

Campsite Collector – 2021 Baseline Data Summary



Campsite Collector Project

The Campsite Collector APP is a tool developed by the community in collaboration with land management agencies. The tool enables staff and volunteers to collect repeatable data on the condition of campsites in Chaffee and Lake County. A 2022 upgrade of the APP will further empower staff and volunteers to use the data to guide and to track management action, such as cleaning up waste and containing sites. The intent of the Campsite Collector project is to: 1) Track conditions over time, 2) empower the community and agency staff to monitor, take action and track action efficacy.

In 2021, the community and agency staff collected baseline data on the majority of vehicle-based campsites across Chaffee County and at Lake County focus areas. This report provides a 2021 baseline of conditions at those sites. Areas with the greatest density of camping include (in order): Turquoise and Twin Lakes, Fourmile North, Clear Creek, Browns Creek, Cottonwood Creek and BLM lands in southern Chaffee County (Figure 1).

In Chaffee County, the 2021 baseline will be used to track progress on the Chaffee Recreation Plan's objective to cut camping impacts by half by 2026, which includes addressing campsites with trash (currently 38%) and human waste (currently 12%) to a 5% target; decreasing the average size of sites by 20%; closing 90% of illegal or very harmful sites; and taking action to decrease human-caused wildfire risk and tree damage.

2021 Baseline Data Summary

Data has been collected on 2,763 campsites using the Campsite Collector APP (Figure 1, Table 1). The data is stored at County of Chaffee. Quality control and quality assurance has been completed by Pointer Consulting principal Garrett Smith PhD.

Of the total 2,763 sites collected, 47% have trash – totaling 3,945 gallons – and 15% have human waste. The sites cover a total impacted area of 194 acres – or about a third of a square mile. The sites include more than 3,500 damaged trees.

For Chaffee County, the baseline camping data is as follows:

- Campsites with trash – 38% (2,300 total gallons)

- Campsites with human waste – 12%

- Average campsite size – 3,081 square feet (153 acres total)

- Sites with tree damage – 57%

- Sites with more than 3 fire rings – 5%.

The APP will be used on an ongoing basis to measure progress on the Rec Plan goals to cut camping impacts. For further detail, tables are also provided below summarizing sites on USFS, BLM, AHRA and State Land Board lands covering both counties. These sites show similar current conditions (Table 1) with a few exceptions. In general, sites in Chaffee County have a lower incidence of trash and human waste, possibly as a result of 2021 actions such as the Rec Rangers program. In general, sites on BLM lands have a higher incidence of potential residential use, likely due to proximity to towns.

Table 1. Summary of campsite data by location and agency.

Location	Number	% with Trash	% with Human Waste	% with possible residential use	% with more than 3 fire rings
All Chaffee and Lake Counties	2,763	47%	15%	2%	6%
All Chaffee County	2,165	38%	11%	2%	5%
All USFS Lands	2,267	45%	16%	1%	6%
All BLM Lands	302	51%	13%	7%	4%
All AHRA Lands	78	83%	4%	0	0
All State Land Board Lands	36	52%	9%	3%	6%

Recommendations

Continued and long-term community and agency staff use of the Campsite Collector APP will enable tracking of management action and change in site conditions over time. This provides a powerful mechanism to track progress against the community's vision of having clean and sustainable camping opportunities for this and the next generation. This will also provide information on the efficacy of programs such as Rec Rangers and Rec Adopters, as well as of potential longer-term management solutions being assessed by land management agencies, such as designating campsites.

Tables and Figures

Figure 1. Kernel density of all campsites collected across the study area and detailed views of the three areas with the highest campsite density. Kernel density hotspot analysis was undertaken using 100-meter cell size and 3,000-meter search radius selecting for the upper-third rule to define hotspots. Those areas that are in the top one-third of the density distribution are classified as hotspots.

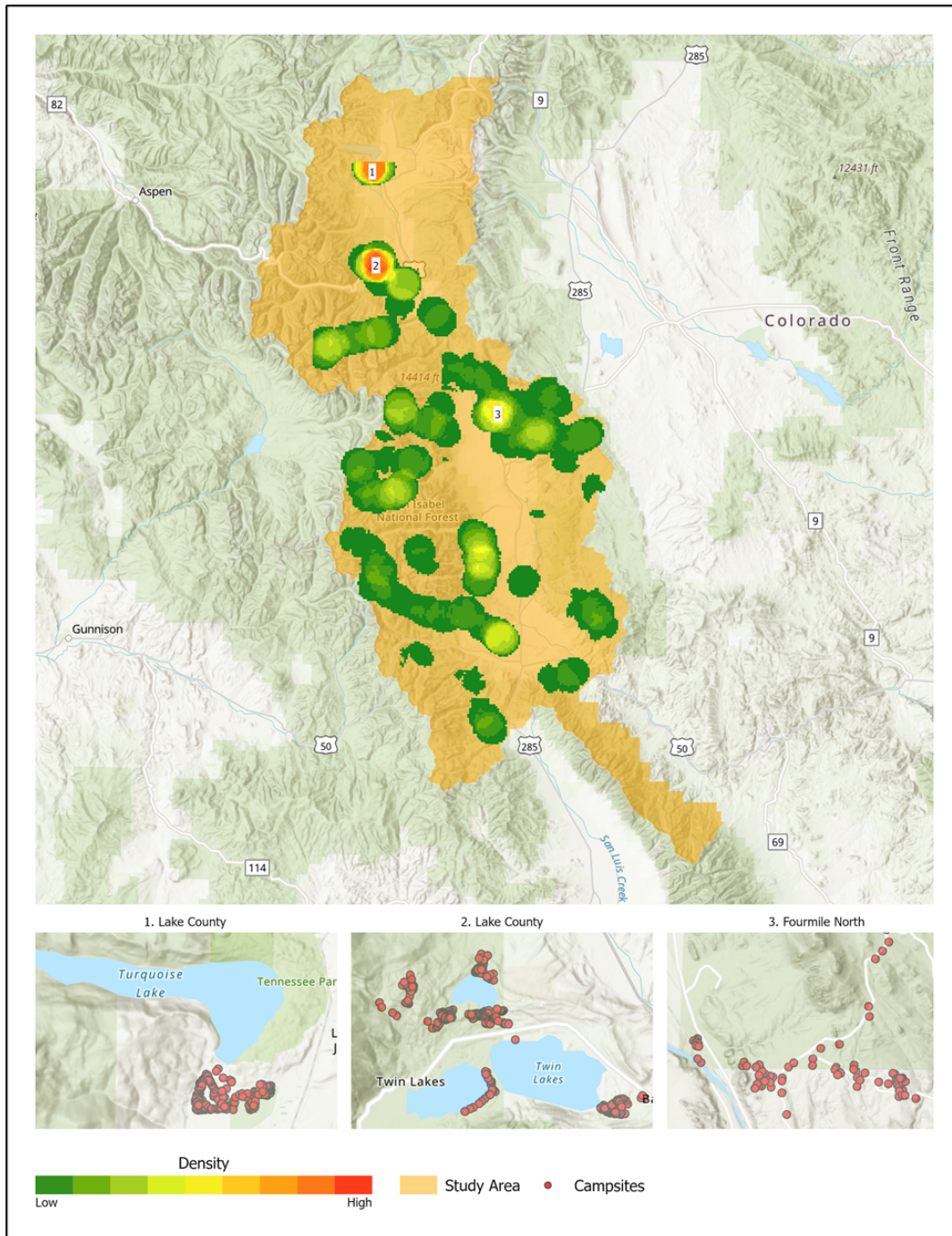


Table 2 All data in Chaffee and Lake Counties, including: Cumulative disturbed area, total gallons of trash, sites with trash, campsite impact categories, and residential use of all campsites collected during the 2021 campsite collection period. Campsite impact category values correspond to the absolute number and the percentage of campsites that fall within each of the categories.

All Campsites (*n*=2,763)

Disturbed Area

Total Square Feet	8,455,611
-------------------	-----------

Trash

Total Gallons	3,945
---------------	-------

	n	%
Sites with Trash	1,298	46.9

Vegetation and Ground Condition

Non-impacted	199	7.2
Impacted	1,307	47.3
Bare Ground	1,188	43.0
Eroded	69	2.5

Number of Trees and Shrubs Damaged

0	1,016	36.8
1 to 5 damaged	1,445	52.3
6 to 10 damaged	234	8.5
Greater than 10 damaged	68	2.5

Amount of Human Waste Present

None	2,337	84.6
1 present	245	8.9
2 to 5 present	144	5.2
More than 5 present	37	1.3

Number of Fire Rings Present

None	302	10.9
1 to 2 present	2,303	83.4
3 to 5 present	147	5.3
More than 5 present	11	0.4

Possible Residential Use

No	2,719	98.4
Yes	44	1.6

Table 3. Campsites collected in Chaffee County only during the 2021 collection period, showing cumulative disturbed area, total gallons of trash, sites with trash, campsite impact categories and sites with potential residential use. Campsite impact category values correspond to the absolute number and the percentage of campsites that fall within each of the categories.

Chaffee County Campsites (*n*=2,165)

Disturbed Area

Total Square Feet	6,671,051
-------------------	-----------

Trash

Total Gallons	2,300
---------------	-------

	n	%
Sites with Trash	831	38.4

Vegetation and Ground Condition

Non-impacted	190	8.8
Impacted	885	40.9
Bare Ground	1,030	47.6
Eroded	60	2.8

Number of Trees and Shrubs Damaged

0	940	43.4
1 to 5 damaged	1,060	48.9
6 to 10 damaged	139	6.5
Greater than 10 damaged	26	1.2

Amount of Human Waste Present

None	1,915	88.5
1 present	153	7.1
2 to 5 present	79	3.6
More than 5 present	18	0.8

Number of Fire Rings Present

None	254	11.7
1 to 2 present	1,802	83.2
3 to 5 present	101	4.7
More than 5 present	8	0.4

Possible Residential Use

No	2,133	98.5
Yes	32	1.5

Table 4. Campsites collected in USFS study areas across Chaffee and Lake Counties during the 2021 collection period showing cumulative disturbed area, total gallons of trash, sites with trash, campsite impact categories, and residential use.

USFS Campsites (*n*=2,267)

Disturbed Area

Total Square Feet	7,113,932
-------------------	-----------

Trash

Total Gallons	3,051
---------------	-------

	n	%
Sites with Trash	1,012	44.6

Vegetation and Ground Condition

Non-impacted	175	7.7
Impacted	1,138	50.2
Bare Ground	921	40.6
Eroded	33	1.5

Number of Trees and Shrubs Damaged

0	879	38.8
1 to 5 damaged	1,138	50.2
6 to 10 damaged	190	8.4
Greater than 10 damaged	60	2.6

Amount of Human Waste Present

None	1,914	84.4
1 present	196	8.6
2 to 5 present	124	5.5
More than 5 present	33	1.5

Number of Fire Rings Present

None	206	9.1
1 to 2 present	1,924	84.9
3 to 5 present	129	5.7
More than 5 present	8	0.4

Possible Residential Use

No	2,245	99.0
Yes	22	1.0

Table 5. Campsites collected in BLM study areas during the 2021 collection period showing cumulative disturbed area, total gallons of trash, sites with trash, campsite impact categories, and residential use.

BLM Campsites (*n*=302)

Disturbed Area		
Total Square Feet		690,149
Trash		
Total Gallons		558

	n	%
Sites with Trash	153	50.7

Vegetation and Ground Condition

Non-impacted	15	5.0
Impacted	119	39.4
Bare Ground	134	44.4
Eroded	34	11.2

Number of Trees and Shrubs Damaged

0	84	27.8
1 to 5 damaged	181	60
6 to 10 damaged	32	10.6
Greater than 10 damaged	5	1.6

Amount of Human Waste Present

None	262	86.8
1 present	28	9.3
2 to 5 present	11	3.6
More than 5 present	1	0.3

Number of Fire Rings Present

None	63	20.9
1 to 2 present	226	74.8
3 to 5 present	13	4.3
More than 5 present	0	0.0

Possible Residential Use

No	282	93.4
Yes	20	6.6

Table 6. Campsites collected in AHRA areas during the 2021 collection period showing the cumulative disturbed area, total gallons of trash, sites with trash, campsite impact categories, and residential use.

AHRA Campsites (*n*=78)

Disturbed Area		
Total Square Feet		147,616
Trash		
Total Gallons		74

	n	%
Sites with Trash	65	83.3

Vegetation and Ground Condition

Non-impacted	5	6.4
Impacted	9	11.5
Bare Ground	64	82.1
Eroded	0	0

Number of Trees and Shrubs Damaged

0	18	23.1
1 to 5 damaged	52	66.7
6 to 10 damaged	5	6.4
Greater than 10 damaged	3	3.8

Amount of Human Waste Present

None	66	84.6
1 present	9	11.5
2 to 5 present	3	3.8
More than 5 present	0	0.0

Number of Fire Rings Present

None	23	29.5
1 to 2 present	55	70.5
3 to 5 present	0	0.0
More than 5 present	0	0.0

Possible Residential Use

No	78	100.0
Yes	0	0.0

Table 7. Campsites collected in SLB study areas during the 2021 collection period showing the cumulative disturbed area, total gallons of trash, sites with trash, campsite impact categories, and residential use.

SLB Campsites ($n=36$)

Disturbed Area

Total Square Feet	319,053
-------------------	---------

Trash

Total Gallons	23
---------------	----

	n	%
Sites with Trash	19	52.8

Vegetation and Ground Condition

Non-impacted	3	8.3
Impacted	22	61.1
Bare Ground	11	30.6
Eroded	0	0

Number of Trees and Shrubs Damaged

0	12	33.3
1 to 5 damaged	22	61.1
6 to 10 damaged	2	5.6
Greater than 10 damaged	0	0.0

Amount of Human Waste Present

None	33	91.7
1 present	2	5.6
2 to 5 present	1	2.8
More than 5 present	0	0.0

Number of Fire Rings Present

None	3	8.3
1 to 2 present	31	86.1
3 to 5 present	1	2.8
More than 5 present	1	2.8

Possible Residential Use

No	35	97.2
Yes	1	2.8

Table 8. Areas with more than 100 campsites collected during the 2021 collection period and related data.

Campsites – Areas With More Than One Hundred Total Sites										
	Lake County* (n=549)		Fourmile North (n=237)		Clear Creek (n=201)		Browns Creek Motorized (n=191)		BLM South (n=168)	
Disturbed Area										
Total Square Feet	1,647,394		1,094,829		334,568		870,326		399,136	
Trash										
Total Gallons	1,465		165		101		147		438	
	n	%	n	%	n	%	n	%	n	%
Sites with Trash	440	80.1	77	32.5	56	27.9	58	30.4	80	47.6
Vegetation and Ground Condition										
Non-impacted	8	1.5	16	6.8	14	6.9	11	5.8	9	5.4
Impacted	409	74.6	46	19.4	84	41.8	125	65.4	79	47.0
Bare Ground	123	22.4	171	72.2	102	50.7	52	27.2	52	31.0
Eroded	8	1.5	4	1.7	1	0.6	3	1.6	28	16.6
Number of Trees and Shrubs Damaged										
0	54	9.9	61	25.7	72	35.8	151	79.1	44	26.2
1 to 5 damaged	358	65.3	156	65.8	112	55.7	35	18.3	100	59.5
6 to 10 damaged	94	17.2	20	8.4	12	5.9	3	1.6	19	11.3
Greater than 10 damaged	42	7.7	0	0.0	5	2.6	2	1.0	5	3.0
Amount of Human Waste Present										
None	385	70.3	229	96.6	185	92.0	173	90.6	147	87.5
1 present	87	15.9	6	2.5	13	6.5	12	6.3	14	8.3
2 to 5 present	60	10.9	2	0.9	3	1.5	5	2.6	7	4.2
More than 5 present	16	2.9	0	0.0	0	0.0	1	0.5	0	0.0
Number of Fire Rings Present										
None	46	8.4	22	9.3	13	6.5	21	10.9	35	20.8
1 to 2 present	459	83.8	195	82.3	178	88.6	165	86.4	125	74.4
3 to 5 present	41	7.5	19	8.0	10	4.9	5	2.7	8	4.8
More than 5 present	2	0.4	1	0.4	0	0.0	0	0.0	0	0.0
Possible Residential Use										
No	537	98.0	235	99.2	201	100.0	189	99.0	155	92.3
Yes	11	2.0	2	0.8	0	0.0	2	1.0	13	7.7

*Lake County was not divided into individual study areas during the 2021 campsite collection period.

Table 8 continued. Areas with more than 100 campsites collected during the 2021 collection period and related data.

Campsites – Areas With More Than One Hundred Total Sites										
	BLM North (n=130)		Collegiate Peaks Wilderness (n=117)		Chalk Creek Headwaters (n=110)		Four Mile South (n=109)		Denny Creek Basin (n=103)	
Disturbed Area										
Total Square Feet	278,860		69,158		218,980		589,916		519,617	
Trash										
Total Gallons	118		9		9		92		29	
	n	%	n	%	n	%	n	%	n	%
Sites with Trash	71	54.6	8	6.8	45	40.9	39	35.8	17	16.5
Vegetation and Ground Condition										
Non-impacted	6	4.6	7	6.0	36	32.7	10	9.1	5	4.9
Impacted	39	30.0	49	41.9	46	41.8	45	40.9	56	54.4
Bare Ground	79	60.8	61	52.1	26	23.6	54	19.1	40	38.8
Eroded	6	4.6	0	0.0	2	1.8	0	0.0	2	1.9
Number of Trees and Shrubs Damaged										
0	38	29.2	40	34.2	61	55.5	56	50.9	39	37.9
1 to 5 damaged	79	60.8	68	58.1	48	43.6	50	45.5	54	52.4
6 to 10 damaged	13	10.0	8	6.8	0	0.0	3	2.7	8	7.8
Greater than 10 damaged	0	0.0	1	0.9	1	0.9	0	0.0	2	1.9
Amount of Human Waste Present										
None	112	86.2	106	90.6	74	67.3	101	91.8	95	92.2
1 present	13	10.0	7	6.0	23	20.9	4	3.6	4	3.9
2 to 5 present	4	3.1	4	3.4	13	11.8	4	3.6	4	3.9
More than 5 present	1	0.8	0	0.0	0	0.0	0	0.0	0	0.0
Number of Fire Rings Present										
None	28	21.5	32	27.3	3	2.7	10	9.1	5	4.9
1 to 2 present	97	74.6	84	71.8	98	89.1	93	84.5	95	92.2
3 to 5 present	5	3.8	1	0.9	9	8.2	6	5.5	3	2.9
More than 5 present	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Possible Residential Use										
No	123	94.6	117	100.0	109	99.1	108	98.2	102	99.0
Yes	7	5.4	0	0	1	0.9	1	1.8	1	1.0