

RECREATION SPECIAL USE PROGRAM ASSESSMENT

CORRECTION

RED ROCK RANGER DISTRICT, COCONINO NATIONAL FOREST

February 2010



INTRODUCTION

In September 2008, the Red Rock Ranger District (RRRD) of the Coconino National Forest published the Recreation Special Use Program Assessment (RSUPA). This document analyzed various aspects of outfitter/guide uses on the district. The analysis was performed to support the administration of the District's outfitter/guide program.

The RSUPA examined several elements of the outfitter/guide program:

- unguided visitor use data and trends
- outfitter/guide use data
- the need for outfitter/guide services, for various activities
- recreation capacity
- natural and cultural resource conditions pertaining to outfitter/guide use
- Summary of pertinent Forest Plan direction

While the analysis was thorough, it contained errors and required correction. These corrections are published here and pertain to the needs assessment and the capacity analysis portions of the RSUPA. The corrections contained herein are made part of the RSUPA and supersede related sections.

NEEDS ASSESSMENT

In Chapter 3 of the Assessment, the methodology for determining the need for outfitter/guide services was thorough and accurate. Specifically, pages 53-54 detail several key elements to be taken into account, such as the specialized skills or equipment required to participate in an activity, whether the activity meets Forest management goals, and so forth. However, when the final determination (of whether or not an activity was “needed”) was made, only one element was used: whether or not at least 70 percent of existing authorized outfitter/guide use was actually used. All other factors, though documented, were not considered.

While in most circumstances this could be a reasonable approach, in the case of the Red Rock Ranger District it was not. Levels of authorized use were disproportionate to those actually used by most existing outfitter/guides. Rather than being a reflection of public demand, the analysis underscored the need for tighter permit administration.

Additionally, public demand is not a basis for determining need, nor is outfitter/guide desire for permitted use. The Outfitter/Guide Administration Handbook provides clear direction on this:

Market-generated demand or applications for conducting outfitting, by themselves, do not constitute need. The identification of need should be substantiated by agency analysis. (p. A-4)

“Agency analysis” should include, in addition to public demand, a determination of need based on its mission, goals and objectives, and resource capability.

By relying solely on the ratio of actual to authorized use, the assessment concluded that demand for most types of outfitter and guide activities was low. Based on this, the RSUPA concluded that the only activities with a demonstrated need were jeep tours and hot air balloons. The District corrected this by reanalyzing the evaluation criteria and incorporating all the applicable elements.

EVALUATION CRITERIA

Five criteria were used to determine the public need for outfitter/guide services. The criteria are:

1. Are outfitter/guide skills and equipment needed by a portion of the public because of one or more of the following?
 - a. Specific skills required for some activities require substantial time and/or talent to learn.
 - b. Learning necessary skills and participating in the activity requires acquisition and consistent use of expensive, specialized equipment for which most members of the public may not, or normally would not, expend the dollars or time.
 - c. The skills required are so unique that use of an outfitter/guide is almost a prerequisite if the public is to have any opportunity to participate in and enjoy the activity – at least initially.
2. Is outfitter/guide knowledge of the recreational resource and the activity area needed by the public, including nonresidents? Does the outfitter/guide's service area allow the public to enjoy recreational opportunities that reduce resource damage and user group conflicts?
3. Are the outfitter/guide's special skills and equipment needed for a reasonable level of safety for the participants? Without a guide's assistance, would members of the public seriously endanger their health or lives?
4. Is the outfitter/guide's assistance needed to insure special management objectives are met and/or issues resolved? Examples include:
 - a. Provide recreational opportunities for persons with disabilities.
 - b. Protect fragile resources.
 - c. Provide environmental education and interpretive information.
 - d. Provides increased recreational opportunities to the public.
 - e. Assist the Forest with efforts to diversify local rural economies and provide small business opportunities.
5. Is there Public Interest in Guided Services? Outfitter/guide actual use records are typically considered a general reflection of the public's interest in those services. Known trends in requests from prospective outfitter/guides and local tourism can also be used in this step.

DETERMINATION OF NEED

To assess public need, a Needs Analysis Matrix was developed for various outfitting and guiding activities (existing and proposed) on the District. The activities were then rated on a scale of 1 to 5, (low to high need) using the evaluation criteria. The average score for the activity was then calculated. Certain activities were deemed to be elements of other tour types and are not analyzed individually. They are: photography, wildlife viewing, and general natural history interpretation.

Activities and services with a rating of 3.5 or higher are considered to have a demonstrated public need. This figure was chosen as it represents the median of the 1 to 5 scale.

The needs assessment is a tool to help guide the administration of O/G activities on the district. The District Ranger has the authority to authorize outfitter/guide use for activities ranking below 3.5 if justified. For example, archaeological tours ranked only 3.4, but due to the closeness of this figure to the cut-off point, the high public demand, and the meeting of agency management objectives, they could be authorized.

This supplemental needs analysis indicates a demonstrated public need for the following activities:

Guided Tours:

- Equestrian (day use)
- Fishing
- Hot Air Ballooning
- Jeep Tours (scenic and/or 4x4)
- ATV
- Metaphysical
- Mountain Biking
- Rafting/Kayaking*
- Rock Climbing/Canyoneering

Outfitter Services/Rentals:

- Jeep
- Equestrian
- Mountain Biking
- Rafting/Kayaking*

*River-based opportunities would need to be examined for compliance with the Verde River and the Fossil Creek wild & scenic river management plans.

Table 1. Rankings of need for various outfitter/guide activities.

1 is low; 5 is high. Overall ratings represent the average across all individual criteria.

ACTIVITY	Specialized Equip/Skill	Knowledge	Safety	Management Objective	Public Interest	Overall Rating
Guiding						
Archeology/Historical	1	5	1	5	5	3.4
ATV Tours	5	5	5	1	4	4.0
Camping/Backpacking	2	1	2	1	1	1.4
Equestrian (day use)	5	4	4	3	3	3.8
Equestrian (overnight)	5	4	4	1	1	3.0
Fishing	4	4	2	4	4	3.6
Hiking	1	1	1	1	1	1.0
Hot Air Ballooning	5	4	5	2	5	4.2
Hunting	4	4	4	1	2	3.0
Jeep Tours (scenic, 4x4)	5	5	5	2	5	4.4
Llama/other pack stock	5	4	4	1	1	3.0
Metaphysical Tours	4	5	1	4	4	3.6
Mountain Biking	5	4	3	4	3	3.8
Mountaineering	5	5	5	1	1	3.4
Raft/Kayak Tours	5	5	5	4	2	4.2
Rock Climbing/Canyoneering	5	5	5	3	3	4.2
Outfitting						
Jeep Rental	5	5	5	4	4	4.6
Horse rental	5	5	5	3	2	4.0
Raft/kayak Rental	5	5	5	4	3	4.4
Bike Rental	5	4	3	4	1	3.4
Camping Gear Rental	2	1	1	1	1	1.2

RECREATION CAPACITY ANALYSIS

CALCULATION CORRECTIONS

To facilitate capacity analysis, the District was divided into 34 recreation use units (RUUs). RUU boundaries were based on several factors, such as Wilderness, watershed, and other landscape parameters. Several units were not analyzed: six designated wildernesses and one Research Natural Area. The other 27 units were part of the assessment.

In reviewing the RSUPA, District staff discovered several errors in the capacity calculations. Of primary import was an error in the method by which annual recreation use capacity was calculated.

Prior to the step of calculating the parties of six or vehicles at one time (P/V-AOT) for each RUU, the Recreation Opportunity Spectrum (ROS) coefficients were divided by six. This was due to a misinterpretation of the concept of social encounters. This resulted in capacity figures that were artificially low. The capacity calculations were reworked, and the corrected capacities for each RUU are listed in Table 2. Because they were calculated using the low-end ROS coefficients, they are listed as “Capacity Range – Low End” in the table.

The District received public comments as to why the low ROS coefficients were used, rather than high. The District agreed that in many cases it may be more appropriate to use the high-end coefficient. All RUU capacities were recalculated using the higher coefficients and are presented in Table 2 as “Capacity Range – High End.”

Additionally, there were several transcription errors in the table on page 69 of the RSUPA. However, since all capacity figures have been reworked here, this table is not specifically corrected and reprinted in this document.

LANDSCAPE-BASED CAPACITY

The model used in the RSUPA to calculate capacity is a landscape model. This method was developed by the USDA Forest Service in 1986 (ROS Book). It utilizes ROS classes, which describe the overall types of settings and experiences the recreating public might expect in an area. By applying a coefficient to the number of acres in a particular ROS class within each RUU, and by adding other use-pattern factors (such as length of visitor stay or seasonal patterns), one can determine a numerical capacity for the landscape.

This method results in a generalized, broad-brush approach to understanding recreation capacity. It works well for larger RUUs where road and trail systems are distributed more evenly across the landscape. It is limited, however, in its ability to accurately describe capacity in smaller RUUs where use is concentrated on one or two linear features such as a road or trail.

Utilizing both the high and low ROS coefficients results in a range of capacity for each RUU, rather than a single number. The range describes a spectrum on which the “true” capacity lies. This range is described in Table 2.

Table 2. Corrected Capacity Figures and Range for each Recreation Use Unit

RUU	Capacity Range- Low End*	Capacity Range- High End*
Apache Maid	774,530	2,215,149
Beaver Creek	735,840	18,541,328
Beaverhead	3,792,335	45,955,967
Broken Arrow	15,695	63,510
Casner	8,395	147,095
Cathedral	409,165	5,080,070
Cedar Flat	196,005	4,634,770
Dry Creek	59,860	1,087,335
Fossil Creek Rd.	1,174,205	24,144,750
Kachina	321,200	5,540,700
Lower Schnebly	9,125	142,715
Middle Verde	442,380	11,024,825
Montezuma	254,040	7,287,590
Mud Tanks	297,475	8,079,640
Oak Creek Canyon	1,847,995	5,598,005
Red Cliff	185,055	4,724,925
Savannah/House Mtn.	124,100	2,450,610
Schnebly Rim	31,390	319,010
Sedona	1,186,250	11,368,655
Skeleton Bone	220,825	2,591,865
Soldier Pass	10,950	96,725
Thirteen Mile Rock	242,360	6,230,185
Towel	29,930	310,615
Upper Loop	742,410	8,500,850
Village of Oak Creek	1,022,000	11,649,340
Wickiup	5,858,250	76,656,205
Windmill	344,195	6,157,915

**Capacity is expressed as number of vehicles or parties of six or fewer per year.*

ENCOUNTER-BASED CAPACITY

As discussed above, the landscape model does not accurately describe recreation capacity for RUUs where use is concentrated on a limited number of linear features (roads or trails). In such units, it is more useful to apply an encounter-based model.

Encounters occur when persons or groups of people recreating see each other on a trail, road, or other location within the landscape. Amendment 12 defines an encounter as a party of six (or fewer) people or one vehicle. Amendment 12 also defines appropriate encounter levels for each ROS class. They are listed in Table 3.

Table 3. Encounter Levels per ROS Class

ROS Class	Encounter Level
Semi Primitive Non-Motorized (SMNM)	15/day
Semi Primitive Motorized (SPM)	15/day
Roaded Natural (RN)	15/hour
Rural (R)	15/hour

To determine encounter-based capacity, the Forest Service listed the primary ROS class(es) for roads and trails within each RUU and the prescribed encounter levels for each. These figures were then multiplied up to determine the annual capacity (Table 4).

APPLYING CAPACITY

Recreation capacity reflects the land management objectives for the landscape and therefore is not a fixed number. For example, if an area were managed for a pristine, remote experience, the capacity would be lower than if that same area were managed for higher development and a lesser degree of solitude. Additionally, the model used to calculate capacity can lead to very different results, as shown by the two methods used above.

Therefore, recreation planners must use professional judgment when applying capacity to management goals. In this case, the District determined which capacity model was best suited for each RUU, based on the distribution of roads and trails (and therefore people) within each RUU. This determination is listed in Table 5, along with the corresponding capacity or capacity range.

The District will combine these capacity figures with Forest Plan direction, knowledge of use patterns, and other data to determine appropriate levels of outfitter/guide use in each RUU.

Table 4. Encounter-Based Capacity Levels for each RUU

RUU	ROS Class for Roads/Trails	Encounter Levels	Daily Capacity*	Annual Capacity*
Apache Maid	RN	15/hr	150	54,750
Beaver Creek	RN	15/hr	150	54,750
Beaverhead	R, RN, SPM	15/hr; 15/day	150; 15	54,750; 5,475
Broken Arrow	RN	15/hr	150	54,750
Casner	SPM, SPNM	15/day	15	5,475
Cathedral	R, RN(roads); SPNM (trails)	15/hr (rds); 15/day (trail)	150; 15	54,750; 5,475
Cedar Flat	RN, SPM	15/hr; 15/day	150; 15	54,750; 5,475
Dry Creek	SPM; Boynton=RN	15/day Boynton=15/hr	15 Boynton=150	5,475 Boynton= 54,750
Fossil Creek Rd.	RN	15/hr	150	54,750
Kachina	SPM	15/day	15	5,475
Lower Schnebly	SPM	15/day	15	5,475
Middle Verde	SPM	15/day	15	5,475
Montezuma	RN, R	15/hr	150	54,750
Mud Tanks	RN	15/hr	150	54,750
Oak Creek Canyon	RN, R	15/hr	150	54,750
Red Cliff	SPM, RN	15/day; 15/hr	15; 150	5,475; 54,750
Savannah/House Mtn	SPM	15/day	15	5,475
Schnebly Rim	SPM	15/day	15	5,475
Sedona	R	15/hr	150	54,750
Skeleton Bone	SPM	15/day	15	5,475
Soldier Pass	SPM	15/day	15	5,475
Thirteen Mile Rock	RN	15/hr	150	54,750
Towel	SPNM	15/day	15	5,475
Upper Loop	R, RN; SPNM (trails)	15/hr 15/day	150 15	54,750 5,475
Village of Oak Creek	RN,R; SPNM (trails)	15/hr 15/day	150 15	54,750 5,475
Wickiup	RN,R	15/hr	150	54,750
Windmill	SPM	15/day	15	5,475

**Capacity is expressed as number of vehicles or parties of six or fewer*

Table 4. Appropriate Capacity Model and Calculations for each RUU*

RUU	Appropriate Capacity Model	Landscape Capacity Low end	Landscape Capacity High end	Encounter Capacity
Apache Maid	landscape	774,530	2,215,149	
Beaver Creek	landscape	735,840	18,541,328	
Beaverhead	encounter			54,750; 5,475
Broken Arrow	encounter			54,750
Casner	encounter			5,475
Cathedral	encounter			54,750; 5,475
Cedar Flat	encounter			54,750; 5,475
Dry Creek	encounter			5,475; Boynton = 54,750
Fossil Creek Rd.	encounter			54,750
Kachina	landscape	321,200	5,540,700	
Lower Schnebly	encounter			5,475
Middle Verde	encounter			5,475
Montezuma	encounter			54,750
Mud Tanks	encounter			54,750
Oak Creek Canyon	encounter			54,750
Red Cliff	encounter			5,475; 54,750
Savannah/House Mtn	encounter			5,475
Schnebly Rim	landscape	31,390	319,010	
Sedona	landscape	1,186,250	11,368,655	
Skeleton Bone	landscape	220,825	2,591,865	
Soldier Pass	encounter			5,475
Thirteen Mile Rock	encounter			54,750
Towel	encounter			5,475
Upper Loop	landscape	742,410	8,500,850	
Village of Oak Creek	encounter			54,750; 5,475
Wickiup	encounter			54,750
Windmill	landscape	344,195	6,157,915	

*Capacity is expressed as number of vehicles or parties of six or fewer

RESPONSE TO COMMENTS RECEIVED

The Forest Service received public responses to the RSUPA. They primarily addressed errors in calculations and use estimates. Some of the points have already been addressed in the District's corrections; others are addressed below.

References to road condition in Broken Arrow. The District recognizes that many of the road condition surveys cited in the RSUPA were performed during the period when a permit was not needed for commercial road use, which led to increased use.

Actual Use for Outfitter/Guides 2002 – 2006. There was concern that actual use figures in the RSUPA were inaccurate due to unregulated o/g use during the period when permits were not required for commercial road use. However, unpermitted operators during that period were not required to submit any use reports; therefore the use numbers compiled in the RSUPA accurately reflect the use of permitted operators.

Discrepancy in jeep tours use levels, Figure 28 and Table 14. Both tables show the percent allocation used for various types of jeep tours. While some tours (4x4 with scenic component and scenic only) only utilized a fraction of their authorized use, tours categorized as 4x4 only used more than the authorized allocations.

This seems to indicate that some jeep permittees violated their permits by exceeding their allocations. In cases where no annual cap existed, the figures are based on projections that utilized an 8 hour day. In fact some operators use a longer day. Therefore, the annual authorizations calculated using a shorter day result in an inaccurate number. No permit violations were made in this regard.

Discrepancy in Actual Use Totals for Jeep Tours, Table 13. The Forest Service estimated total actual use using an 8-hour operating day. However, some operators use a longer operating day. The District recognizes the difference between actual use numbers that were projected versus those that were actually reported.

Pink Jeep's total actual use in relation to its authorized use, Table 14. The District recognizes that Pink Jeep Tours (PJT) did not violate its permit in terms of actual use. Again, the indication that they are using 110% of their allocation was the result of using an 8 hour operating day. However, because the annual allocation used in the RSUPA for PJT was a projection only, they did not violate the permit. With no annual cap, this type of violation could not occur.

Use numbers for Broken Arrow, Table 14, page 69. As previously stated, the District discovered many errors in this table. Data from this table, as printed in the RSUPA, will not be used in management decisions.

Additionally, actual use in this RUU is higher than Pink Jeep's use because there are four operators permitted for this RUU. The other three companies are authorized for hiking on Little Horse Trail.

Discrepancy in Broken Arrow numbers, Appendix F, page 16. The projection for 2004 of 89 vehicles per day in this RUU was based on a very small sample of on-the-ground counts. The number in the table on page 69, which amounts to 128 per day, is based on actual use records. The Forest Service would use the most current actual use data available for making management decisions. Additional data may be required.

Error regarding Windmill RUU – Appendix F, page 16. The RSUPA states that the authorized commercial use for this area was 16 parties/vehicles per day. This sentence is in error, as Pink Jeep alone is authorized 16 vehicles/hour.

Use observations recorded in Appendix I. The numbers estimated in this appendix are not the number of vehicles, but the number of encounters. If a hiker encounters the same jeep twice, it counts as two encounters.

The Forest Service recognizes the low sample sizes used in creating this appendix and that because of this, this data has limited applicability.

REFERENCES

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