalition
- CO State Forest Service
- Estes Valley Watershed Coalition
- Larimer County
- Larimer Conservation District
- Grand County Wildfire Council

CBT Watershed Ranks

- Highest
- High
- Moderate
- Low
- Lowest

Map Symbols:

- Continental Divide
- SWP Waterbodies
- CBT Action Areas



Kawuneeche Valley Restoration Collaborative (KVRC)



Learning by Doing

To maintain and, where possible, restore or enhance aquatic environments in Grand County.

Colorado Parks and Wildlife

Colorado River District

Denver Water

Grand County

Middle Park Water Conservation District

Northern Colorado Water Conservation District

Trout Unlimited

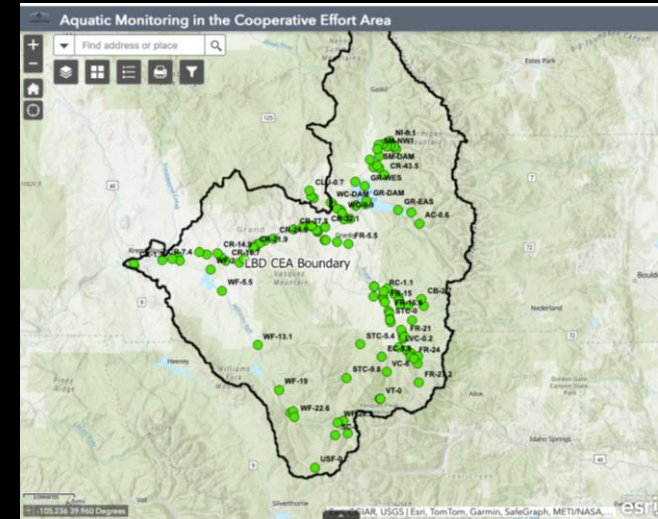




A new approach to managing aquatic resources



GRAND COUNTY
LEARNING BY DOING





WILDFIRE READY WATERSHEDS

Working to understand the susceptibility of Colorado's watersheds to post-wildfire impacts and to plan and prepare for them- ***before fires occur.***

CWCB Wildfire Ready Watersheds Program

SB21-240

Assess the susceptibility of Colorado's water resources, communities, and critical infrastructure to post-wildfire impacts

Assist communities in **planning and implementing mitigation strategies** to minimize these impacts.



Grand County Wildfire Council

**Through collaboration, education and action,
engage in wildfire prevention, preparedness,
mitigation, and survival.**



Responding to the Crisis



Coordinated Assessments & Prioritization across the landscape

Partial and siloed assessments
No players on Federal Lands
Few local partners/coalitions



Two-pronged approach: Forest and Watershed Health

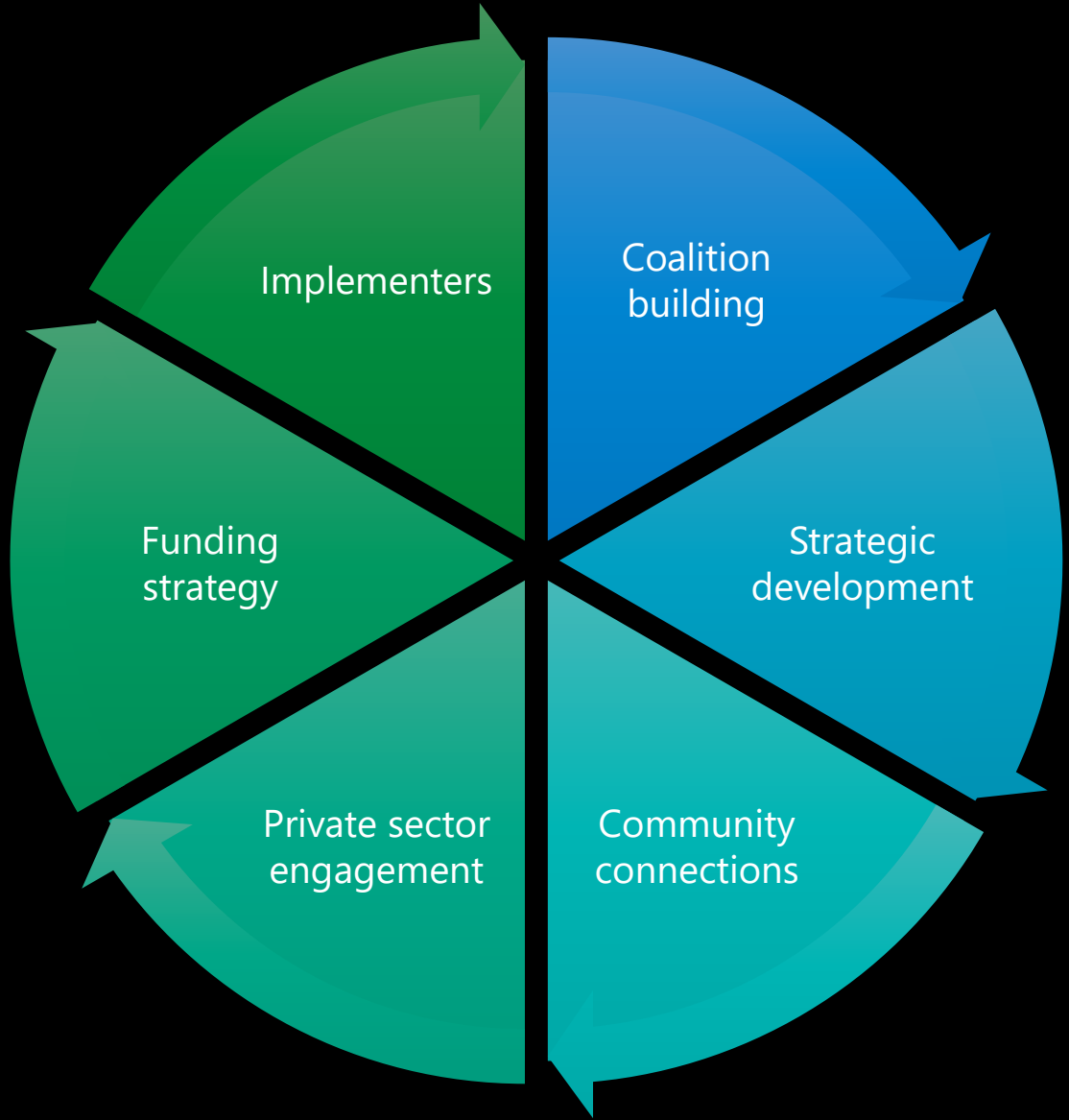


Funding Strategy



Partnership for Forest and Watershed Health Funding (non-federal)

Partnerships for the Future





Thank you

Esther Vincent, PE
Environmental Services Director
evincent@northernwater.org
970.692.7465