

United States
Department of
Agriculture

Forest
Service



Project Planning

ROS User's Guide

Chapter 60



CHAPTER 60 ROS USERS GUIDE
PROJECT PLANNING

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CHAPTER 60 OF THE ROS USERS GUIDE – PROJECT PLANNING

60--INTRODUCTION

The Recreation Opportunity Spectrum (ROS) is the framework for integrating recreation values into National Forest Plans, project designs, and management decisions. The Forest Land and Resource Management Plan provides direction on the allocation of resources to meet expressed local and national public needs. The purpose of this chapter is to help interdisciplinary teams achieve recreation and visual landscape objectives (within Forest Plans) using an integrated set of resource projects. The chapter provides continuity for incorporating the ROS concept into all phases of Forest Plan Implementation.

Knowledge of the following basic ROS material will assist CH 60 users:
FSM 2310 (Amendment 96) CH. 10 Concepts (ROS Users Guide) CH. 20
Supply (ROS Users Guide) THE 1986 ROS BOOK

61 FOREST PLANNING

61.1 - THE RECREATION RESOURCE AND FOREST PLANNING

The Forest Plan describes the desired future condition of the Forest, including the spectrum of recreation settings to be provided. Recreation involvement in the planning process begins with an inventory of the existing ROS settings, activities and setting inconsistencies. Inventorying ROS setting inconsistencies helps to identify and solve planning problems. ROS setting criteria are used to guide the development of standards and guidelines, management prescriptions, and the mix of recreation opportunities for the desired future condition of the landscape.

61.12 - WILDERNESS

Wilderness management is guided by specific legislated direction. Each Forest Plan should provide Wilderness management direction in the form of management area (MA) prescriptions. Details governing Wilderness planning and implementation direction are contained in FSM 2322 and FSH 2309-19.

62 PROJECT IMPLEMENTATION

61.2 SETTING THE STAGE FOR IMPLEMENTATION

Project implementation begins with analysis of the direction contained in the Forest Plan. Involvement of recreation specialists in all phases of implementation is essential because most activities have the potential for altering ROS setting and experience opportunities. Nearly all settings—including those heavily altered—provide some form of recreation opportunity. The degree of recreation staff involvement in each planning step depends upon the issues, concerns, and opportunities raised for a particular step during the NEPA process. Staff involvement may come through a District ID Team, Forests, or other Recreation Specialists. The guidelines presented in this chapter are intended to aid recreation involvement in NEPA processes.

Forest Plan implementation involves scheduling and designing the desired future mix of ROS opportunities and settings. The standards and guidelines for Forest Plan "management areas" may reduce, expand, or leave unchanged the existing ROS setting. The planned ROS goals and objectives for each management area constitute the primary recreation input for developing integrated resource project designs.

Use these four important Forest Plan implementation tools:

1. Management area prescriptions, describe the desired future condition of the management area (including the desired ROS mix. They also provide standards and guidelines.

2. The schedule of capital investment projects, is a priority listing of major developments needed to achieve the desired conditions specified in the Forest Plan. Through the EA process, the implementation team may combine these projects and investments into logical project sets (i.e., road and/or trail construction, recreation facility development, timber harvest, and wildlife habitat manipulation). A project set should be designed to achieve optimal benefits for all resources within the Plan. Annual fund allocations may vary from Forest Plan needs, requiring revision of the implementation schedule.

- 3- Monitoring measures the progress and effects of implementing Forest Plan standards and integrated project sets. It helps indicate the extent to which Forest Plan goals, objectives, standards, and guidelines are attained.

- k. The planning record is documentation of the process and data used in developing the Forest Plan. It contains valuable information including: the initial inventory of ROS settings and inconsistencies and other inventory information on vegetation, soils, wildlife, transportation systems and the content analysis of public involvement. This information may need refinement, but may be useful for baseline inventories and public involvement strategies for the initial development of project sets needed to meet Forest Plan intent.

The following is a checklist of possible items for reference in the planning record.

PLANNING RECORD CHECK LIST

- Forest Plan Management Prescriptions and Standards/Guideline
- Final Forest Plan EIS.
- Forest Plan Travel/ORV Maps.
- Management and Analysis Area Maps.
- Decade 1 Capital Investment Schedule and Prioritization .
- ROS Criteria & Physical, Managerial and Social Setting maps.
- Maps and Support Data for Biological Analysis Areas Used to Determine Desirable Use Levels.
- ROS Setting Inconsistency Maps
- VQO Mapping Inventories Including Variety Class and Sensitivity Level Ratings.
- VAC Visual Absorption Capability Inventory.
- Forest Plan Public Comments, Content Analysis and Responses.
- Other ROS Documentation Records

62.2- SIX STEPS FOR INTEGRATED ROS MANAGEMENT

The Ranger District is the geographic and administrative focus for Forest Plan implementation. The intensity of effort for analyzing and resolving recreation and visual concerns within a Ranger District may range from minor recreational use conflicts needing little management action, to major ROS setting conflicts requiring complex facility development or mitigation. The corresponding analysis effort may vary from casual visual observations and analysis to detailed mapping overlays and simulation models. At any intensity six steps normally guide the implementation process.

THE SIX IRM STEPS

STEP 1-Identify Opportunities - Identify land areas offering the best opportunities to implement the Forest Plan.

STEP 2-Analyze - Spatially arrange the desired future condition and identify projects to ensure an integrated approach to forest management.

STEP 3-Schedule - Schedule and budget projects that best meet Forest Plan management direction.

STEP 4-Design - Design projects to include integration needs for all resources and values.

STEP 5-Execute - Complete projects as designed.

STEP 6-Monitor - Evaluate implementation to determine if Forest Plan direction is met.

62.21 - STEP 1 - IDENTIFY OPPORTUNITIES

Select areas offering the best opportunities to meet planned goals and objectives. Capitalize on opportunities to accomplish recreation and visual resource objectives in all resource activities. Because all areas have at least some recreation value, a Recreation Specialist should serve as a member of the ID team.

Where recreation is a critical issue, it is recommended that map overlays be developed to show the extent of a project activities affect upon the desired and existing condition of ROS settings. Where it is not, a simple visual inspection of the Forest Plan and Planning Record, maps of existing ROS Classes, and on-the-ground observations may be sufficient.

OPPORTUNITY CHECK LIST

Review Plan for recreation goals and objectives.

Provide ROS input to mapping of Resource Opportunity Areas.

___ Identify opportunities to achieve recreation objectives through direct recreation funding (e.g., new trail construction, trail head development, campground and picnic facilities)

--- Capitalize on opportunities where recreation objectives can be attained through other resource activities. For example, timber sale planning and scheduling might provide the following:

- X-country ski and snowmobile trails from skid roads.
- Summer and/or winter parking areas from landings.
- Open vistas and increased spring and fall color from stand manipulation.
- Increased visual diversity from shaded fuel breaks.
- Access to dispersed camp sites, trail heads, and berry fields from logging roads.
- ORV routes from skid roads and spurs.

-Similar opportunities can be found in wildlife management, fire, minerals, special uses, and others.

___ Compare existing ROS maps with proposed ROS mix and note differences and inconsistencies.

___ Compare changes with Forest Plan S&Gs for major inconsistencies and inform Forest Management Team of conflicts with Forest Plan.

___ Forest Management Team sets priorities for opportunity area analysis and ensures appropriate recreation participation in I.D. team

Analyze project proposals using the NEPA process as outlined in FSM 1950 and FSM 1909-15- Focus analysis on high priority Opportunity Areas. Review the Plan's first decade listing of projects and capital investments, including trails and timber sales. Interpret Forest Plan long-range goals and management prescriptions and develop a feasible list of Project sets that are within Plan prescription parameters.

The Recreation Specialist's role is to identify recreation opportunities, integrate them with other resource activities, analyze recreational effects, identify conflicts and recommend mitigation techniques.

The Recreation Specialist should:

Provide ROS findings, opportunities, new alternatives, inconsistencies, effects, and mitigation data to Team members preparing NEPA documents.

Utilize Forest Plan economic data to evaluate alternative project sets. Include recreation demand projections and average annual costs and benefits.

Provide site specific project monitoring needs for ROS settings.

Provide interpretation of the Limits of Acceptable Change parameters for each ROS setting indicator (63-1)•

Help integrate ROS opportunities, analyze inconsistencies and other effects, interpret S&Gs, and identify and integrate mitigation techniques into proposed project sets.

ANALYSIS CHECK LIST

Establish the relationship of the project to the immediate and surrounding ROS settings.

Analyze the ability of proposed project sets to maintain or enhance the prescribed recreation opportunity objectives for the area.

Analyze proposed project sets ability to take full advantage of recreation opportunities currently existing or created as a result of the project.

Identify and analyze existing inconsistencies within ROS settings and the ability of the project to resolve them.

Reaffirm Capital Investment schedule.

62.23 - STEP 3 - SCHEDULE

Advise the Forest Management Team on priorities for scheduling implementation of project sets. The costs for each approved project set should address recreation support facilities and activities, travel management signing, public information measures (ROG flyers, travel maps, etc.), visual management treatments, or special site work.

The Recreation Specialist monitors changes in support funding and assesses the affect upon projected recreational benefits and Forest Plan goals. Annual fund allocations may dictate a revision of implementation schedules. Where these allocations substantially alter scheduled recreation objectives, changes should be noted and documented for possible Forest Plan amendment.

SCHEDULE CHECKLIST

- Participate with Management Team in developing implementation schedule (3~5 years of integrated project sets).
 - Provide information of project effects on recreation objectives.
 - Assist in revising implementation schedule as necessary.
 - Target key recreation publics to be informed of annual changes to implementation.
 - Monitor attainment of standards and annual accomplishment of Forest Plan recreation goals.
-

62.24 - STEP 4 - DESIGN

Tailor the involvement of the Recreation Specialist in project design to the degree of consequences and implications for recreation (see section 63, Applied Guidelines). In projects involving major consequences or implications for recreation, the Recreation Specialist should take the lead in guiding project design. Project site analysis includes ensuring ROS setting coordination, identifying cultural, and environmentally sensitive resource values. Analysis should also consider alternative recreation site layout, cost reductions, and adverse effect mitigation. Forest Plan S&Gs and ROS indicators may need further refining to provide direction for other resource coordination. NEPA documentation and monitoring needs must also be determined.

Often the primary determinant for achieving desired use levels is the management of access and facility development. At the project design phase, the Recreation Specialist evaluates relationships among desired area ROS use levels, appropriate access conditions, and site development levels. The proposed site development Persons-At-One-Time (PAOT) capacity should be balanced with the area ROS capacity. The cumulative effects of other facility developments in the area need to be analyzed in relationship to the proposed project.

For any site development project (including trail and road construction or relocation) the proposed design capacity, ROS setting, activities, and desired landscape character require careful review. An indepth site planning analysis and design review also should be made (see FSM 2333-2). Adjustments to the project may be necessary to fit on-site characteristics.

In Table 8 of the ROS USERS GUIDE (Chapter 20), a procedure is given to calculate a balanced relationship between area ROS capacity and site development levels. Social capacity is compared with the environmental capacity and attributes of the landscape and adjusted accordingly. Facility design capacity (parking spaces, roads) is adjusted to facilitate or control accessibility to an area based on the desired ROS setting characteristics. In essence, the amount of developed facilities is adjusted to meet the quality of experience desired for area based activities (picnicking, fishing, hiking, etc.)

Specialists should draft a design narrative describing the objectives of the project, desired setting, and projected outcomes (FSM 2333)• All project planning should be viewed as opportunities to accomplish recreation objectives. These might include KV plans, contractual requirements within timber sales, special use permits, and watershed improvements.

DESIGN CHECKLIST Analyze alternative

designs, develop design narratives and complete NEPA analysis.

___ Ensure direction and intent of the Forest Plan and Implementation schedule is met.

___ Coordinate with other agency plans.

-- Identify measures to mitigate unavoidable impacts.

___ Complete project drawings and specifications, integrating with all resource needs and requirements.

___ Prepare project construction and development inspection checklist

___ Participate in project work "plan-in-hand" reviews and make necessary adjustments.

62.25 - STEP 5 - EXECUTE

Project work plans are prepared and invitations for bids issued. Pework conferences and consultations with contract administrators, project supervisors, and crews must include discussion of visual and recreation management requirements, specific recreational public concerns, and mitigation measures. The crew foreman, project inspectors, and workers are key ingredients for achieving quality on-the-ground results and design intent.

EXECUTE CHECKLIST

___ Discuss design objectives with contractors, permittees, work crews, and the public.

--- Review and participate as needed in force account, volunteer, and contracted projects.

___ Participate in, or serve as contracting officer's representative investment projects.

___ Conduct field reviews and on-site inspections to ensure mitigation requirements are met.

62.26 - STEP 6 - MANAGE/MONITOR

Recreation management includes publicizing recreation opportunities, administering Forest operation and maintenance activities, and monitoring. Monitoring is a management activity that includes tracking demand and use, user satisfaction and safety, and identifying changes in use patterns and related effects for consideration in future planning and management.

MANAGEMENT CHECKLIST

___ Provide information and interpretation explaining recreation goals and objectives. Use nontechnical terms to permit public to answer why, what, where, when, and how questions relating to recreation choices.

___ Utilize innovative information media to convey Recreation Opportunity Guides (ROG) and to interpret ROS opportunities created by project implementation. Include opportunities created by road and trail construction, timber sales, and water improvements.

___ Develop operation and maintenance schedules consistent with ROS setting criteria. Prioritize maintenance standards and frequency of operations using ROS management objectives.

Project monitoring is a continuing responsibility at the Forest and District level. Recreation monitoring priorities are based upon; 1) importance of achieving plan objectives, 2) potential to solve key issues and concerns, and 3) vulnerability of ROS Class to cumulative changes during the first planning period (10-15 years). Monitoring includes inspection of on-the-ground results through project reviews and field trips. It also requires measurements to establish recreational trends, effects, demand, use, user satisfaction, and public safety, changes in use patterns, and the social/environmental effects of recreation management. Monitoring should be designed to fit existing inventory systems (RIM and RIM-TRAILS) and should have direct relationships to ROS setting indicators and the quality of the experience.

Additional monitoring in accordance with the Forest Plan, will be carried out on a continuing basis to refine Management Area Prescriptions, S&G's.

MONITORING CHECKLIST

Update and follow Forest Plan monitoring requirements.

Evaluate project implementation effects on ROS. Anticipate

cumulative ROS Class effects and recommend Plan adjustments to the Forest standards through NEPA analysis and documentation. Suggested items for review are:

*Changes in access conditions

•Alterations in the character of the landscape including fire and insect infestations, timber sales and mining

*Changes in adjacent land uses •Shifts in population levels and distribution. *Other agency planning

___ Recommend adjustments to the Implementation Schedule as ROS effects are identified.

___ Use activity and management reviews to ensure Forest Plan objectives are incorporated into final integrated project sets.

**63. ROS Setting Indicator
and
Analysis Technique
Guidelines**

63 - APPLIED GUIDELINES

63.I - ROS Setting Indicators

The following indicators help determine the possible effects on ROS settings of implementing alternative project designs.

1. Access
2. Remoteness
3. Visual characteristics
- k. Site management
5. Visitor management
6. Social encounters
7. Visitor impacts

These seven indicators have been identified from research on visitor preferences as well as professional judgments. They represent aspects of recreation settings that facilitate a range of experiences. They are also aspects that managers can influence.

The following indicator guidelines are developed to provide a generally consistent application of the ROS system throughout the National Forests. These indicators represent the limits of acceptable change to maintain the integrity of each ROS setting. The limits of acceptable change are based on ROS setting criteria found in Chapter 10 "ROS Guidelines". Forest Plan management prescriptions, standards and guidelines, and other Regional direction should fall within these limits and provide necessary added detail.

Certain situations may require localized adaptations. These adaptations represent setting inconsistencies identifying conditions outside the normal range for a setting, but may be appropriate under some circumstances. Inconsistencies can occur when the conditions for an indicator are temporarily or permanently changed through the process of meeting an integrated set of resource management objectives. Where this is necessary, managers must support their decision to deviate from these indicator guidelines. Inconsistencies are discussed further in 63-2(7).

LEGEND FOR ROS SETTING INDICATORS CHARTS

FULLY COMPATIBLE - Conditions that meet or exceed the norm.
NORM ----- Normal conditions found in the setting.
INCONSISTENT --- Conditions that are not generally compatible with the norm, but may be necessary under some circumstances to meet the management objective.
UNACCEPTABLE ---- Unacceptable conditions under any circumstances for a given setting.

(1) Access - Includes the mode of transport used within the area and service levels of roads.

Access influences both the levels and types of recreation use an area receives. Improved access can lead to increased use, resource impacts, and an increased need for management action. Access affects the way in which some recreation experiences can be realized. For example, highly developed access can reduce opportunities for solitude, risk, and challenge; on the other hand, it promotes convenience and facilitates experiences associated with meeting and enjoying others.

(See access chart on page 14)

(2) Remoteness - Remoteness concerns the extent to which individuals perceive themselves removed from the sights and sounds of human activity.

All other things being equal, the greater the distance, the more likely the perception of remoteness will occur. Vegetative or topographic variations can also increase this sense of remoteness and the associated experiences of solitude and naturalness. For some recreational experiences, remoteness is of little relevance.

(See Remoteness chart on page 15)

(3) Visual characteristics - The key to managing landscape character in each ROS setting is to use a compatible visual quality objective and its corresponding guidelines. The visual quality objective describes varying degrees of allowable alteration of the characteristic landscape in each ROS setting. The relationship between ROS classes and visual quality objectives is summarized in the following matrix.

(See Visual Characteristics on page 16)

ACCESS

	Cross-Country Travel	Non-Motorized Trails	Motorized Trails and Primitive Rds. (Traffic Ser D)	Controlled (2)TSL B&C Rds	Full Access
PRIMITIVE	Norm	Norm			
SEMI-PRIMITIVE NON-MOTORIZED		Norm	Inconsistent	Unacceptable	
SEMI-PRIMITIVE MOTORIZED			Norm	Inconsistent	
ROADED NATURAL	Fully Compatible			(1) Norm	Norm
RURAL					Norm
URBAN					Norm

(1) Roaded Natural may be prescribed in certain circumstances with roads partially or fully closed.

(2) TSL = Traffic Service Level.

REMOTENESS

	Out of sight and sound of human activity. More than 1 and 1/2 hr. walk.	Distant sight and/or sound of human activity. Less than 1/2 hr. walk from any motorized travelway.	Distant sight and/or sound of human activity. Less than 1/2 hr. walk from any primitive road.	Remoteness of little relevance.
PRIMITIVE	Norm	Inconsistent		
SEMI-PRIMITIVE NON-MOTORIZED	Fully Compatible	Norm	Inconsistent	Unacceptable
SEMI-PRIMITIVE MOTORIZED			Norm	
ROADED NATURAL			Norm	Norm
RURAL				Norm
URBAN				Norm

VISUAL QUALITY (5)
OF
NON-RECREATION ACTIVITIES

	PRESERVATION	RETENTION	PARTIAL RETENTION	MODIFICATION	MAXIMUM MODIFICATION
PRIMITIVE	Norm	Inconsistent			
SEMI-PRIMITIVE NON-MOTORIZED		Norm	Inconsistent		
SEMI-PRIMITIVE MOTORIZED			(1) Norm	Inconsistent	
ROADED NATURAL		(2)	(2)	(3) Norm	(4) Inconsistent
RURAL	Fully Compatible		(2)	Norm	Inconsistent
URBAN					Norm

- (1) Norm from sensitive roads and trails (see USDA Handbook 462)
- (2) Norm where Roaded Modified subclass is used (see USDA Handbook 462)
- (3) Norm only in Mg2 where Roaded Modified subclass is used (see USDA Handbook 462)
- (4) Unacceptable where Roaded Modified subclass is used
- (5) See USDA Landscape Management Handbook series for further guidance

(4) Site modifications- Refers to the level of site development. Lack of facilities and site modification can facilitate feelings of self-reliance, independence, and naturalness. Highly developed facilities can enhance comfort and convenience and increase the opportunity to meet and interact with other people.

The appropriateness of site modification should be consider:

(a) Extent of the modification. Is it limited to a few isolated locations or distributed throughout the area?

(b) Apparentness of the modification. Do the materials blend the modification into the characteristic landscape or do they make the modification readily apparent?

(c) Complexity and scale of the modification. A bridge could be a simple log footpath or a complex architectural effort.

(d) Purpose. Facilities can be for convenience and comfort, or safety and resource protection. In some areas, no facilities what so ever are appropriate; in others, full conveniences would be appropriate.

In general, the appropriateness of site modifications increases as one moves from the primitive end of the spectrum to the urban.

(See site modification chart on page 18)

**ON-SITE
DEVELOPMENT**

	(1) DEVELOP. LEVEL I	DEVELOP. LEVEL II	DEVELOP. LEVEL III	DEVELOP. LEVEL IV	DEVELOP. LEVEL V
PRIMITIVE	Norm	Inconsistent	////	////	////
SEMI-PRIMITIVE NON-MOTORIZED		Norm	Inconsistent	////	////
SEMI-PRIMITIVE MOTORIZED		Norm	Inconsistent	////	////
ROADED NATURAL			Norm	Inconsistent	////
RURAL	Fully Compatible				
URBAN				Norm	Inconsistent
					Norm

(1) See FSM 2330.3-22 for detail guidance on site development levels.

(5) Visitor management - Includes both regulation and control of the visitor as well as providing information and services to aid in their enjoyment.

Outdoor recreation is a voluntary, self-selected behavior. A major reason underlying participation is to get away from the controls and constraints of the everyday world. There is a need for care and sensitivity in how visitor management is implemented. The presence of controls and the way in which they are implemented is as much a part of the recreation setting as the physical environment.

A continuum of visitor management actions can be described, ranging from subtle techniques such as site design and providing visitors with information to strict rules and regulations. At the primitive end of the spectrum, actions should seek to influence behavior indirectly through steps such as the use of off-site information and education programs that improve visitor behavior. In developed settings, controls are more directly imposed upon visitors through site design and regulation. In general, the "principle of minimum regulation" should apply across the ROS spectrum.

In some opportunity settings, controls are expected and appropriate; for instance, people seek some developed settings for security and safety. Elsewhere, such on-site controls would detract from desired experiences such as independence and self-reliance.

The type and level of information provided visitors, as well as where it is provided, facilitates some experiences, while hindering others. Where experiences such as self-discovery, challenge, and risk are important, information provided on-site has the potential of adversely affecting the visitor. In other situations, providing on-site information might be essential to achieve desired experiences. Generally, on-site information is more appropriate at the developed end of the spectrum while off-site sources are better at the primitive end.

Irresponsible visitor behavior (reflecting inappropriate social norms and land use ethics) can affect the recreational experiences and settings throughout the ROS spectrum. Behavioral problems can contribute as significantly to resource damage as the frequency, duration, type, and level of use. Resolving behavioral problems can be an effective and important tool and need to be addressed before more regulatory approaches to management are adopted.

(See Visitor Management Chart on page 20)

VISITOR MANAGEMENT

	Low regimentation. No on-site controls or information facilities.	Subtle on-site regimentation and controls. Very limited information facilities.	On-site regimentation and controls are noticeable but harmonize with the natural environment. Simple information facilities.	Regimentation and controls obvious and numerous. More complex information facilities.	Regimentation and controls obvious and numerous. Sophisticated information exhibits.
PRIMITIVE	Norm	Inconsistent	//////	//////	//////
SEMI-PRIMITIVE NON-MOTORIZED		Norm	Inconsistent	////// Unacceptable	//////
SEMI-PRIMITIVE MOTORIZED		Norm	Inconsistent	//////	//////
ROADED NATURAL			Norm	Inconsistent	//////
RURAL	Fully Compatible			Norm	Inconsistent
URBAN				Norm	Norm

(6) Social encounters - The number and type of other recreationists met in the area, along travel ways, or camped within sight or sound.

Some recreation experiences require few if any contacts with people in other groups while in other situations encounters are sought as part of the experience. Social encounters measure the extent to which an area provides experiences such as solitude or the opportunity for social interaction. Increasing numbers of visitors to an area change the kind of recreational experience offered, attracting new users and causing others to leave.

(See Social encounters Chart page 22)

(7) Visitor impacts - The impacts of visitor use affect resources such as soil, vegetation, air, water, and wildlife.

Recreation use of the land inevitably results in impacts. Even low levels of recreational use can produce significant impacts. Research has shown that a high percentage of site impacts occur at low levels of use, with further use producing only small amounts of additional change. The challenge is not one of how to prevent any human-induced change, but rather one of deciding how much change will be allowed to occur, where, and the actions needed for control.

The effects of visitor impacts can influence the recreationist's experience. In general, recreationists expect a more natural setting toward the primitive end of the spectrum with impacts substantially unnoticeable. Towards the rural end of the spectrum, signs of human alteration to the landscape become more evident and acceptable.

Other visitor impacts affect air and water quality and wildlife habitat. These impacts can affect the visitor's experience as seriously as those shown in the chart. Maintaining air and water quality standards is important in all ROS classes. Visitor impacts can alter wildlife habitat or displace wildlife species. Indicator species are an important means of monitoring recreation-related impacts on fish and wildlife.

(See visitor impact chart page 23)

SOCIAL ENCOUNTERS

	6 parties or less met per day. Less than 3 visible parties at camp-site.	6-15 parties met per day. 6 or less parties seen at camp.	Moderate to high contact on roads. Moderate to low on trails and developed sites.	Moderate to high contact in developed sites, on roads and trails.	Large numbers of users on-site and in nearby areas.
PRIMITIVE	Norm	Inconsistent	///	///	///
SEMI-PRIMITIVE NON-MOTORIZED		Norm	Inconsistent	/// Unacceptable	///
SEMI-PRIMITIVE MOTORIZED		Norm	Inconsistent	///	///
ROADED NATURAL			Norm	Inconsistent	///
RURAL	Fully Compatible			Norm	Inconsistent
URBAN					Norm

63.22b - Analysis Techniques

This section provides guidelines for analysis outlined in Step 2.

(1) Mapping - Plan implementation requires spatially locating the desired future resource conditions (deer winter range, ROS setting) directed by the Forest Plan. Mapping of desired conditions, such as age class, transportation networks, facilities, and ownership patterns is best done through a series of map overlays. Pay primary attention to access management strategies (includes Off Highway Vehicles).

Mapping of existing ROS opportunities and the attractiveness overlay are explained in Chapter 20. Where this mapping was done as a part of Forest Planning, it should be reviewed and updated. If it was not done, it should be completed at this time. The attractiveness overlay showing visual variety ratings, outstanding features, and special areas can be a valuable aid in achieving desired conditions. Other agency plans and activities should be assessed as to their effect on desired conditions.

Aggregate the mapping for the desired condition into one composite map for comparison with the inventoried existing conditions. Incorporate the results of this comparison with other resource specialists input to help develop the final integrated project set.

(2) Check Standards and Guidelines - Standards and guidelines represent minimum levels of management for each setting. They should be within limits of acceptable change shown for each indicator. Integrated project design sets may be more restrictive than the prescribed standards.

(3) Develop alternative project sets - Various alternatives for achieving desired conditions need to be mapped and analyzed. Use the NEPA process to help select the best mix of project sets to meet Forest Plan goals. (See FSM 1950 and FSH 1909.15 for more detail.)

(4) Evaluate project sets - Through the NEPA scoping process, select those alternatives to be pursued in depth. Refer to the criteria listed in 63.1 for setting indicators. At this point, specialists should be alert for potential recreation opportunities created by different project sets. These new opportunities need to be evaluated in light of the desired conditions described in the Forest Plan.

(5) Check projects - Check projects against adopted ROS setting indicators. Determine which projects are fully compatible, normative, inconsistent, or unacceptable using the criteria listed in 63>1. Each project set will need to be mapped using the criteria in Chapter 20 to determine the ROS classes created. The degree of mapping should be consistent with the scope of the proposed action. The following sample evaluation sheet is suggested to help determine the consequences of implementing alternative project sets. The findings indicate the extent to which the anticipated effects of the proposed project meet the desired ROS management objective.

SAMPLE

ROS EVALUATION SHEET

PROJECT/SET NAME _____ ALTERNATIVE # _____

ROS MANAGEMENT OBJECTIVE _____

	FULLY SETTING INDICATORS	COMPATIBLE*
NORMATIVE INCONSISTENT UNACCEPTABLE		

Access

Remoteness

Visual characteristics

Site management

Visitor management

Social encounters

Visitor impacts

(6) Analyze Inconsistencies/effects.

Determine the significance of expected inconsistencies and other effects on the recreation setting. This analysis requires judgments about possible long and short term consequences and cumulative effects. Important questions that need to be addressed when evaluating the significance of ROS setting inconsistencies include:

(a) How did the inconsistency occur? Was it intentional in the Forest Plan direction or unanticipated?

(b) What are the implications of the inconsistency? Will changes in access, for example, be enough to create a change in the ROS setting? Will the change be rapid, or slow?

(c) What is the extent and intensity of the inconsistency? Are the recreational uses and any resulting effects concentrated in only a small portion of the ROS class or use season, or are they widespread? Will it be a long, or short term change in the ROS setting? Are cumulative effects to other adjacent or distance ROS settings/activities likely?

(d) What should be done about the inconsistency? In general, four kinds of actions are possible: 1. Do nothing if inconsistency will have little or no affect on areas character. 2. Direct action to bring inconsistency back in line. 3. Change ROS class to new one. 4. Drop the project.

The following matrix provides a way for ranking the intensity and extensity of effects. An assumption can be made that by considering the severity and spatial extent of impacts, actual or potential effects on setting indicators can be ranked. Most assessment of major effects will focus on how other resource activities influence the ROS setting.

DEGREE OF EFFECT OF PROPOSED ACTION ON DESIRED ROS SETTING

		INTENSITY		
		High	Moderate	Low
EXTENSITY	High	unacceptable/: inconsistent/ : change class : class acceptable: 0		0
	Moderate			0
	Low	0	0 norm/ fully ok	0

Intensity - Degree of setting alteration, access change or likely use change from one social setting to another.

Extensity - Affected proportion of an ROS setting or biological subdivision.

An inconsistency in one indicator does not necessarily automatically lead to a change in ROS class. By analyzing its cause, implications, and possible solutions, an inconsistency can be handled in a logical and systematic fashion.

(7) Select/monitor project sets- Identify preferred project sets and develop appropriate monitoring criteria based on ROS setting indicators. Monitor their development as an ongoing activity. In some cases, monitoring criteria may already be established as part of the Forest Plan.

(8) Reaffirm Capital Investment List - Revise the Forest Capital Investment Priority List to reflect the final integrated project set.

63.3 ILLUSTRATIVE EXAMPLES (RESERVED)

63.4 REGIONAL GUIDES (RESERVED)

64.0 APPENDIX (RESERVED)