

ECONOMIC CONTRIBUTION ANALYSIS OF CSAR (OURAY COUNTY)

Sarah Stoddard Cameron

Jeff Engell
Dr. Tim Komerak

PROJECT INTRODUCTION

In Colorado, county sheriffs are statutorily obligated to provide backcountry search and rescue services. Many choose to delegate this responsibility to technically skilled search and rescue (SAR) teams comprised of volunteers. SAR teams operate through a structured process: a 911 call triggers the sheriff's contact with SAR, leading to SAR's deployment, retrieval of the individual(s), and handover to emergency medical services [EMS]. SAR teams are primarily funded through donations and grants. Each mission can cost hundreds, if not thousands of dollars and dozens of man hours.

Search and rescue services in CO are primarily provided by volunteer teams, and donated funding. The value of these services is largely unrecognized, because there is no direct market signal to show societal benefit. This paper seeks to demonstrate the economic contribution of Colorado Search and Rescue (CSAR) in the context of the Ouray Mountain Rescue (OMR) team. Specifically, it focuses on quantifying the significance of volunteer contribution. Information and perspectives were obtained through literature review, field visits, and interviews.

Additional SAR Responsibilities:

- Assisting CDOT with vehicle extrication and recovery
- Assisting local law enforcement with wellness checks, missing persons, etc.
- Trainings, and team meetings
- Administrative work; funding efforts, mission archives & data, etc.
- Outreach & Education

OURAY COUNTY

Ouray County covers 542 square miles of the San Juan mountains and has a population of approximately 5,176 according to the 2024 census. The county is home to two major municipalities: the city of Ouray (pop. 925), sitting at 7,800 feet, and the town of Ridgway (pop. 1,213), which sits slightly lower at 6,900 feet above sea level. Home to the headwaters of the Uncompahgre, and Mount Sneffels Wilderness, the county's rugged and diverse terrain is a major draw for outdoor recreation and tourism, attracting hikers, climbers, and off-road vehicle enthusiasts. The economy is largely supported by out-of-state tourists, many of which are not familiar with the terrain or potential risks that might arise while recreating. Travel spending within the county has more than doubled over the past decade, from 38.2 million in 2013 to 90.7 million in 2023 (OEDIT, 2024). Peak season occurs July through late September, with growing participation in winter recreation (late Dec though early March).

Popular Outdoor Activities for Visitors: Short hikes, jeeping, OTV/ATV use, canyoning, via ferrata, and ice climbing.

ECONOMIC CONTRIBUTION

Operating Expenses

The difficult and rugged terrain of Ouray County, make SAR missions technically challenging in a variety of ways. Missions often occur deep in the backcountry, sometimes in bodies of water, tops of mountains or the bottom of canyons. Each require different technical gear that SAR teams are responsible for sourcing. Off-road vehicles, watercraft, and helicopter rentals are often needed.

In addition to vehicles, storage space, medical/first responder supplies and satellite communication is required. All equipment must be in adequate condition for missions at all times -meaning constant maintenance costs. This amounts to thousands of dollars annually, as illustrated in the table above.

SAR Gear Sample Pricing Table (USD)		
	Buy	Rent (Ouray County)
OHV (off-highway vehicle)		
ATV	1000+	300-500/day
UTV	3500+	300-500/day
Snowmobile		350-600/day
Truck/SUV	25,000+	150-500/day
Helicopter	n/a	1200-3000/hr
Medical Supplies		
EMT/First Responder Bag	300-1000 ea	(includes trauma dressing & essential supplies)
Litter/Stretcher/Sled	500-3500	
Gear		
Satellite Radio/Messenger	100-500/device	
Climbing	200-600/person	Harness, Helmet, Crampons, etc..

VALUING VOLUNTEERISM

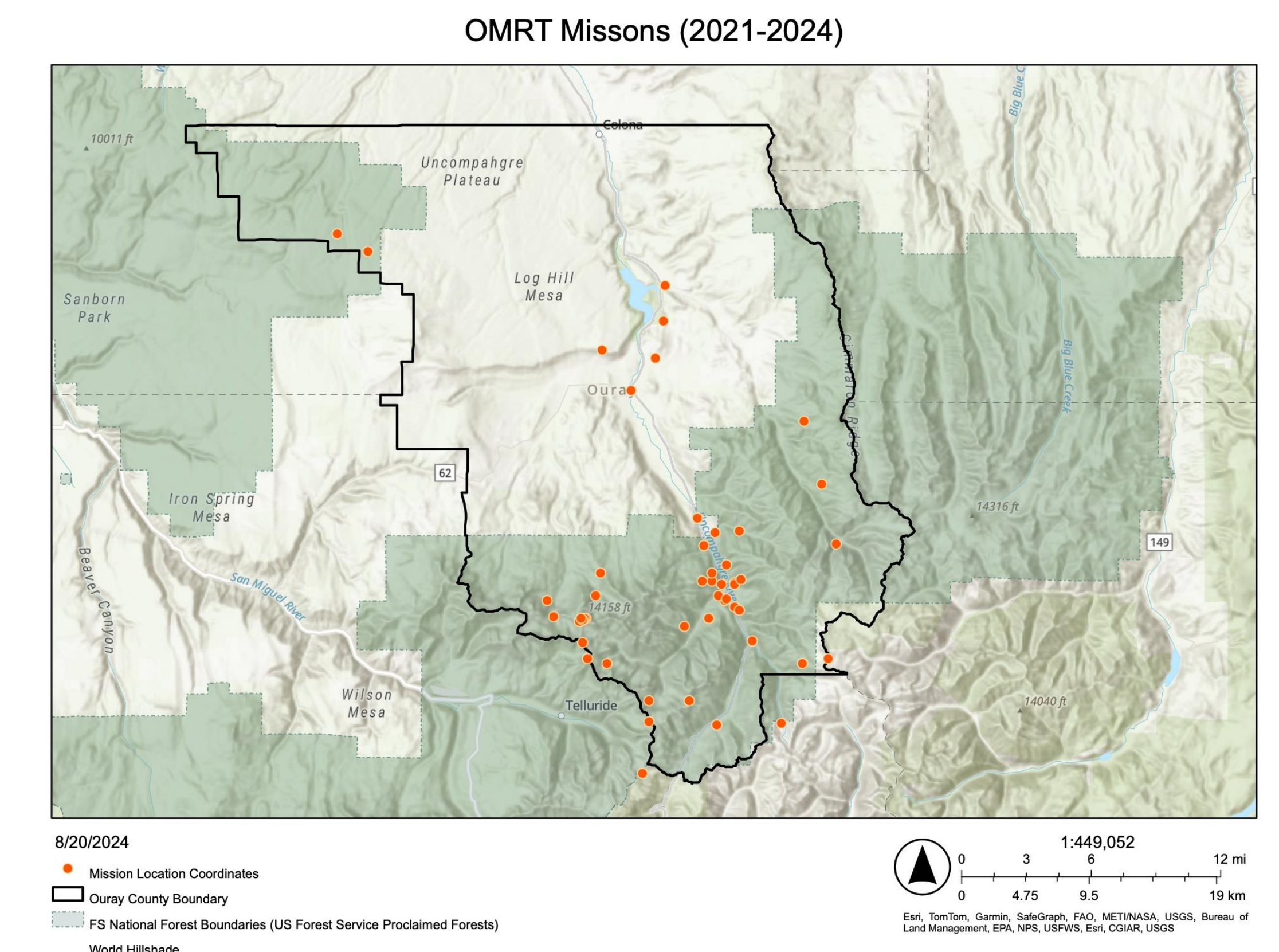
Volunteers and voluntary organizations create goods and services that generate economic value, even though these goods and services are not sold in markets and lack market prices. The value of the volunteer hour depends on the perspective of the observer. The volunteer is willing to participate for free, and actually benefits from this activity (willingness to accept = \$0.00/hr). However this fails to account for the value to society. To estimate an alternative One standard way to convert estimates of time volunteered into estimates of the dollar value of volunteered time is to multiply estimated hours by the average hourly compensation rate for paid labor. To determine an adequate wage replacement one must average several comparable occupations. The third method uses these principles, but at a macro level. This wage reflects the value of volunteerism that is determined annually by Independent Sector (a group compiled of non-profits).

Methods

- I. **Estimated Contribution = (# of volunteer hours worked)*(\$0.00)**
- II. **Estimated Contribution = (# of volunteer hours worked)*(\$46.66)**
- III. **Estimated Contribution = (# of volunteer hours worked)*(State/Year Valuation)**

Estimated Contribution (USD)									
Method	2021			2022			2023		
	Valuation of hourly wage	Estimated Volunteer Hours	Total Value	Valuation of hourly wage	Estimated Volunteer Hours	Total Value	Valuation of hourly wage	Estimated Volunteer Hours	Total Value
I.	\$0.00	1506.25	\$0.00	\$0.00	1444.5	\$0.00	\$0.00	1103.8	\$0.00
II.	\$46.66		\$70,281.63	\$46.66		\$67,400.37	\$46.66		\$51,503.31
III.	\$36.56		\$55,068.50	\$34.36		\$49,633.02	\$31.51		\$34,780.74
Total									
	I.		\$0.00						
	II.		\$189,185.30						
	III.		\$104,701.52						

MISSION MAPPING



OURAY MOUNTAIN RESCUE TEAM

Boasting 744 missions since its establishment, Ouray Mountain Rescue (OMR) is an idyllic representation of Colorado's SAR services and volunteer SAR teams. Established in 1974 by four founding members, OMR serves Ouray County with a dedicated team of 32 volunteers, the majority of which have full-time jobs outside of their volunteer SAR roles.

Average missions per year: 29
Average # of responders/ mission: 10

Responding to...
44% hikers or backpackers, 12.5% climbers, 20% Jeep/OTV/ATV users, 23% other outdoor activities.