



Sustainability in the Yampa Valley



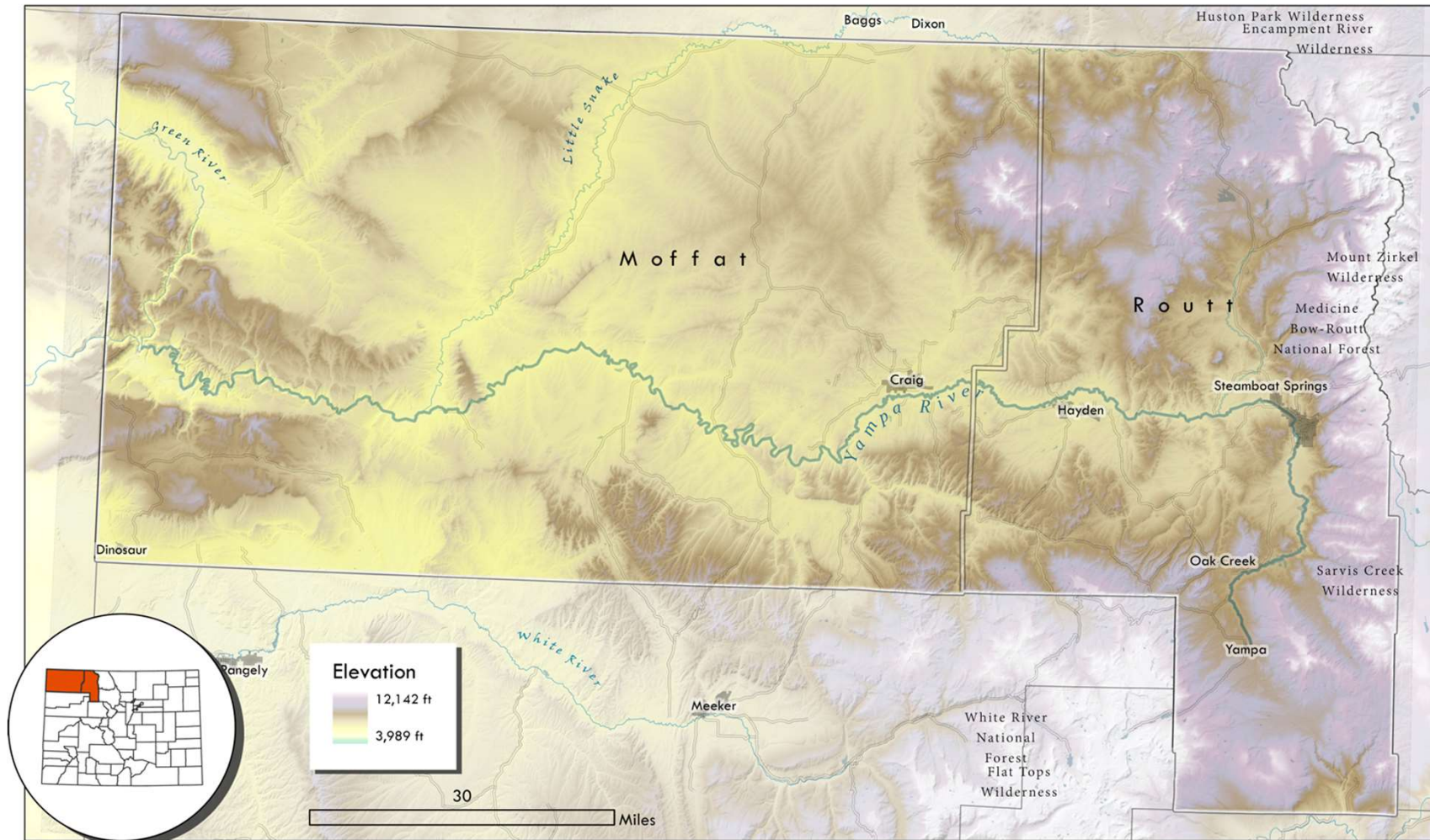
**Michelle Stewart, Ph.D., Executive
Director**

Yampa Valley Sustainability Council



Presentation to Colorado Association of Ski Towns– January 26, 2023

Northwestern Colorado | The Yampa Valley



**Sustainability
is anchored in
the idea of
BALANCE**

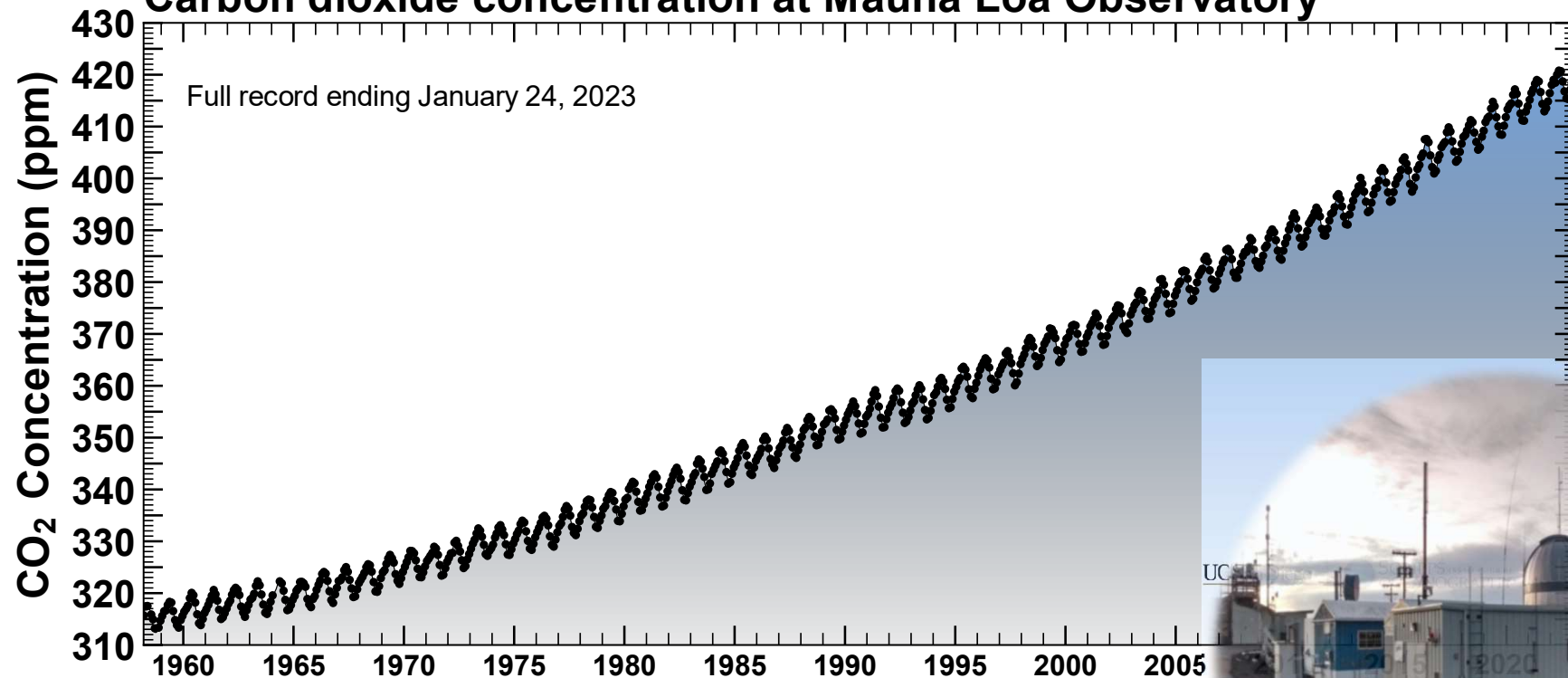
CURRENT



FUTURE

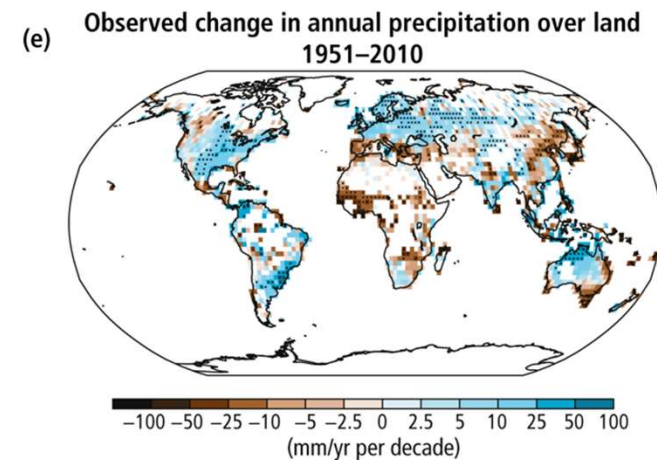
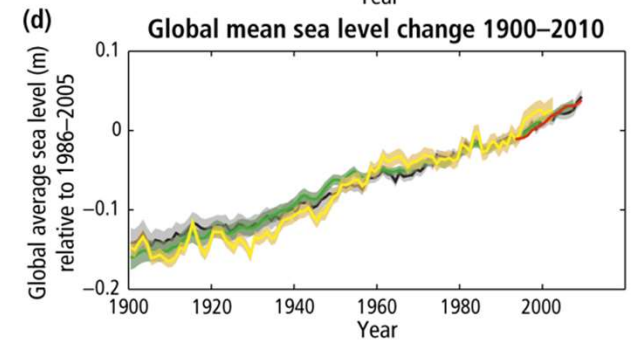
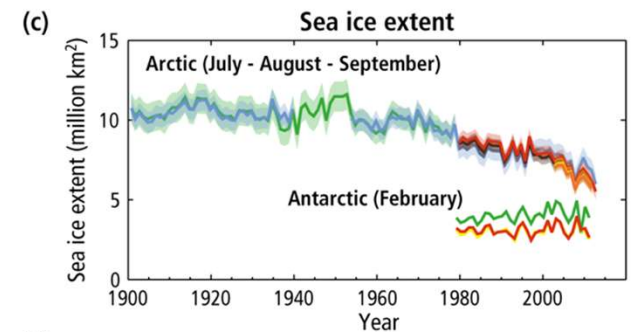
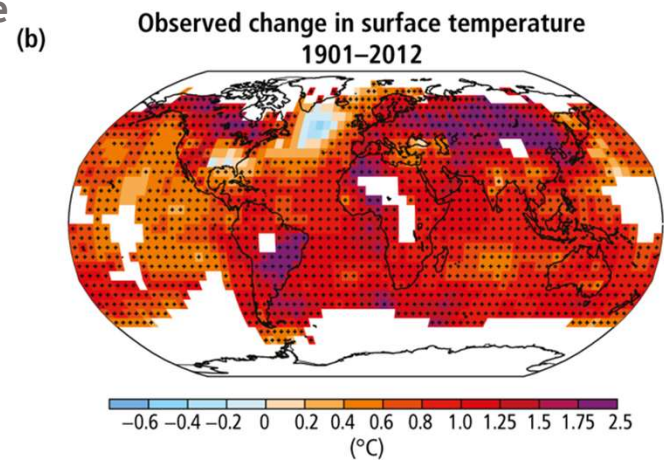
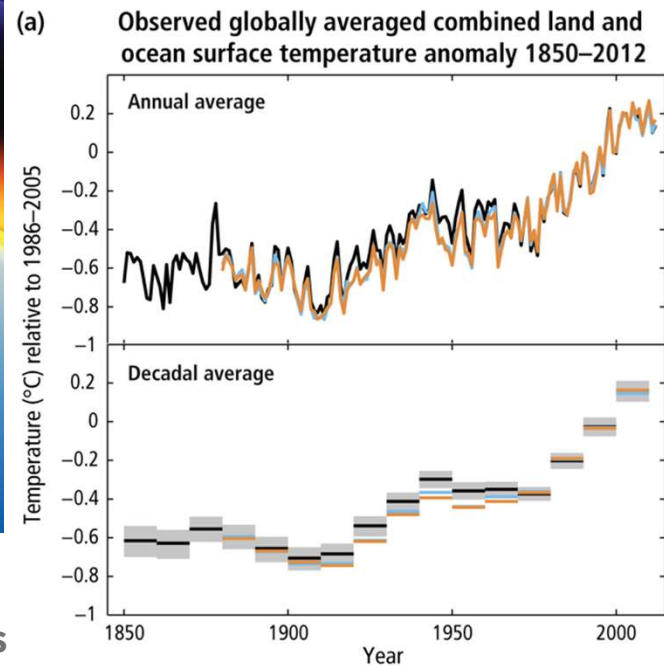


Carbon dioxide concentration at Mauna Loa Observatory





(IPCC) Intergovernmental Panel on Climate Change is the United Nations body on assessing the science of climate change.





COLORADO STATE UNIVERSITY



COLORADO CLIMATE CENTER

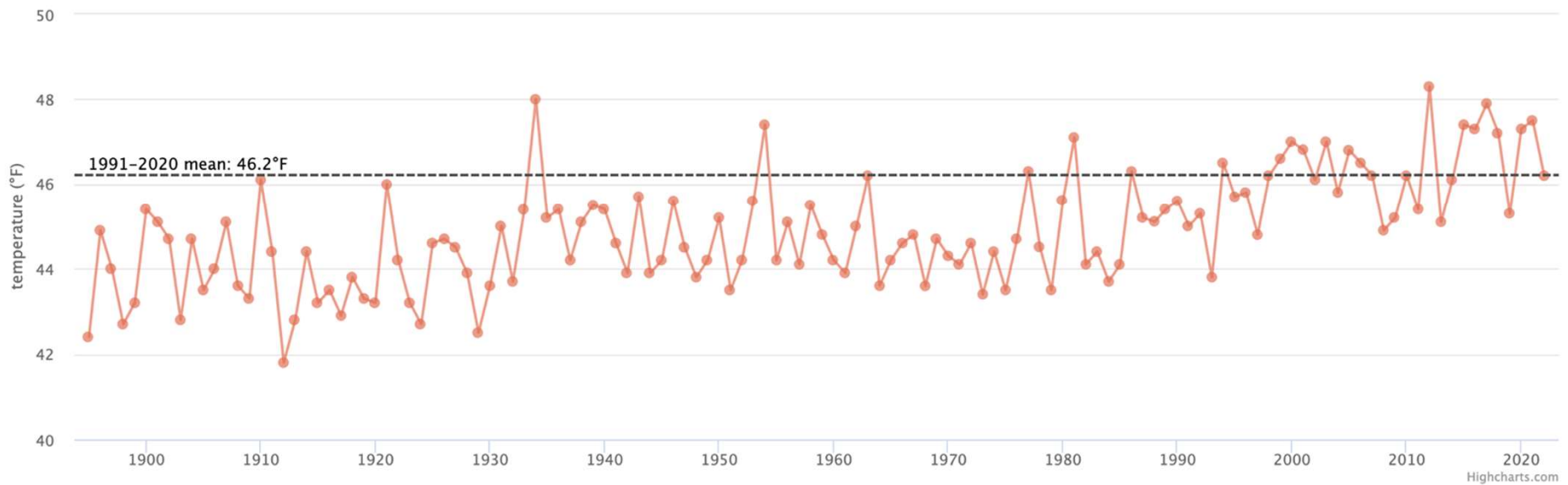
Providing information and expertise on Colorado's complex climate

General Info ▾ Colorado's Climate ▾ Data Access ▾ Maps & Graphs ▾ Normals and Extremes ▾ Drought ▾

Climate at a Glance Climate at a Glance Time Series

Statewide Average ▾ January ▾ Select a time-scale ▾
Plot Bar/Rank Charts Plot Line/Anomaly Charts

Colorado, Average Temperature, January–December

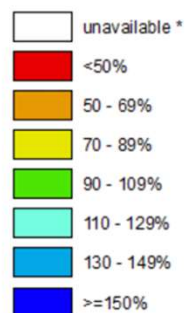




Jan 24, 2023

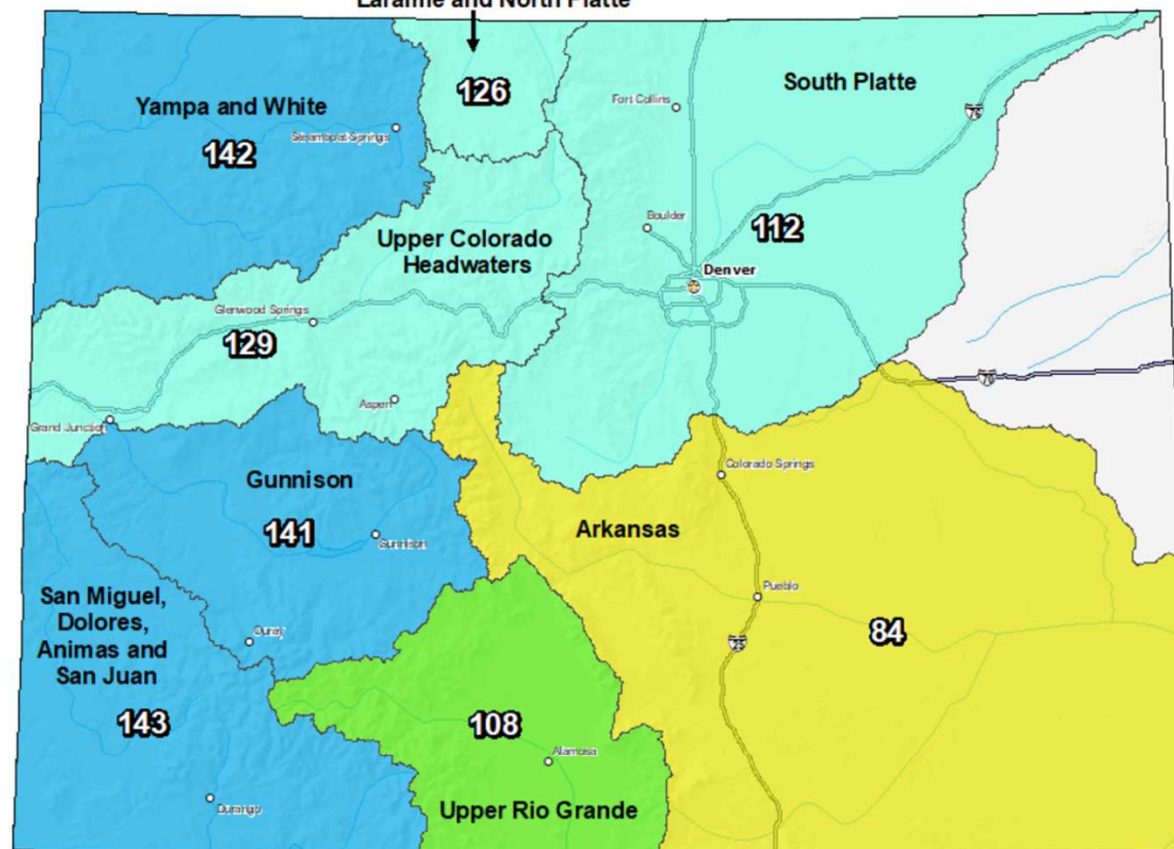
Colorado SNOTEL Current Snow Water Equivalent (SWE) % of Normal Laramie and North Platte

Current Snow Water
 Equivalent (SWE)
 Basin-wide Percent
 of 1991-2020 Median



* Data unavailable at time
 of posting or measurement
 is not representative at this
 time of year

Provisional Data
 Subject to Revision



The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:
 USDA/NRCS National Water and Climate Center
 Portland, Oregon
<https://www.nrcs.usda.gov/wps/portal/nrcs/home/>



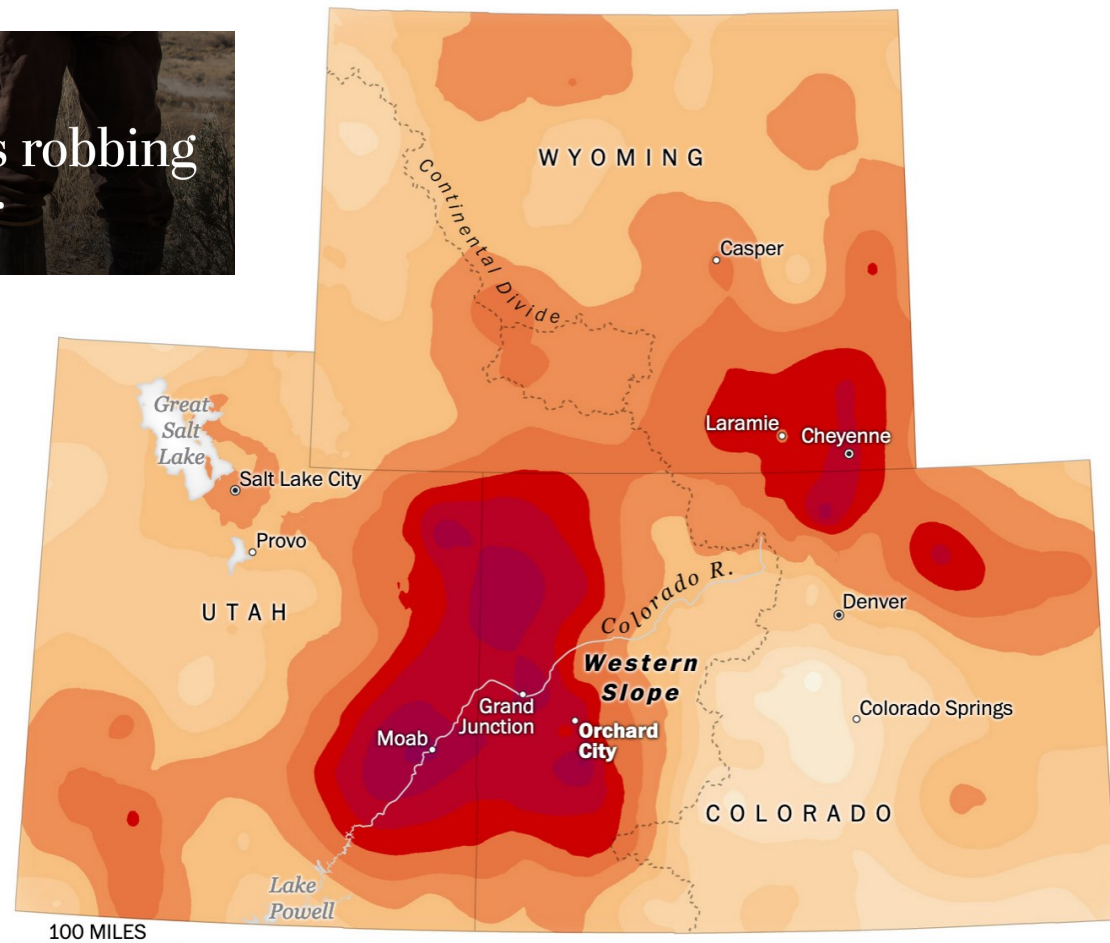
2°C: BEYOND THE LIMIT

This giant climate hot spot is robbing
the West of its water

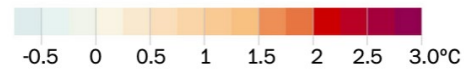
Routt County

+1.6° Celsius

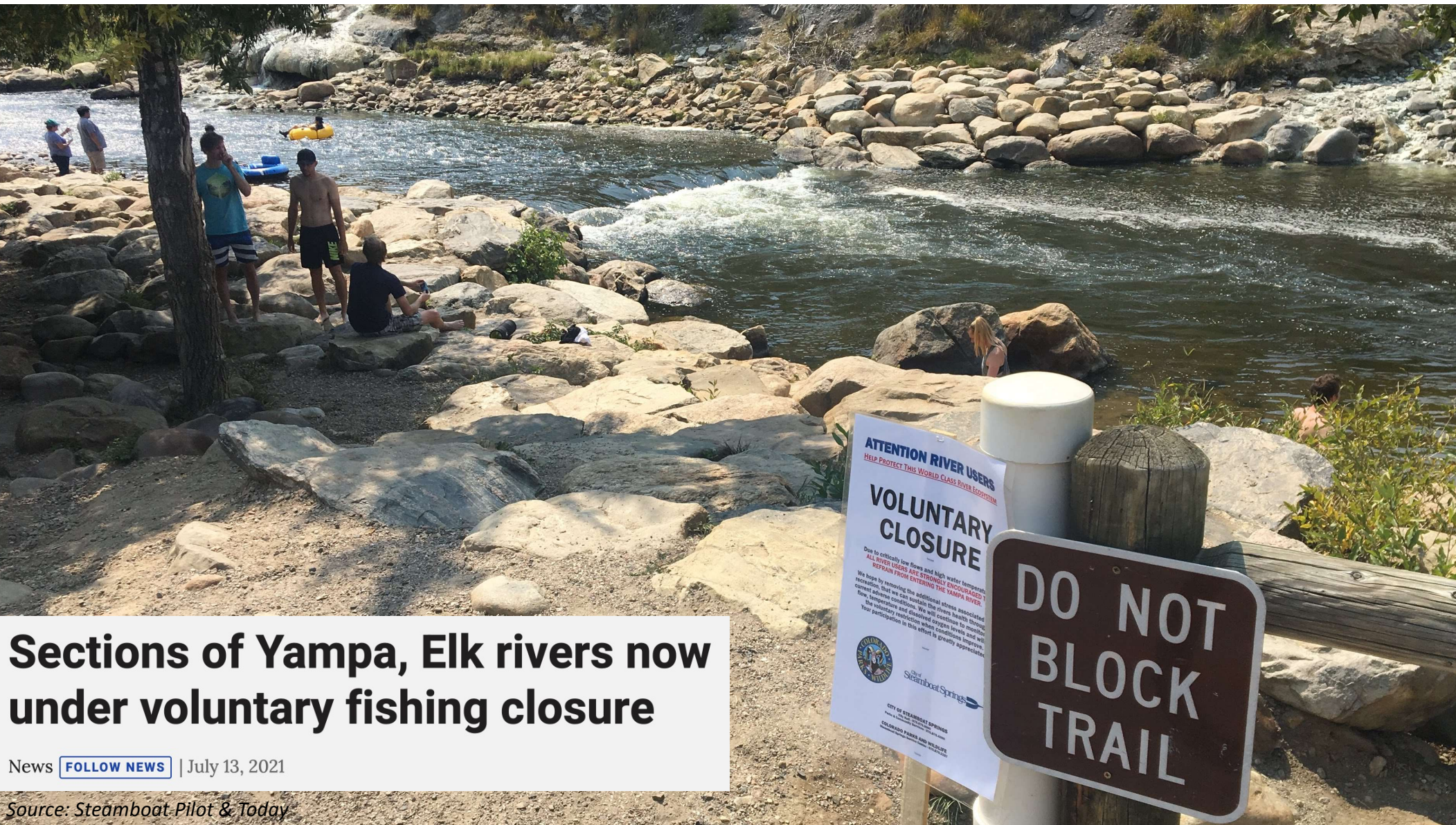
Annual temperature change, 1895-2019



Temperature change, 1895-2019



Source: Eilperen, J. 2020. Washington Post.



Sections of Yampa, Elk rivers now under voluntary fishing closure

News [FOLLOW NEWS](#) | July 13, 2021

Source: Steamboat Pilot & Today



Aerial View of Middle Fork Fire, 9/19/20

Source: Medicine Bow-Routt Engine 618, USFS



‘What do you do?’: Hay production down 70% to 90% in Routt County

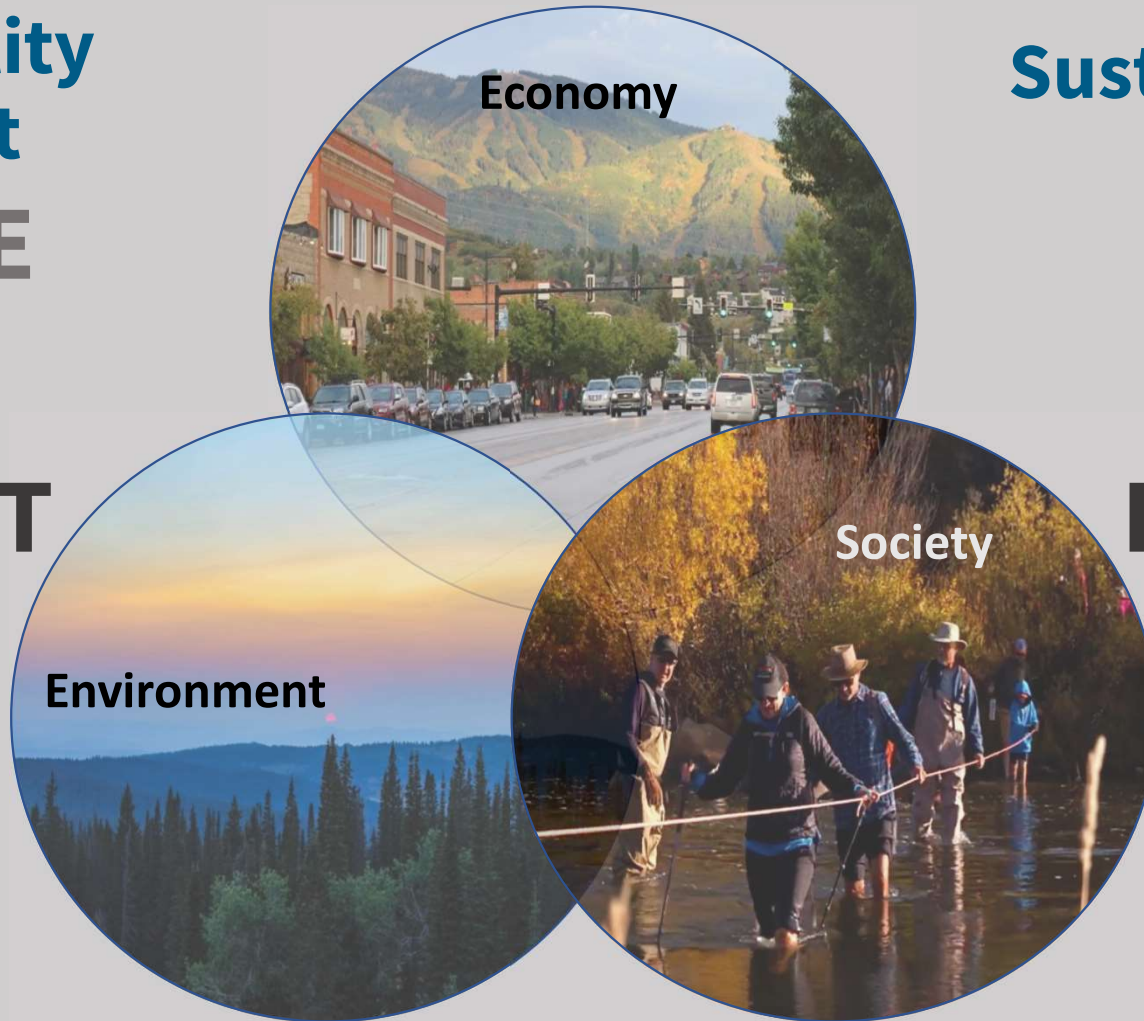
Ranchers across the county are contemplating how they will feed their herds through the winter, or if they will have to sell them off.

Source: Steamboat Pilot & Today, July 5, 2021



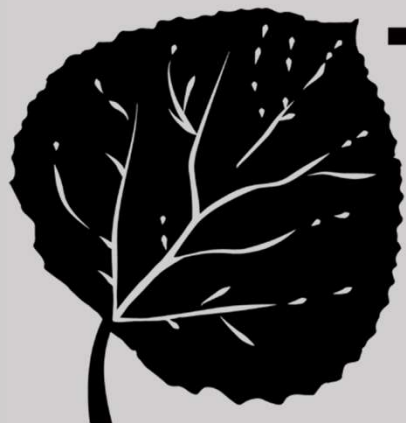
**Sustainability
is not about
BALANCE**

CURRENT



**Sustainability
is about
ACTION
BUILDING
THE
FUTURE
WE NEED**





Sustainability is
Climate Action is

Decreasing Emissions

Increasing Resilience

Economy

Society

Environment



2018 Routt County GHG Inventory

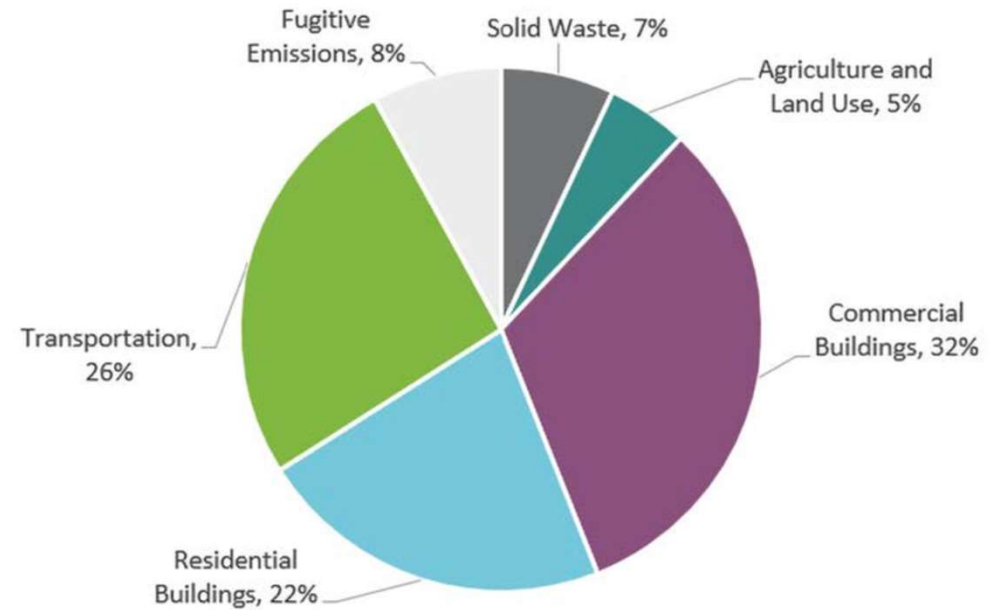
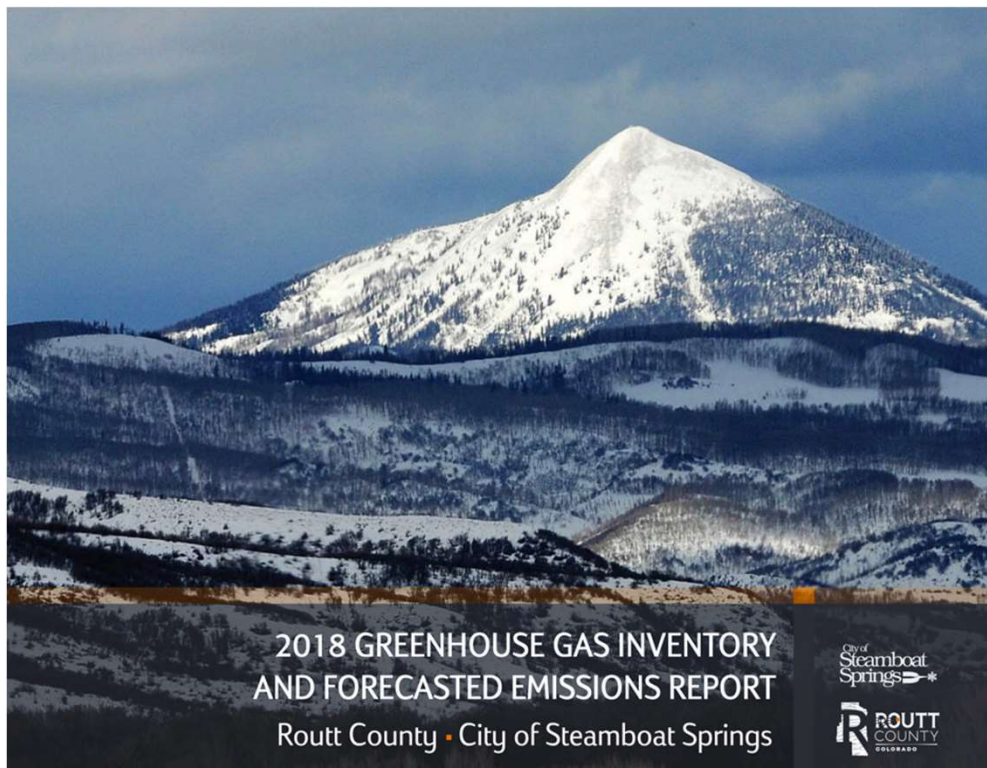
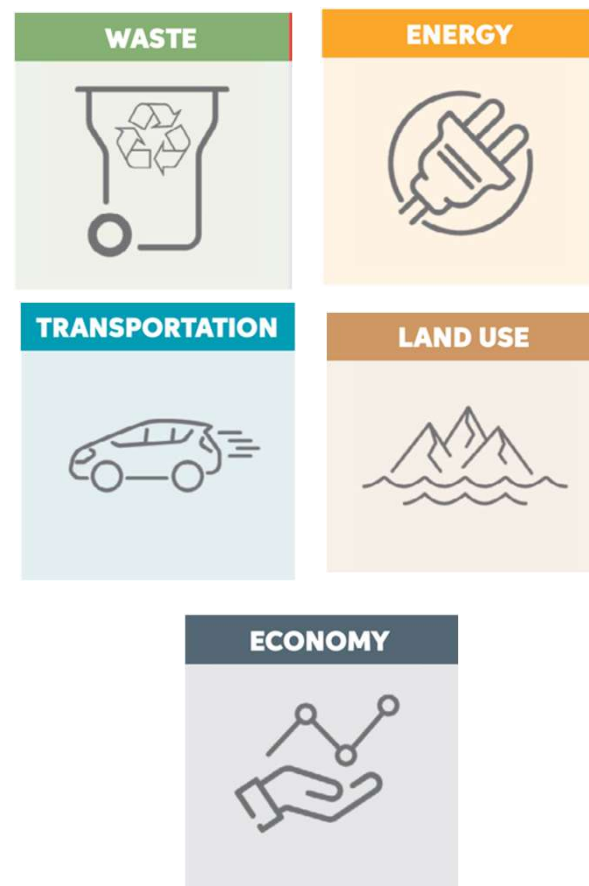
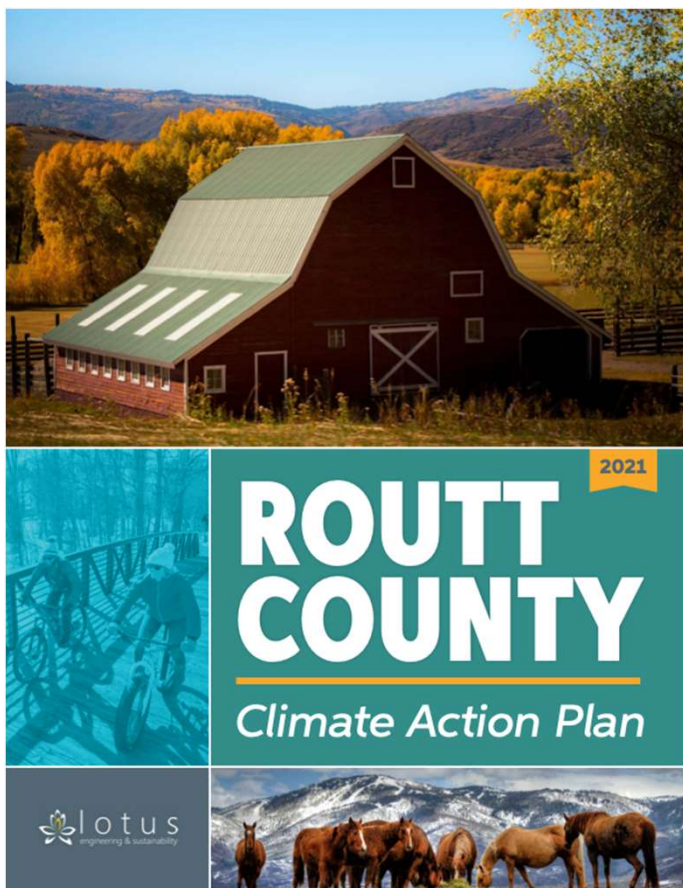


Figure 1: Routt County's 2018 emissions by sector.



693,367 metric tons total (excludes 2.5 million metric tons from Hayden Station)



2021 Routt County Climate Action Plan: How to reduce emissions



2021 Routt County Climate Action Plan – What actions can be taken to Reduce GHG emissions across key sectors?

ENERGY	STRATEGIES
	<ol style="list-style-type: none">1 Increase adoption of renewable or other clean energy and fuel sources.2 Increase energy efficiency.3 Promote fuel switching (i.e., electrification).
TRANSPORTATION	STRATEGIES
	<ol style="list-style-type: none">1 Improve safe and equitable multimodal access throughout each community to reduce vehicle miles traveled (VMT).2 Increase adoption of electric vehicles such that 20% of registered vehicles in Routt County are electric vehicles (EVs) by 2030 and 95% are EVs (or other non-carbon emission producing vehicles) by 2050.3 Reduce single occupancy vehicle travel.4 Engage in statewide discussions and policy work.



WASTE	STRATEGIES
	<ol style="list-style-type: none"> 1 Reduce the amount of solid waste disposed of in the landfill. 2 Increase waste diversion. 3 Support waste reduction initiatives at the State level.
LAND USE	STRATEGIES
	<ol style="list-style-type: none"> 1 Promote land management practices (e.g., reforestation, restoration, conservation, natural climate solutions) that increase carbon sequestration and storage across forests, wetlands, riparian corridors, and ag/rangelands and preserve carbon sinks, especially forests and wetlands, and designate future land uses to maximize carbon sequestration. 2 Increase and support cross-boundary efforts to conserve and maintain natural lands and to promote resilience across the landscape within the County. 3 Promote water conservation measures and reduce energy consumed in water production, distribution, and wastewater treatment. 4 Promote compact development patterns to achieve more sustainable development and preserve natural land use types.



ECONOMY



STRATEGIES

- 1 Consume goods with lower embedded carbon emissions.
- 2 Develop green markets.
- 3 Expand base industries for regional self-reliance.
- 4 Enhance environmental sustainability efforts undertaken by business.

ACCOUNTABILITY



STRATEGIES

- 1 Ensure adequate funding for the CAP.
- 2 Establish accountability mechanisms for the CAP.
- 3 Align with other community plans.
- 4 Carry out educational programs in support of the CAP.



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2021 Routt County Climate Action Plan Collaborative Intergovernmental Agreement

9-Member Collaborative Board Established

- 5 Government
- 4 Community

EXHIBIT 1

INTERGOVERNMENTAL AGREEMENT CREATING THE ROUTT COUNTY CLIMATE ACTION PLAN COLLABORATIVE EXECUTED BY THE BOARD OF COUNTY COMMISSIONERS, ROUTT COUNTY, COLORADO, CITY COUNCIL OF STEAMBOAT SPRINGS, COLORADO, THE TOWN COUNCIL OF HAYDEN, COLORADO, THE BOARD OF TRUSTEES, OAK CREEK, COLORADO, THE BOARD OF TRUSTEES, YAMPA, COLORADO

WHEREAS, local government partners in Routt County, Colorado, desire to establish the Routt County Climate Action Collaborative (“**Collaborative**”) to reduce greenhouse gas (“**GHG**”) emissions in accordance with the goals of the Routt County Climate Action Plan (“**CAP**” attached as Exhibit “A”) as adopted and as may be amended from time to time; and

WHEREAS, local government partners find that global GHG emissions continue to catalyze global climate change and global temperature increase and that such global temperature increase is projected to result in severe negative effects on habitability, production and resiliency of the global community; and

WHEREAS, local government partners recognize the need and benefit to implement best practices to reduce GHG emissions and draw down carbon levels in the atmosphere at the local and regional level, and therefore desire to create an organizational structure which will facilitate regional decision making and alignment of Climate Action work; and

WHEREAS, local government partners desire to establish and adopt this Intergovernmental Agreement (“**IGA**”) to define the organizational structure of the Collaborative.

NOW, THEREFORE, it is here resolved that the Board of County Commissioners, Routt County, hereinafter referred to as “Routt,” the City Council of Steamboat Springs, Colorado, hereinafter referred to as “Steamboat Springs,” the Board of Trustees, Hayden, Colorado, hereinafter referred to as “Hayden,” the Town Council of Oak Creek, Colorado, hereinafter referred to as “Oak Creek”, the Board of Trustees, Yampa, Colorado, hereinafter referred to as “Yampa”, (collectively referred to as “local government partners” and “Parties”) do hereby enter into this Intergovernmental Agreement establishing the Routt County Climate Action Collaborative (“**Collaborative**”) with the following structure:

1. **Purpose.** The purpose of the Collaborative is to work collaboratively to reduce GHG emissions through implementation of the Routt County Climate Action Plan, and to track

**Collaborative
Board**

+



ROUTT COUNTY
CLIMATE ACTION PLAN
COLLABORATIVE

Working Groups

ENERGY



TRANSPORTATION



WASTE

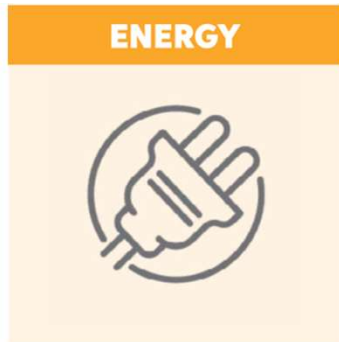


LAND USE



ECONOMY





Energy Working Group



Dan LeBlanc (Chair), General Contractor, YVEA Board Member

Todd Carr (Co-Chair), Building Official: Represents Building/Planning for all Routt County Jurisdictions

Brian Adams, Principal, Apex Architecture

Paul Bony, Energy and Transportation Director, Yampa Valley Sustainability Council

Scott Conner, Engineer

Ken Fogle, Vice President, Marketing, Atmos Energy

Steve Johnson, President, Yampa Valley Electric Association

Paul Komor, Research Faculty, CU-Boulder

Hedda Flage Kukla, Head of Sustainability, Bw Energy

Marc Lyman, President, Crestone Construction

Bob Major, Community Member/HVAC

Jeff Milius, Energy Resources Program Coordinator, Yampa Valley Electric Association

Matt Piva, Owner, Brightside Solar

Clay Schrader, Owner, Schrader Propane

Norm Weaver, PE, Energy Efficiency Engineer

ENERGY



Energy Working Group

STRATEGIES

- 1 Increase adoption of renewable or other clean energy and fuel sources.
- 2 Increase energy efficiency.
- 3 Promote fuel switching (i.e., electrification).

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ENERGY



**ALL-ELECTRIC
CITY HALL/
FIRE STATION**



Geothermal system at Brown Ranch could cost twice as much up front, but might save residents big bucks over time

Consultant found the 30-year costs of other options each exceeded \$500M, while geothermal came in at \$328M

News [FOLLOW NEWS](#) | Jan 14, 2023



Dylan Anderson [FOLLOW](#)
danderson@SteamboatPilot.com



The Brown Ranch will feature four neighborhoods, each with a mix of housing options ranging from single-family homes to large-scale apartment complexes.
Yampa Valley Housing Authority/Courtesy photo

LOWERING EMISSIONS CAN LOWER COSTS

Regional bus between Steamboat, Craig saw record ridership last year

Rider numbers across Steamboat bus system rebounding after pandemic-induced dips

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danderson@SteamboatPilot.com





Sustainability is
Climate Action is

Decreasing Emissions

Increasing Resilience

Economy

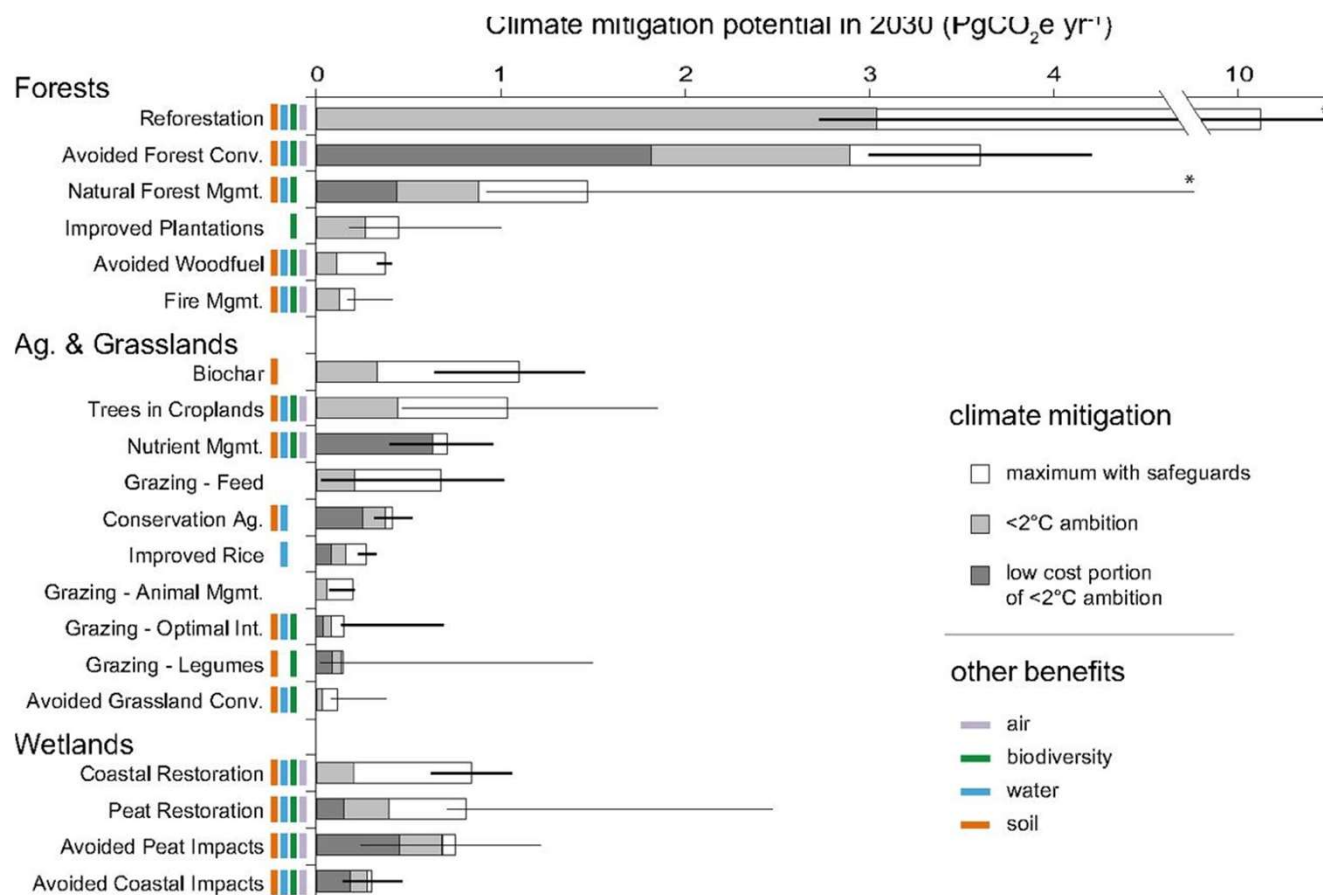
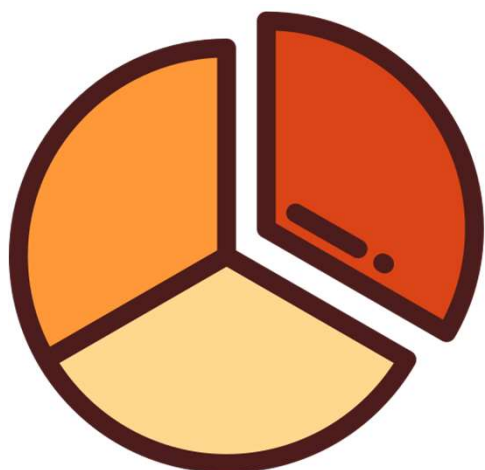
Society

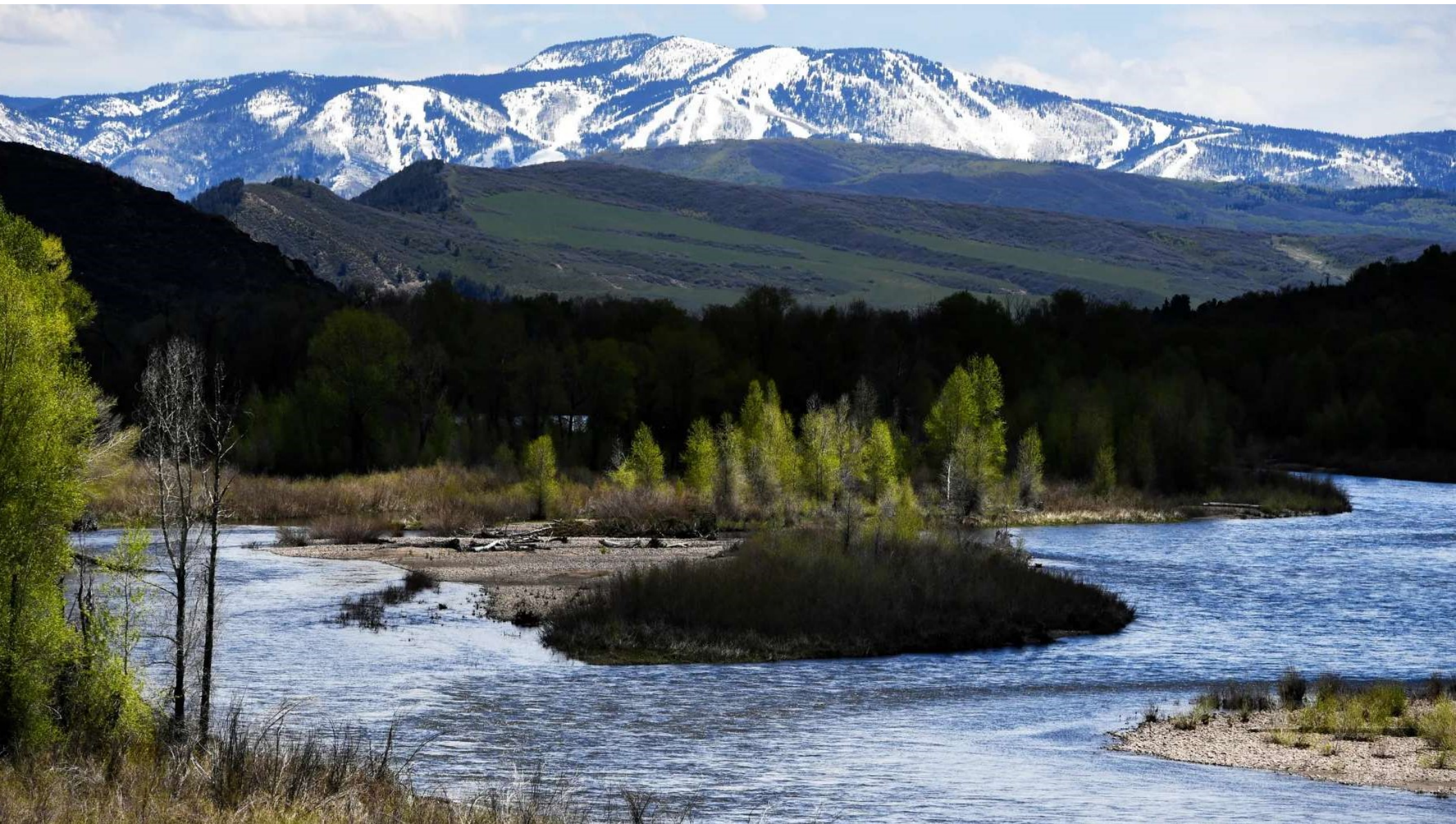
Environment



Decarbonization is Key

SO ARE NATURAL CLIMATE SOLUTIONS





The Yampa is Warming

How Trees Can Help.

Yampa Valley Sustainability Council

October 21, 2021



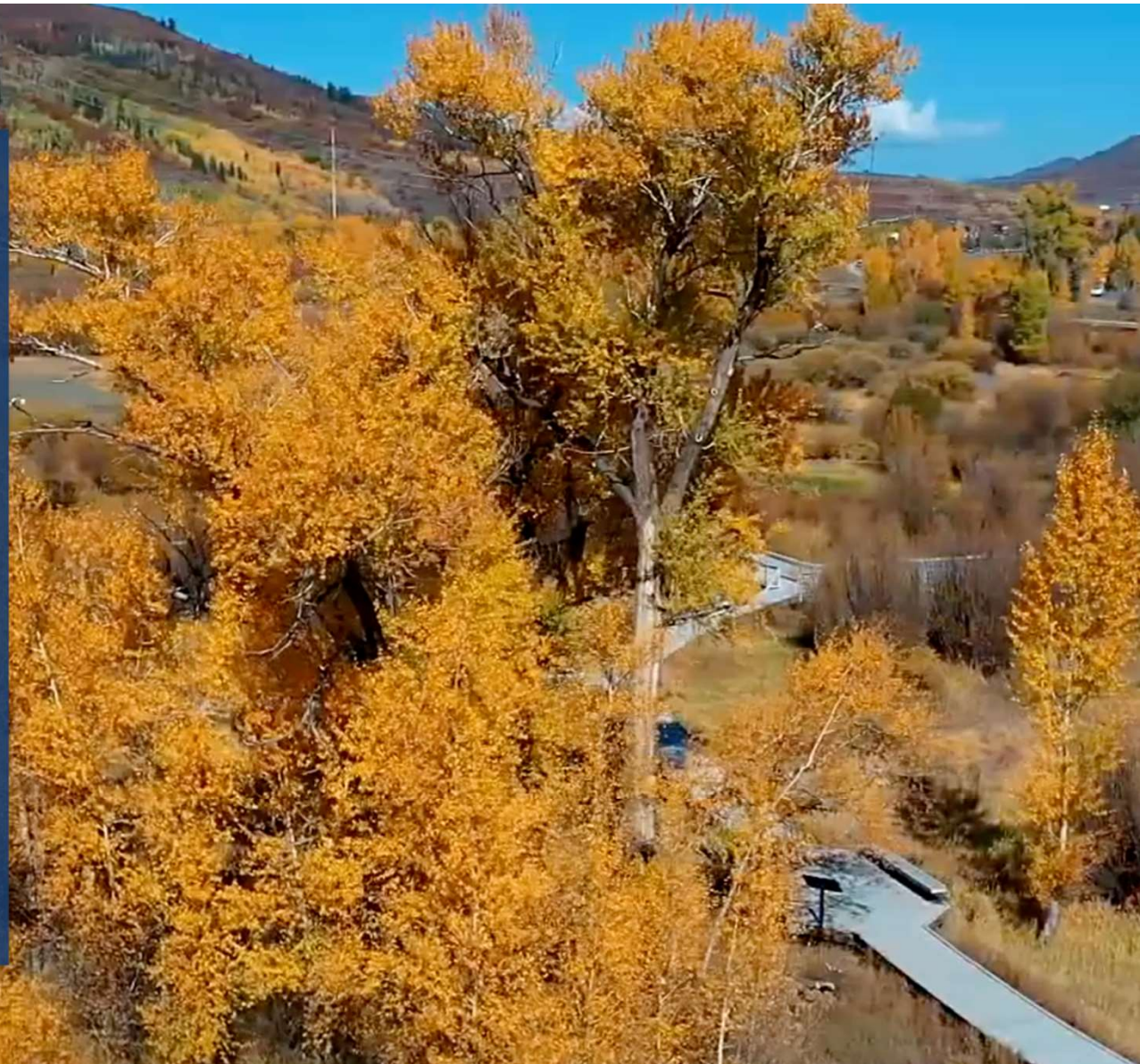


The **Yampa River Forest Restoration Program (YRFRP)** was collaboratively launched in 2019 by Yampa Valley Sustainability Council, Colorado State Forest Service, and the City of Steamboat Springs in response to the Yampa River Health Assessment and Streamflow Management Plan.

The goal of this project is to maintain or improve native riparian vegetation, like the narrowleaf cottonwood, extent and condition along the Yampa River riparian corridor to reduce solar loading and temperature increases along the Yampa River.



Narrow-leaf cottonwood, ***Populus angustifolia***, is a tree species native to the riparian areas of the Rocky Mountains and western North America. Cottonwoods grow in tight clusters along rivers and streams. On average, mature trees grow up to 60 feet in height and 2-3 feet in trunk diameter.





Swipe the bar to see the suitability rating along the Yampa River near its confluence with Walton Creek.



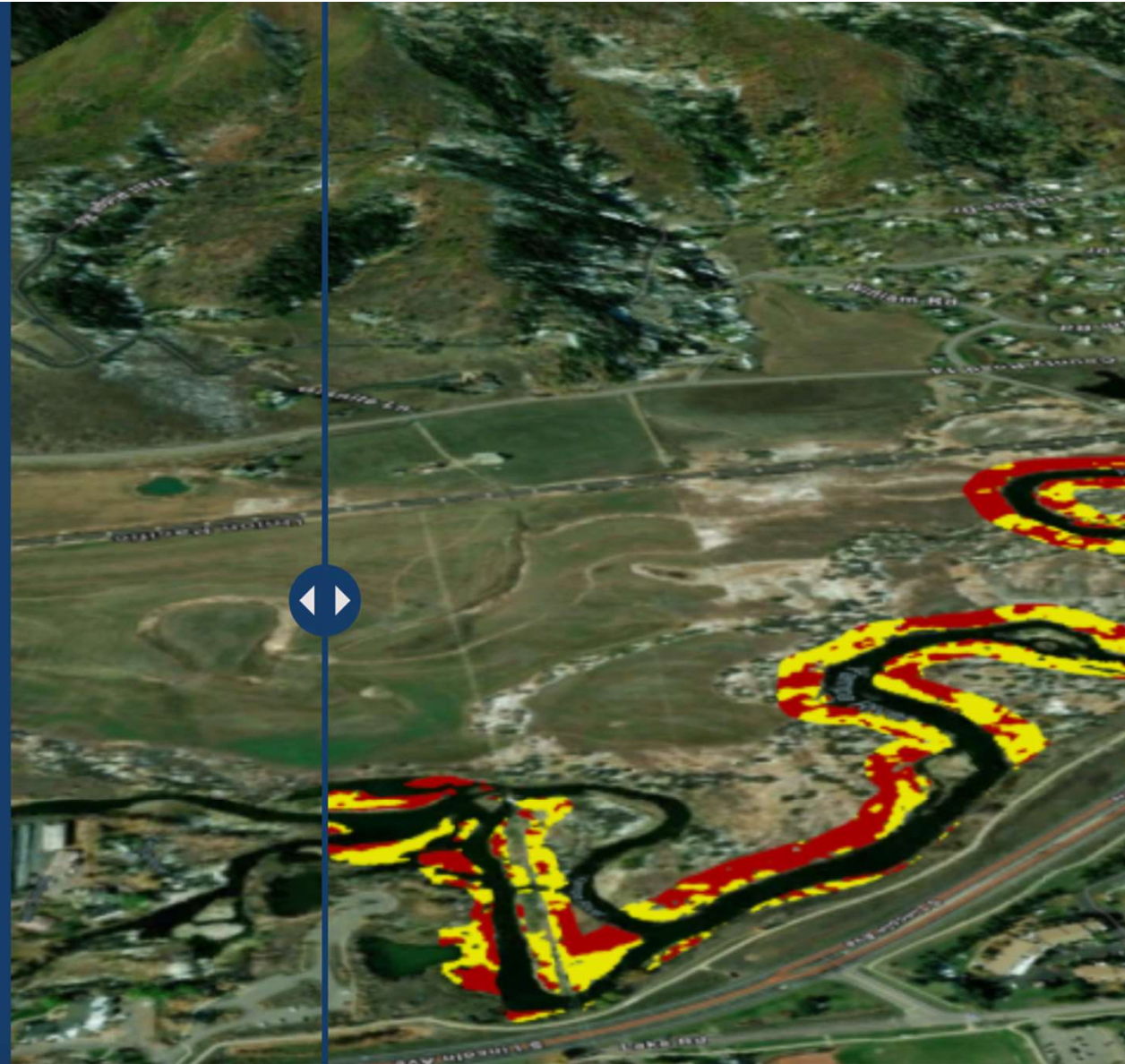
Most Suitable

Meets suitability criteria
No vegetation above 0.5 meters tall



Suitable

Meets suitability criteria
Some existing vegetation up to 1.5 meters tall



**Explore the top-ranking sites owned
by the City of Steamboat Springs.**





Annual ReTree Event

Since 2009, YVSC has annually convened volunteers for a celebrated, community reforestation event.

Over the past 12 years, we have planted more than 23,000 trees.

[Click here to learn how to volunteer](#)





**DO VISITORS/TOURISTS NOTICE THE WAYS WE TAKE CARE OF
OUR PLACES AND PEOPLE?
HOW WE TAKE ACTION TO BUILD THE FUTURE WE NEED?**



Sustainability is
Climate Action is



1. CUT EMISSIONS AS QUICKLY AS POSSIBLE (**DECARBONIZE**)

2. BUILD RESILIENCE TO THE CHANGES WE CAN NO LONGER
AVOID (**NATURAL CLIMATE SOLUTIONS**)

THE INFLATION REDUCTION ACT



THE LARGEST INVESTMENT IN CLIMATE
ACTION IN U.S. HISTORY LEADING TO A
40% REDUCTION IN EMISSIONS

REP. STEVE PATRICK
MAJORITY

Yampa Valley Sustainability Council



Our Mission

Serve as a leader, catalyst and resource for building a sustainable and resilient Yampa Valley region.



Our Vision

A healthy, resilient Yampa Valley united through climate action.

Our Values

Resourcefulness
Inclusivity
Science
Hope
Respect

Our Approach

Advocate
Collaborate
Educate
Implement
Integrate



Waste Diversion

Improve regional recycling, composting, reuse and waste reduction programs throughout the Yampa Valley.



Energy

Increase the efficient use of all energy and the transition to low or no-carbon energy to reduce greenhouse gas emissions.



Transportation

Transition to low or no carbon transportation and increase the use of multimodal transportation in the Yampa Valley.



Resilient Land & Water

Reduce greenhouse gas emissions and build climate resilience through land and water management actions, including opportunities to increase carbon sequestration.



Community Engagement

Empower individuals, businesses, governments and organizations to connect knowledge to climate action.

Decreasing Emissions

Increasing Resilience

Sustainability is Climate Action

Our Priorities



www.yvsc.org

michelle.stewart@yvsc.org

Questions?

