

# *ADDRESSING FUTURE WATER NEEDS IN A CHANGING CLIMATE IN THE UPPER SAN JUAN RIVER BASIN*

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# **UPPER SAN JUAN WATERSHED ENHANCEMENT PARTNERSHIP**

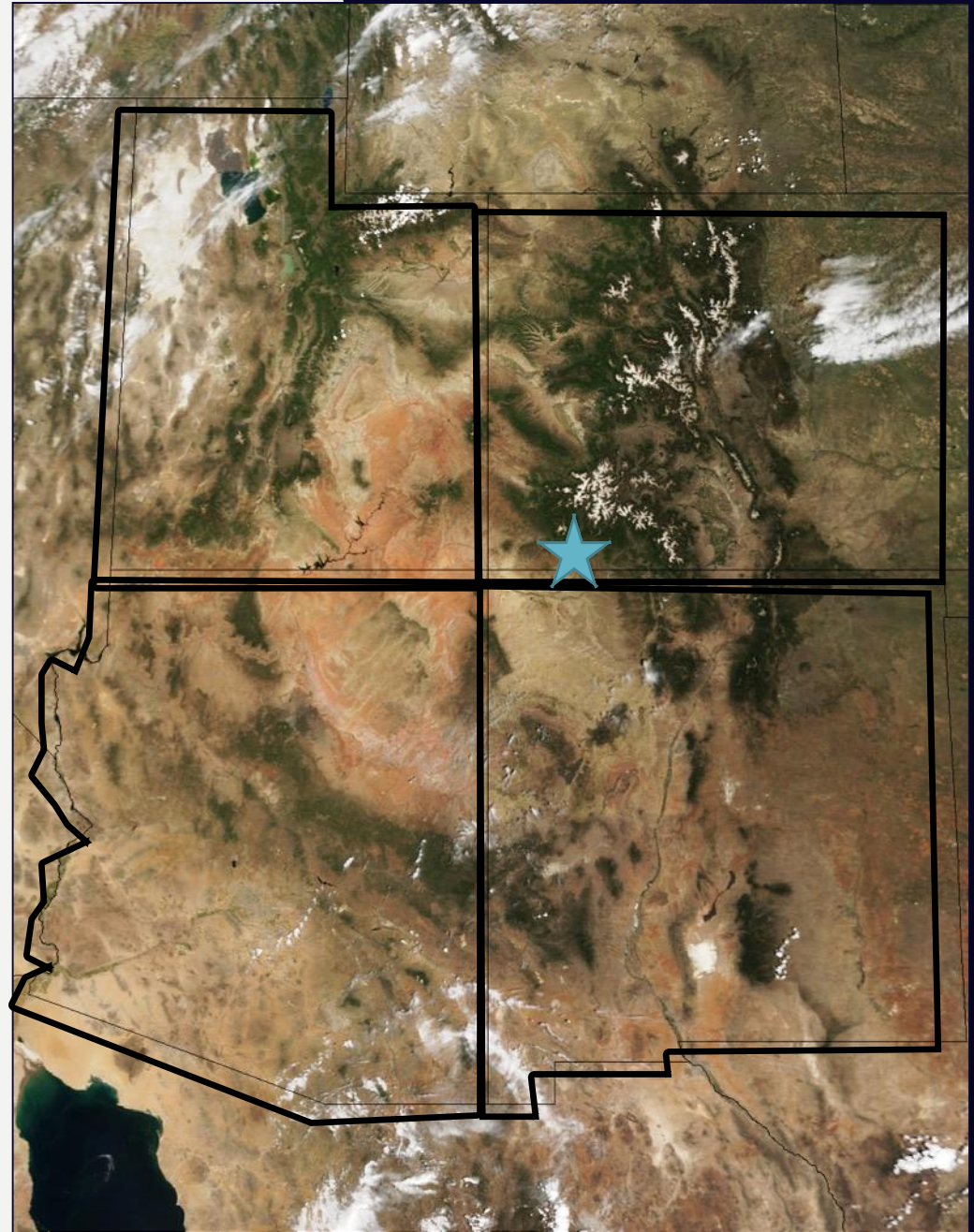
**EXPLORING OPPORTUNITIES TO SECURE  
RESILIENT WATER RESOURCES FOR ALL  
USERS**



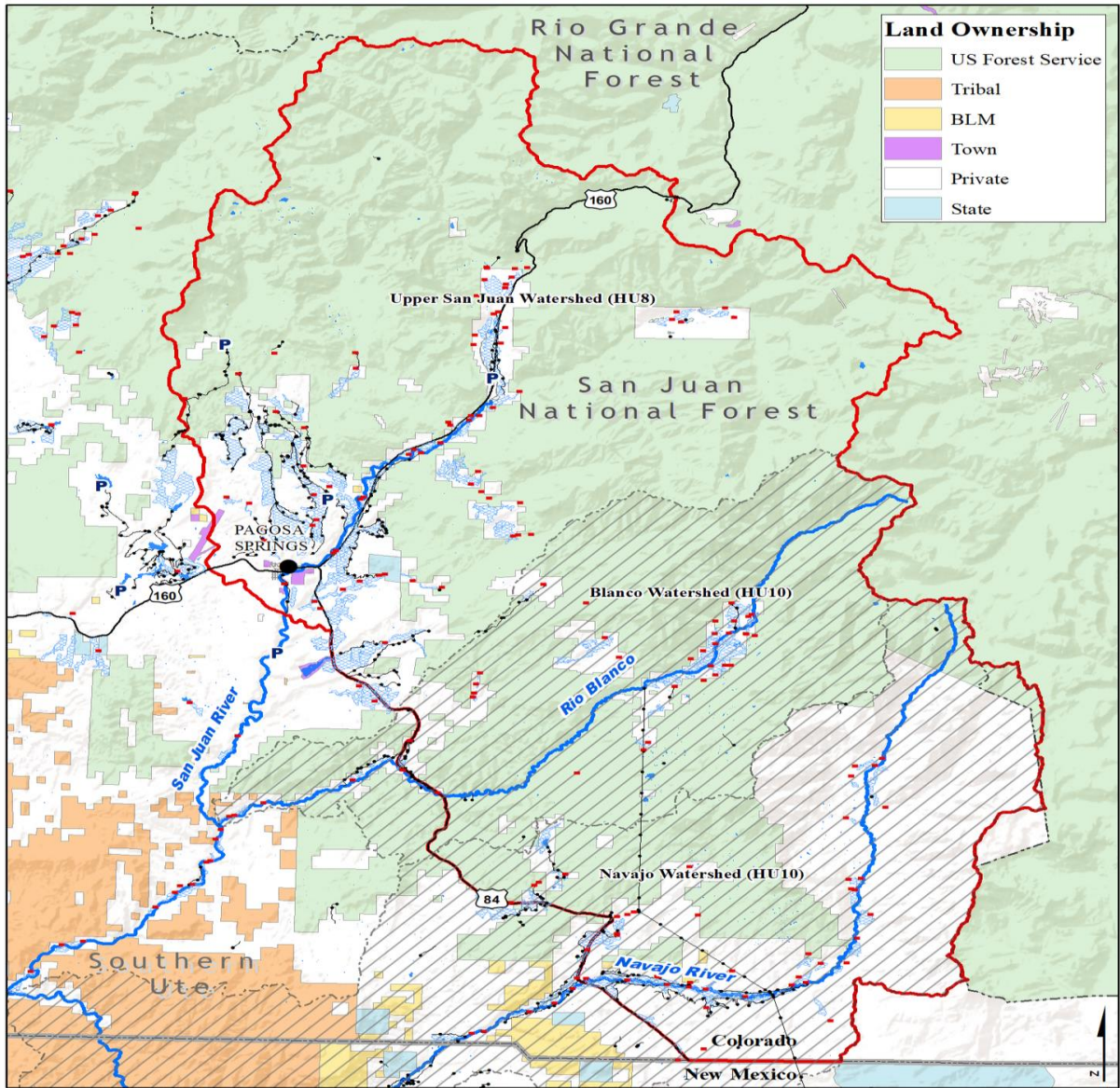
Mountain Studies Institute  
SAN JUAN MOUNTAINS COLORADO

# Where We Work

SERVING  
SOUTHWEST COLORADO







## Upper San Juan Watershed Enhancement Project

0 2.5 5 10 15 Miles

- Project Boundary
- PAWSD Infrastructure
- Ditch Headgate
- Ditch/Pipeline
- Irrigated Land
- HU10 Watershed

# WHY THIS EFFORT?

**IT IS IMPORTANT FOR THE DIFFERENT USERS TO DISCUSS THE NEEDS AND OPPORTUNITIES FOR ENHANCING THE HEALTH, WELL-BEING, AND SUSTAINABILITY OF THE SAN JUAN RIVER WATERSHED AND SECURING RESILIENCE OF THE COMMUNITIES THAT RELY ON ITS WATERS.**

- Water in southwest Colorado is a vital resource
- It supports historic land use, regional economies, recreational opportunities
- Drought and climate offer additional stresses to water availability

# GOALS

## WE NEED YOUR HELP

- Incorporate all values, voices, interests
- Build community support, bring public into conversation
- Build off community knowledge; incorporate community decision making
- Advance a culture of stewardship
- Respect history, current uses, water law
- Optimize water resources for all uses in accordance with CO water law
- Build a program around Science based adaptive management

# OBJECTIVES

## WE NEED YOUR HELP

- Identify opportunities, potential project areas
- Identify community interests
- Measure community response
- Identify current data and data gaps
- Public education - through articles, PSAs, meetings, etc
- Guide technical review in Phase II
- Map sensitive areas



## **PHASE I. May 2018-Present**

- a) Convene a steering committee and working watershed group
- a) Host public meetings to understand watershed values and identify opportunities for coordinated projects
- a) Support a data analysis and share findings with the watershed group and public
- a) Support the watershed group to develop a scope of work for a subsequent watershed assessment that can inform future projects, management decisions, and the development of an SMP

## **PHASE II – 2020 (Funding Dependent)**

- a) Support a needs assessment related to the identified values and share outcomes with the watershed group through regular updates
- b) conduct relevant research/monitoring associated with the forest to watershed health connection

## **PHASE III: Future and Beyond!**

- a) share findings of the assessments conducted during phase II with the community
- b) respond to questions/concerns/remaining gaps
- c) Identify projects and processes to support stream management with the watershed group and steering committee



# SCHEDULE

## SCHEDULE

First two months spent convening the steering committee and garnering support for the first public meeting. Steering committee meetings have been conducted monthly. Public and Stakeholder meetings held as outlined below.

	Month Following Contract Initiation																		total # of meetings	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
MILESTONES																				
Steering Committee Meeting	*	*	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	15
Stakeholder Meeting						x			x			x		x				x		5
Public Meeting						x						x						x		3

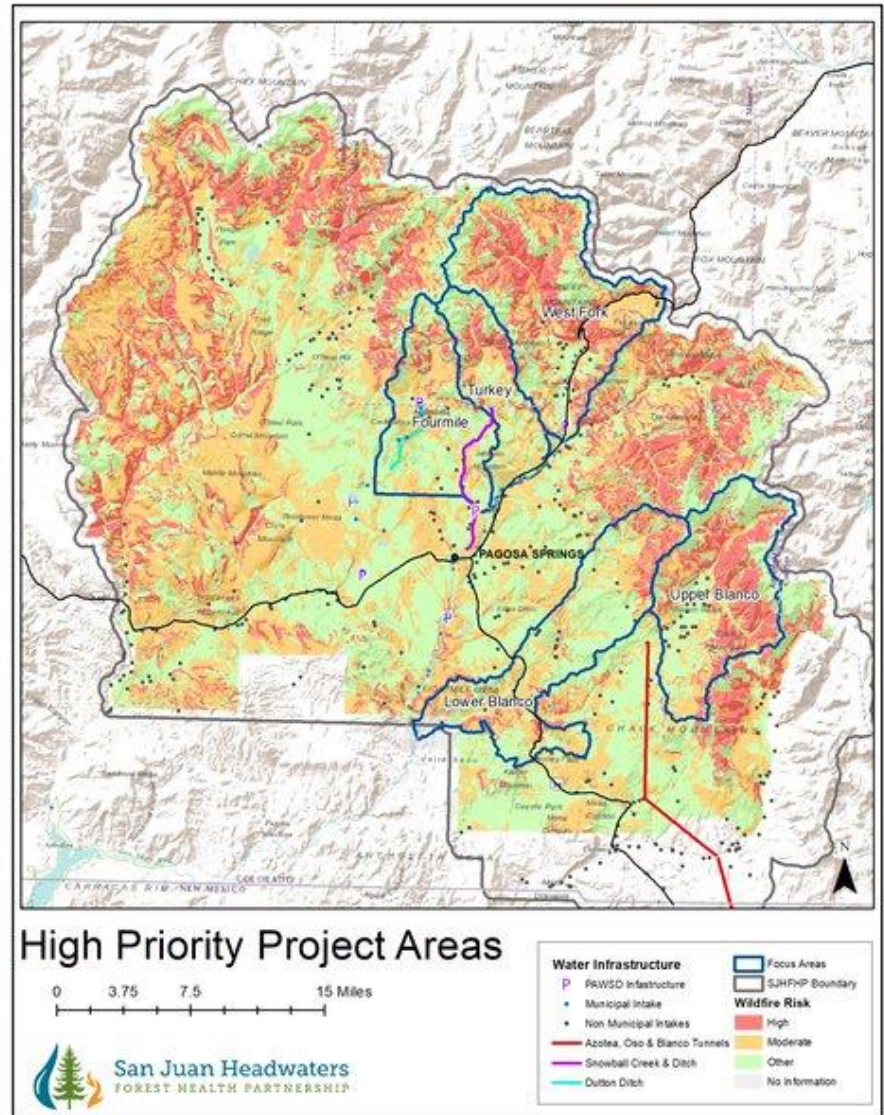


# San Juan Headwaters

FOREST HEALTH PARTNERSHIP

## DIVERSE STAKEHOLDERS PROACTIVE PLANNING – Protecting Water and WUI

- Built off of local knowledge
- Mapped fire risk
- Mapped water resources
- Mapped Wildland Urban Interface
- Determined Priority project areas and watersheds





# San Juan Headwaters

FOREST HEALTH PARTNERSHIP

**Alpine Cascade Ranch**

**American Tree Farm System**

**Archuleta County**

**Back Country Horsemen**

**Banded Peak Ranch**

**Citizens**

**Colorado State Forest Service**

**Colorado State Extension Office**

**Colorado Forest Restoration Institute**

**Colorado State University**

**FireWise of Southwest Colorado**

**(Wildfire Adapted Partnership)**

**Forest Health Company, LLC**

**Mountain Studies Institute**

**National Forest Foundation**

**National Resources Conservation Service**

**Pagosa Area School District**

**Pagosa Area Water and Sanitation District**

**Pagosa Lakes Property Owners Association**

**Ranchers**

**San Juan Citizens Alliance**

**San Juan National Forest**

**Southwest Conservation Corps**

**Southwest Water Conservation District**

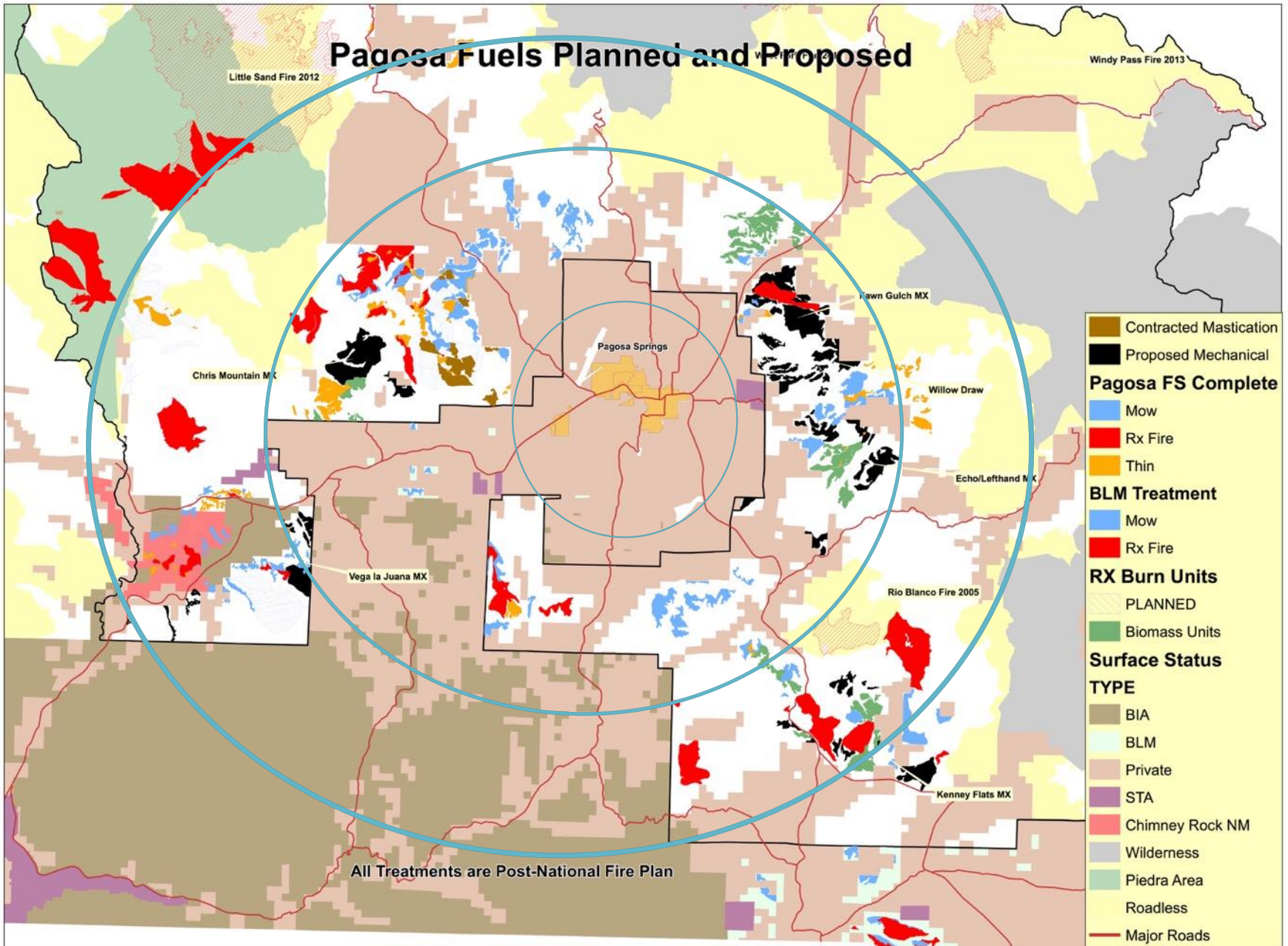
**Town of Pagosa Springs**

**Weminuche Audubon Society**

**Wolf Creek Ski Area**



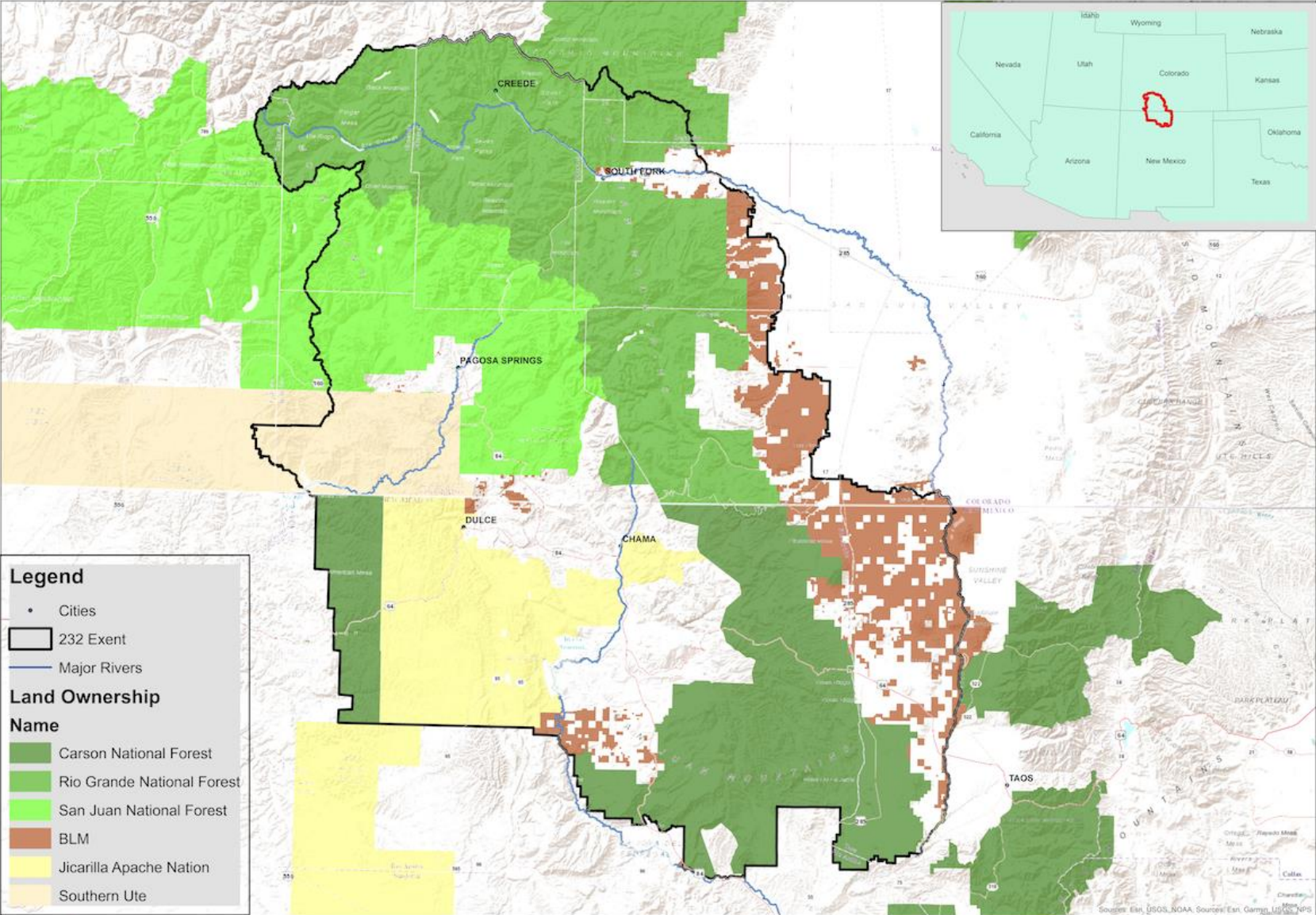
# Pagosa Fuels Planned and Proposed



- Contracted Mastication
- Proposed Mechanical
- Pagosa FS Complete**
- Mow
- Rx Fire
- Thin
- BLM Treatment**
- Mow
- Rx Fire
- RX Burn Units**
- PLANNED
- Biomass Units
- Surface Status**
- TYPE**
- BIA
- BLM
- Private
- STA
- Chimney Rock NM
- Wilderness
- Piedra Area
- Roadless
- Major Roads

All Treatments are Post-National Fire Plan





**Legend**

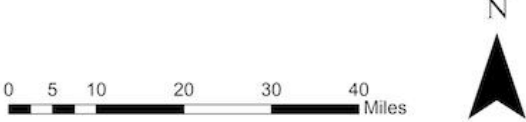
- Cities
- ▭ 232 Exent
- Major Rivers

**Land Ownership**

Name	
<span style="display: inline-block; width: 15px; height: 10px; background-color: #38761d; border: 1px solid black;"></span>	Carson National Forest
<span style="display: inline-block; width: 15px; height: 10px; background-color: #70ad47; border: 1px solid black;"></span>	Rio Grande National Forest
<span style="display: inline-block; width: 15px; height: 10px; background-color: #90d174; border: 1px solid black;"></span>	San Juan National Forest
<span style="display: inline-block; width: 15px; height: 10px; background-color: #a52a2a; border: 1px solid black;"></span>	BLM
<span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00; border: 1px solid black;"></span>	Jicarilla Apache Nation
<span style="display: inline-block; width: 15px; height: 10px; background-color: #ffa500; border: 1px solid black;"></span>	Southern Ute



# 2-3-2 Cohesive Strategy Partnership - Area Extent





# ADDRESSING COMMUNITY CONCERNS

Social

Economic

Ecological





**RESILIENT  
ARCHULETA**

**COMMUNITY BUILDING RESILIENCY**

# WHO WE ARE:

- Wildfire Adapted Partnership
- Environmental Managers
- Marketing Specialist
- La Plata Electric Association
- Archuleta County
- The Town of Pagosa Springs
- CSU Extension

# WHAT WE DO

- **Resilient Archuleta Mission Statement** To bring our community together and proactively engage a group of concerned stakeholders who wish to investigate, plan and promote ways to make our community resilient to changing events and climate.
- **Resilience Definition** – the capacity of our organizations, community systems, programs, and services to survive, adapt, bounce back and grow in the face of unforeseen changes and disruptions.

# TIMELINE

- Five core members attended the Sonoran Institute Resilient Communities training.
- Identified partners and stake holders
- Convened public input sessions
- Conducted survey
- Identified values and priorities in our community
- Educated and held community input sessions to start the resiliency planning for our community.



# OUR GOALS

- Continue to bring community together to educate, discuss, and plan for our resiliency.

**GROWING WATER SMART  
WORK GROUP'S  
GROWTH PROJECTION  
ANALYSIS**

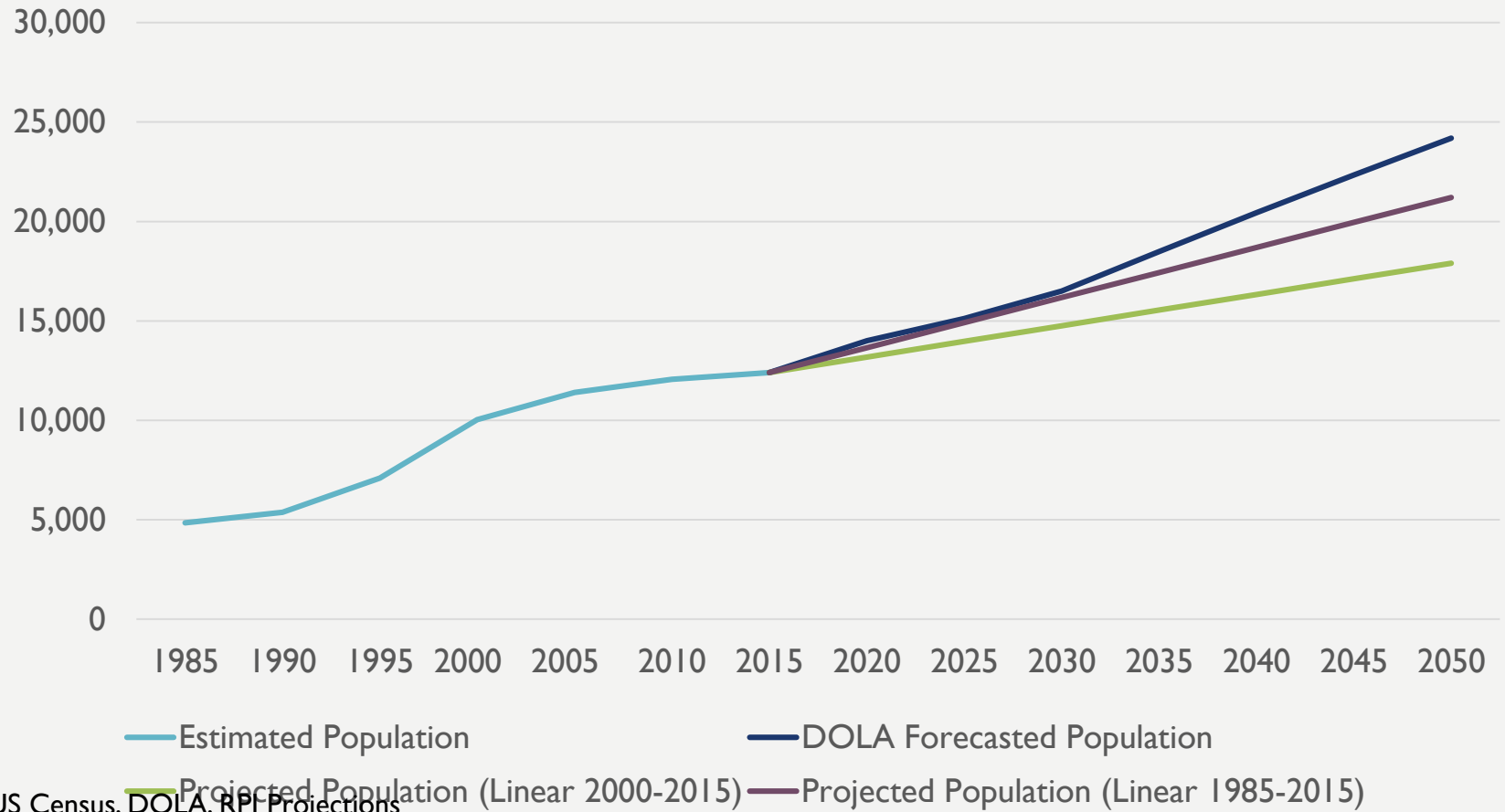
Formed in February 2018 after attending a Sonoran Institute grant funded workshop, the Growing Water Smart work group (GWSWG) concentrated their efforts on developing recommendations regarding community organizations adopting a common growth projection range to base individual future planning efforts.

The GWSWG included representation from 6 community organizations:

- Town of Pagosa Springs
- Archuleta County
- Pagosa Area Fire District
- Pagosa Lakes Property Owners Association
- San Juan Water Conservancy District
- Pagosa Area Water and Sanitation District

- The GWSWG conducted 11 work sessions, with the help of a Sonoran Institute funded facilitator, to discuss what factors can influence and impact our local growth patterns.
- The GWSWG invited the State Demographer, who presented how the Colorado Department of Local Affairs (DOLA) Demographers Office analyzes data to compile state and regional growth projections.
- The Sonoran Institute and San Juan Water Conservancy District funded a consultant to work with the GWSWG and to conduct a local growth analysis.
- The GWSWG reviewed the consultants methodology and growth projection analysis and developed a set of recommendations.
- The GWSWG convened a joint work session with the participating organization boards to present findings and recommendations, for consideration at respective participating board future meetings for consideration of adoption .

## Archuleta County Historic Population and Future Population



Sources: US Census, DOLA, RPI Projections

- DOLA forecasts exceed projected population based on 1985-2015, which include the unprecedented growth in the 1990s



The GWSWG recommends the participating organizations enter into an IGA or MOU supporting the following:

- 1) Enter into an Inter-Governmental Agreement (IGA) formalizing each organizations participation and the following:
- 2) Adopt the common growth projection range predicted through 2050, for each organizations use for their individual future planning efforts.
- 2) Update the growth projection range analysis in 2 years (2021).
- 3) Allocate up to \$1,000 each for consultant services for the 2021 update process.
- 4) Collaborate on the creation of consistent low water landscaping regulations.
- 5) Community and governmental organizations should consider measures to ensure a sustainable and resilient water supply for current development and future growth needs.
- 6) Continue to support and allocate staff and/or board members to participate in continued GWSWG efforts.
- 7) Continue multi-agency communication on future proposed development applications and growth areas.

# COMPARING FORECASTS AND PROJECTIONS

Projection Years	PAWSD Residential Units, 2000-2017 Projection Period	PAWSD Residential Units, 2012-2017 Projection Period	Linear Projection of County Population 1985-2015	Linear Projection of County Population 2000-2015	DOLA County Population Forecasts
% Average Annual Change 2016-2020	1.6%	1.3%	2.0%	1.3%	2.6%
% Average Annual Change 2021-2025	1.9%	1.3%	1.8%	1.2%	1.6%
% Average Annual Change 2026-2030	1.7%	1.2%	1.7%	1.1%	1.8%
% Average Annual Change 2031-2035	1.6%	1.1%	1.6%	1.1%	2.4%

Sources: Archuleta County Assessor, DOLA, US Census

- **Low-end:** 1.1-1.3% average annual growth
- **Likely:** 1.6% - 1.9% average annual growth
- **High-end:** up to 2.6% average annual growth

# CHALLENGES

- Getting key stakeholders engaged – time constraints
- Educating the community
  - What it takes to get water to where it is needed

# LESSONS LEARNED

- Talking with other SMP efforts
- Going to potential stakeholders