

CHAPTER 3. RECREATION OPPORTUNITY SPECTRUM (ROS)

Background

People have specific recreation preferences; they consciously choose their recreation activities and seek certain surroundings (settings) in which to recreate. Maintaining as diverse an array of settings as possible ensures that the broadest segment of the public will find quality recreation experiences, both now and in the future (Clark and Stankey 1979). Forest managers provide for a variety of recreation opportunities by managing the natural setting and the activities that occur within each setting. Settings range from unmodified natural surroundings to more developed landscapes where man’s influence is evident. The Recreation Opportunity Spectrum (ROS) is the land classification system that land managers use to provide recreation settings and opportunities.

The GMUG provides a wide spectrum of recreation settings that range from wilderness lands to developed ski areas. Wilderness settings are categorized into three groups – Pristine, Primitive, and Semi-Primitive. The ROS progression within non-wilderness lands can be roughly categorized into three primary forest settings: backcountry areas, general forest roaded areas, and built environments. The backcountry and general forest areas include both a motorized and a non-motorized component. Table 1 illustrates the ROS relationship by forest settings. Backcountry areas are most at risk in retaining their settings because these lands are often considered and recommended for wilderness or are accessed and developed for their natural resources. Both situations result in a loss of the semi-primitive (motorized and non-motorized) setting, a critical piece of the recreation opportunity spectrum.

Because a single landscape can change settings between summer and winter, the ROS settings are different for winter than summer. Areas of high concentrated summer use often become remote when covered with snow. Conversely, inaccessible summer lands may be accessible by oversnow travel. Settings for winter recreation opportunities are categorized as non-motorized, motorized and access corridors and are described following descriptions for summer settings.

Table 1. Forest Category and Most Compatible ROS Summer Setting.

Forest Setting	Wilderness	Backcountry Areas		General Forest Roaded Areas		Built Environment
ROS setting ¹	Semi-Primitive Primitive Pristine	SPNM	SPM	RN-NM	RN RM	R-Rural
Type of Travel	Non-mechanized	Non-motorized	Motorized	Non-motorized	Motorized	Motorized

¹ R– Rural, RN–Roaded Natural, RM–Roaded Modified, RN-NM–Roaded Natural Non-motorized, SPM-Semi-Primitive Motorized, SPNM–Semi-Primitive Non-motorized.

Recreation settings are assigned to all acres of National Forest land. The existing inventory of ROS is displayed in Figure 1 for summer and Figure 2 for winter and displayed on Tables 3 and 4 respectively.

Legal Background

The Outdoor Recreation Resources Review Commission (ORRRC) of 1962 called for the classification of recreational resources along "a spectrum from areas suitable for high-density use to sparsely used extensive primitive areas." Direction given in the Regulations to implement terms of the National Forest Management Act (NFMA) of 1976 present further direction "to provide for a broad spectrum of recreation opportunities."

In 1982 the Forest Service produced the Recreation Opportunity Spectrum Book as the basic framework for planning and managing the recreation resource. Recreation Opportunity Spectrum is further described as *"not a land classification system; rather a management objective, a way of describing and providing a variety of recreation opportunities."*

More in depth information on the Recreation Opportunity Spectrum system of classification is located in Appendix ROS.

Issues and Concerns

Currently Recreation Settings (ROS) is an effect of management activities, rather than a management objective.

Current forest plan direction was developed prior to the lynx being listed as an endangered species. Winter oversnow travel is an aspect of winter ROS.

Opportunities for motorized travel, both summer and winter, have increasingly become a point of conflict between users who hold differing views on the value of motorized and non-motorized travel.

The chief of the Forest service has identified unmanaged recreation as one of the four threats facing national forests. OHV travel and its growth over the last 20 years has played a significant role in the impacts of unmanaged recreation.

Existing Condition- ROS

Summer

Current 1983 Forest Plan direction allows for a range of summer ROS settings for management prescriptions associated with wildlife, range, timber, riparian and special interest areas. As a result, ROS settings have changed over time. Table 2 illustrates the range of acceptable ROS settings within current forest plan management prescriptions.

Table 2. Forest Plan Direction on ROS by Management Prescription Area

Management Prescription Emphasis	Corresponding ROS Setting*
2A - Semi-Primitive Motorized Recreation Opportunity	SPM
2B - Roaded Natural and Rural Recreation Opportunity	RN, R
3A - Semi-Primitive Non-Motorized Recreation Opportunity	SPNM
4B - Wildlife Habitat Management for Indicator Species	SPNM, SPM, RN, R
4D - Aspen Management	SPNM, SPM, RN
5A - Big Game Winter Ranger, non-forested	SPNM, SPM, RN
5B - Big Game Winter Range, forested	SPNM, SPM, RN
6B - Livestock Grazing	SPNM, SPM, RN
7A - Wood fiber production on suited timber lands	SPNM, SPM, RN, R
9A - Riparian Area Management	SPNM, SPM, RN, R
10C - Special Interest Area	SPNM, SPM, RN, R

*ROS defined:
 SPNM = Semi-primitive non-motorized
 SPM = Semi-primitive motorized
 RN = Roaded Natural
 R = Rural

The existing summer ROS inventory, on the GMUG is displayed on Figure 1. The current summer ROS for the GMUG is an inventory based on the existing condition that has resulted from previous resource management actions. Table 2 highlights existing ROS acreages for summer.

Within the 1983 forest plan, specific summer ROS direction is only provided for the three recreation management prescriptions, 2A – Semi-Primitive Motorized (SPM) recreation opportunity, 2B – Roaded Natural (RN) and Rural (R) recreation opportunity and 3A – Semi-Primitive Non-Motorized (SPNM) recreation opportunity. The remaining management areas 4B, 4D, 5A, 5B, 6B, 7A, 9A and 10C, that provide resource emphasis in wildlife, range, timber, riparian and special areas respectively each identify a range of ROS settings that may occur within these areas (Table 1). Consequently, the ROS setting defaults to a category that is based on the area’s association to evidence of resource utilization practices and motorized routes, becoming more of a land classification system rather than a management objective. As a land classification system, the ROS can fluctuate within the non-recreation prescription lands. As roads or motorized trails are established or upgraded, the gradual shift away from the more primitive end of the spectrum begins to occur. This phenomenon is known as spectrum decay, such as when an area shifts from Semi-Primitive Non-Motorized to Semi-Primitive Motorized environment. Shifting of ROS settings has occurred on the GMUG as a result of resource management activities and associated development actions such as road construction, vegetation management, and recreation facility development.

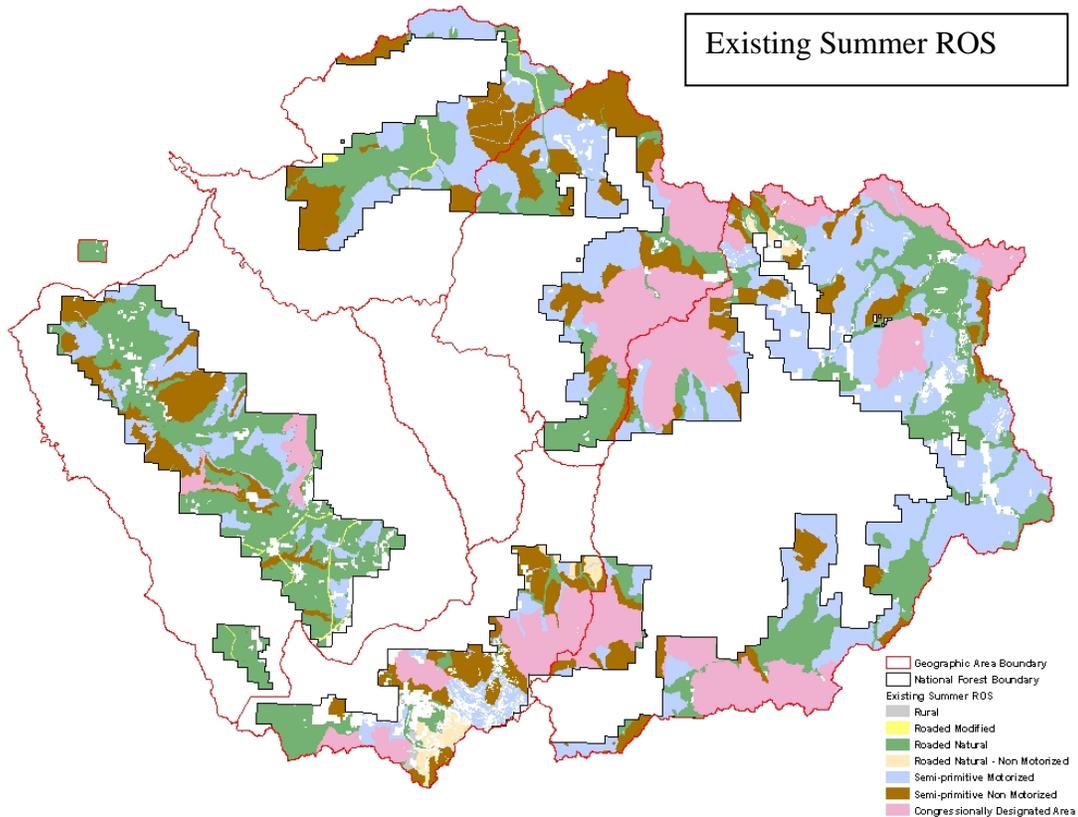


Figure 1. Existing Summer ROS

Winter

Existing winter ROS is displayed on Figure 2. Areas that currently limit winter over snow travel are generally associated with management prescriptions for big game winter range. Table 4 outlines existing ROS acreages for winter. The listing of Canada lynx in 2000 as a threatened species restricts activities that increase snow compaction within lynx analysis areas (Lynx Conservation Assessment and Strategy, 2000). Since the listing of the lynx as an endangered species, there has been a moratorium on winter recreation activities that would increase compaction (trails and play areas) within lynx habitat or lynx denning areas.

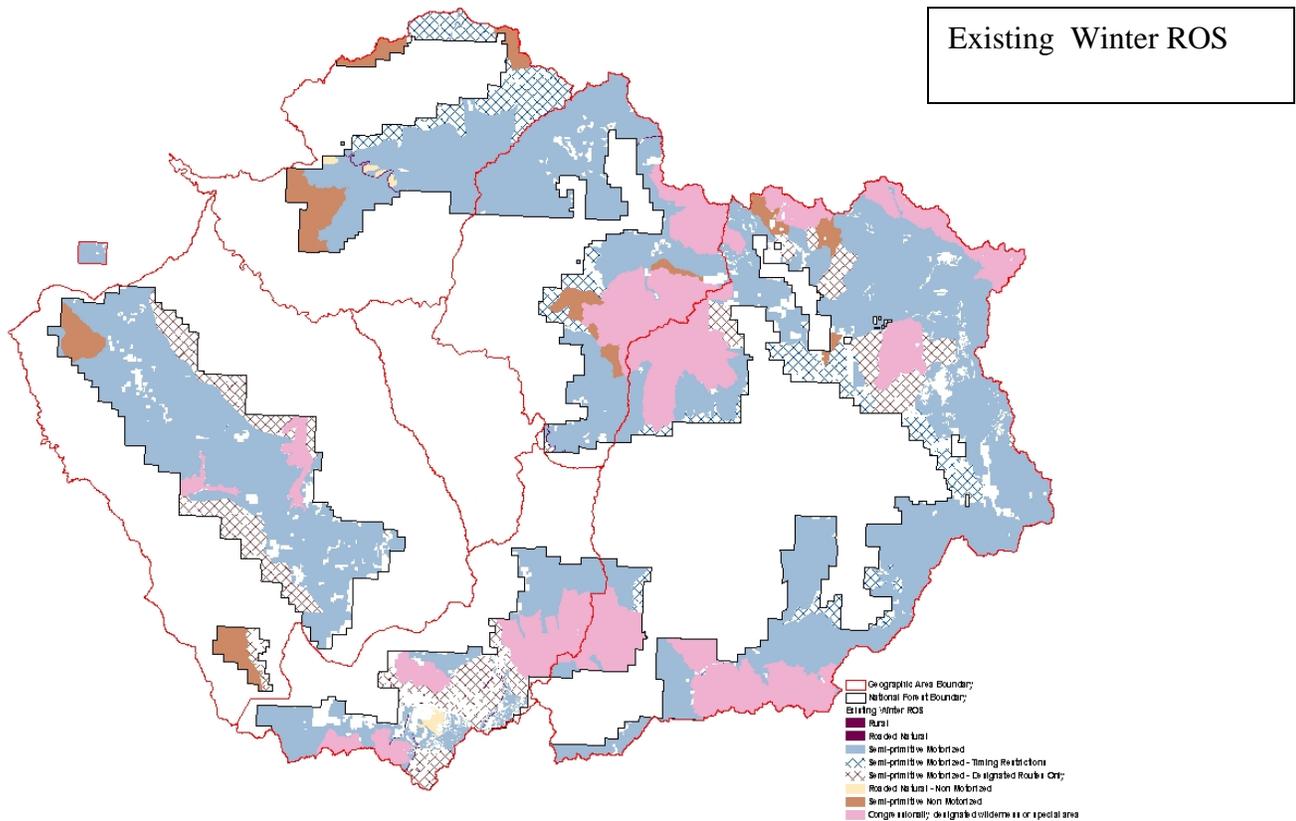


Figure 2. Existing Winter ROS

Effects of Disturbance Factors

Disturbance factors affect recreation settings on two distinct levels, the physical and the social environments.

Physical environment. Evidence of human activity such as roads, trails, vegetation treatments, utility corridors and recreation facilities can alter the physical environment. Altering the physical environment can be both positive and negative. Notwithstanding short-term impacts, vegetation treatments can achieve long-term vegetative and scenic goals. Recreation facilities can protect the resource. Roads and trails provide needed access. However, even though permanent developments such as classified roads, utility corridors, and recreation facilities provide positive social benefits, they often dominate or modify the physical environment. The relative development level of a route and the sheer number of routes influence both the social and the physical recreation setting of an area. High level development roads increase traffic flow, increase number of users and extend use seasons. The trend often seen with high-end development roads is facility development along the road corridor. Highly developed roads can alter the physical environment, changing a more natural setting to one that is dominated by the road and its corresponding facilities.

Social environment. The social environment is altered when an area begins to experience a change in the number of users to an area; most often the change is an increase in users. Access is a key component to influencing numbers of visitors within a particular landscape. Roads and trails by definition provide access to areas and it can be surmised that the greater the density of roads and trails within an area, the greater the potential for an increase in users to that area. Additionally, development levels of travel routes can manage the numbers of visitors to an area. High development levels accommodate greater numbers of users and conversely, lower development levels may discourage or limit numbers. However certain destinations are so desirable that they can draw numbers of visitors beyond designed capacity of individual routes and desired social numbers, such as routes to 14,000 foot peaks, creating a paradox for managers.

Data methods

Non Wilderness Lands. The current non-wilderness ROS inventory for the GMUG National Forest was derived using the existing transportation system and data displaying past vegetation treatments. The two primary factors used to evaluate the existing ROS setting are physical alterations of the landscape and access. Because access can alter both the physical and the social setting, it played the primary role in classifying areas into settings. Vegetation alterations were overlaid second. It is acknowledged that lands within a ½ mile of motorized routes are generally considered to be influenced by that route, however, for mapping purposes and consistency with roadless inventory criteria; a 300 foot buffer along all classified roads and motorized trails was used in lieu of the ½ mile for ROS boundaries. Density of travel routes was also considered when classifying between the SPM and RN settings. A 2500 acre minimum size criteria was applied to semi-primitive settings, both motorized and non-motorized. Logical boundaries and groupings of similar lands were also considered when categorizing lands into the existing inventory.

- Lands adjacent to **non-motorized trails** (greater than 2500 acres) and without evidence of vegetation alterations were designated as having a **Semi-Primitive Non-motorized (SPNM)** setting.
- Lands adjacent to **decommissioned roads or administrative roads** where evidence of vegetation alterations was obvious were designated as having a **Roaded Natural–Non-motorized (RN-NM)** setting.
- Lands adjacent to **motorized trails** (and greater than 2500 acres) where there was little evidence of vegetation alterations or other developments were designated as having a **Semi-Primitive Motorized (SPM)** setting.
- Lands adjacent to **Four Wheel Drive Routes** (and greater than 2500 acres) where there was little evidence of vegetation alterations or other developments were designated as having a **Semi-Primitive Motorized (SPM)** setting.
- Lands adjacent to **High Clearance Routes** where there was little evidence of vegetation alterations were designated as having a **Semi-Primitive Motorized (SPM)** setting.

- Lands adjacent to **High Clearance Routes** with obvious evidence of vegetation alterations were designated as having a **Roaded Natural (RN)** setting.
- Lands adjacent to **Gravel Roads** were designated as having a **Roaded Natural (RN)** setting.
- Lands within a **Paved Road corridor** were designated as having a **Rural (R)** setting (generally a ½ mile corridor was identified for paved road ways.)
- **Utility Corridors** were designated as having a **Roaded Modified (RM)** setting (a 500' buffer was identified along utility corridors).

Wilderness ROS

Recreation uses within wilderness areas tend to concentrate within the first ½ mile to one mile of the wilderness boundary and along popular trails and routes such as those accessing fourteen thousand foot mountain peaks and alpine lakes. These sought after areas categorized as semi-primitive settings often experience a higher density of users and subsequent environmental impacts. Often the use levels in these areas are greater than in semi-primitive lands outside of wilderness. Wilderness lands having lesser visitor impacts and use are categorized as primitive and pristine settings and are further described in *Appendix ROS*. As numbers of users within the semi-primitive wilderness lands increase, visitors seeking greater solitude will migrate into primitive and pristine wilderness areas placing new pressures on these lands. Retaining the naturalness of primitive and pristine lands is the single most challenging undertaking for wilderness managers.

Trends

There has been a loss of the Semi-Primitive lands across the forest, both motorized and non-motorized. Some semi-primitive lands have been shifted into Wilderness or special area designations such as the Roubideau, Tabeguache Areas, and Fossil Ridge Recreation Management Area, while others have experienced modification through harvest or roading thus changing the semi-primitive setting to a more modified roaded natural setting. Management activities that have affected the shift in ROS setting include:

- Roads and motorized trails constructed in semi-primitive non-motorized areas changing the area from SPNM to SPM.
- Increase in user created motorized trails in semi-primitive non-motorized areas changing the areas from SPNM to SPM.
- Increase in roads and motorized trail densities within a semi-primitive motorized area often shift settings from SPM to RN.
- Vegetation modification and temporary road densities associated with timber harvest have modified both the semi-primitive motorized and semi-primitive non-motorized recreation settings from SPNM to RN-NM and SPM to RN.

- Roads and facilities associated with oil & gas exploration or water developments have altered semi-primitive lands changing the setting from SPNM to RN-NM or RN and SPM to RN.
- Upgrade of road maintenance levels from a high clearance to a surfaced road alters a SPM area to a RN.
- The development of private lands adjacent to and within the Forest boundary increases pressures to improve access. Upgrading roads leading onto the National Forest increases speeds and average daily traffic counts modifying both semi-primitive motorized and roaded natural settings.

Forest Scale Summary

The following tables summarize the existing ROS across the Forest.

Table 3. Existing Summer ROS Settings

% of Forest	Geographic Area	Wilderness		SPNM		SPM		RN-NM		RN,RM,R		TOTAL
		Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	
10%	San Juans	95,769	32%	80,150	27%	24,355	8%	22,435	8%	88,719	30%	298,345
19%	Uncompahgre Plateau	27,768	5%	99,175	17%	113,046	20%	6381	1%	331,216	57%	577,586
16%	North Fork Valley	133,171	27%	131,949	27%	130,880	27%	0	0%	94,790	19%	490,790
11%	Grand Mesa	0	0%	95,228	30%	109,113	34%	0	0%	112,913	36%	317,254
43%	Gunnison	332,226	26%	154,919	12%	500,444	39%	5,029	0%	287,914	22%	1,280,532
	GMUG Total	588,934	20%	561,421	19%	877,838	29%	33,845	1%	915,552	31%	2,977,590

*SPNM = Semi-primitive non-motorized; SPM = Semi-primitive motorized; RN-NM = Rooded Natural Non-Motorized; RN = Rooded Natural; RM = Rooded Modified; R = Rural

Table 4. Existing Winter ROS Settings

Geographic Area	SPNM		SPM		SPM-R		SPM-D		RN-NM		RN,RM,R		TOTAL*
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent	
San Juans	0	0%	134,826	45%	0	0%	61,597	21%	4,295	1%	1,628	1%	298,345
Uncompahgre Plateau	39,220	8%	409,568	86%	0	0%	101996	21%	0	0%	0	0%	476,556
North Fork Valley	23,332	5%	310,876	66%	18,062	4%	1,090	0%	0	0%	744	0%	468,123
Grand Mesa	55,827	25%	161,829	72%	92480	41%	0	0%	4288	2%	1,303	1%	223,247
Gunnison	19,738	1%	754,150	54%	89,929	6%	74,963	5%	0	0%	287,914	21%	1,394,028
GMUG	138,117	5%	1,771,249	63%	200,471	7%	239,646	9%	8,583	0%	291,589	10%	2,798,472

*wilderness acres are included in total