

CHAPTER 3 – AFFECTED ENVIRONMENT AND EFFECTS ANALYSIS

3.1 Recreation Resources

3.1.1 Introduction

Motorized use has a long history on the Forest and is a legitimate and appropriate way for people to enjoy the National Forest, in the right places and with proper management. Since the 1980s, motor vehicle use has changed from primarily jeep travel to a mix of passenger car, truck, all terrain vehicles (ATV), and motorcycle use, more recently the utility terrain vehicles (UTV) which are also called sport utility vehicles (SUV), and the desire for motorized trail access has increased. Over the past few decades, the availability and capability of motorized vehicles, particularly off highway vehicles (OHV) has increased tremendously and has outgrown the current travel plans for the Forest.

Numerous studies and industry reports indicate similar findings. The OHV industry and popularity of OHV-based recreation is increasing nationally. Locally, there is a demand for trail riding opportunities and OHV access to highly desirable sites within the forest. Although National Visitor Use Monitoring (NVUM) surveys indicated a relatively small proportion (3-5%) of forest visitors participated in OHV activities, national and regional trends indicate the demand will grow. Monitoring data, public comment and participation in meetings/workshops also support this increased demand for motorized recreation.

Surveys also indicate that within the Forest the top five most frequently participated in recreational activities include: viewing natural features (scenery), relaxing, wildlife viewing, and fishing, hiking or walking. While these activities are not exclusive of OHV activities, at times (depending on the goal of the forest user) the noise, dust, and disturbance that may accompany OHVs is not compatible with these activities.

However, the increase in OHV use also affects soil, water quality, wildlife habitat, and other recreational visitors. Today unmanaged recreation, including impacts from off-highway vehicles, represents one of four key threats facing the nation's forests and grasslands. Policies must be adapted to accommodate an increasing number of OHV users on National Forest System lands. This can be accomplished through a sustainable system of designated routes and areas for motor vehicle use. The key word is "sustainable" because conditions on the Ashley National Forest have proven that motorized trails have been designated to create additional recreation opportunities for motorized use, but years later resulted in resource and safety concerns due to poor route selection and a lack of maintenance. Motorized trails have different design parameters and maintenance requirements than non-motorized system trails and this fact needs to be considered when designating additional motorized trail opportunities (FSH 2309.18). Designation of additional Forest system roads and trails will be evaluated to assure that they occur in appropriate locations and remain sustainable, motorized routes requiring basic maintenance for several years into the future.

Striking a balance between motorized and non-motorized uses is an integral part of this process.

3.1.2 Scope of the Analysis

The geographic scope for the detailed assessment of recreation condition and potential effects includes the entire Forest, with the exception of the High Uintas Wilderness Area (HUWA). There is no detailed assessment of recreation resources within the HUWA because there are no proposals being considered within the Wilderness. Five issues will be examined in depth with regard to recreation resources. For organizational purposes, the Recreation Niche Areas for the Forest will be used to manage the analysis of recreation resources (See Figures 3.1.1 through 3.1.3). The Forest Recreation Site Facility Master Plan (RSFMP) is a framework to guide the Forest in providing a quality, sustainable recreation program, and describes the vision (“niche”) for the overall Forest recreation program. The niche provides a broad overview of the Forest’s recreation resources, program priorities by area, and unique opportunities. The niche description focuses on who visits the Forest, what draws the majority of visitors to the Forest, and what makes the Forest a recreation destination. Recreation niches are described in more detail in section 3.1.5 Recreation Site Facility Master Planning/Recreation Niche.

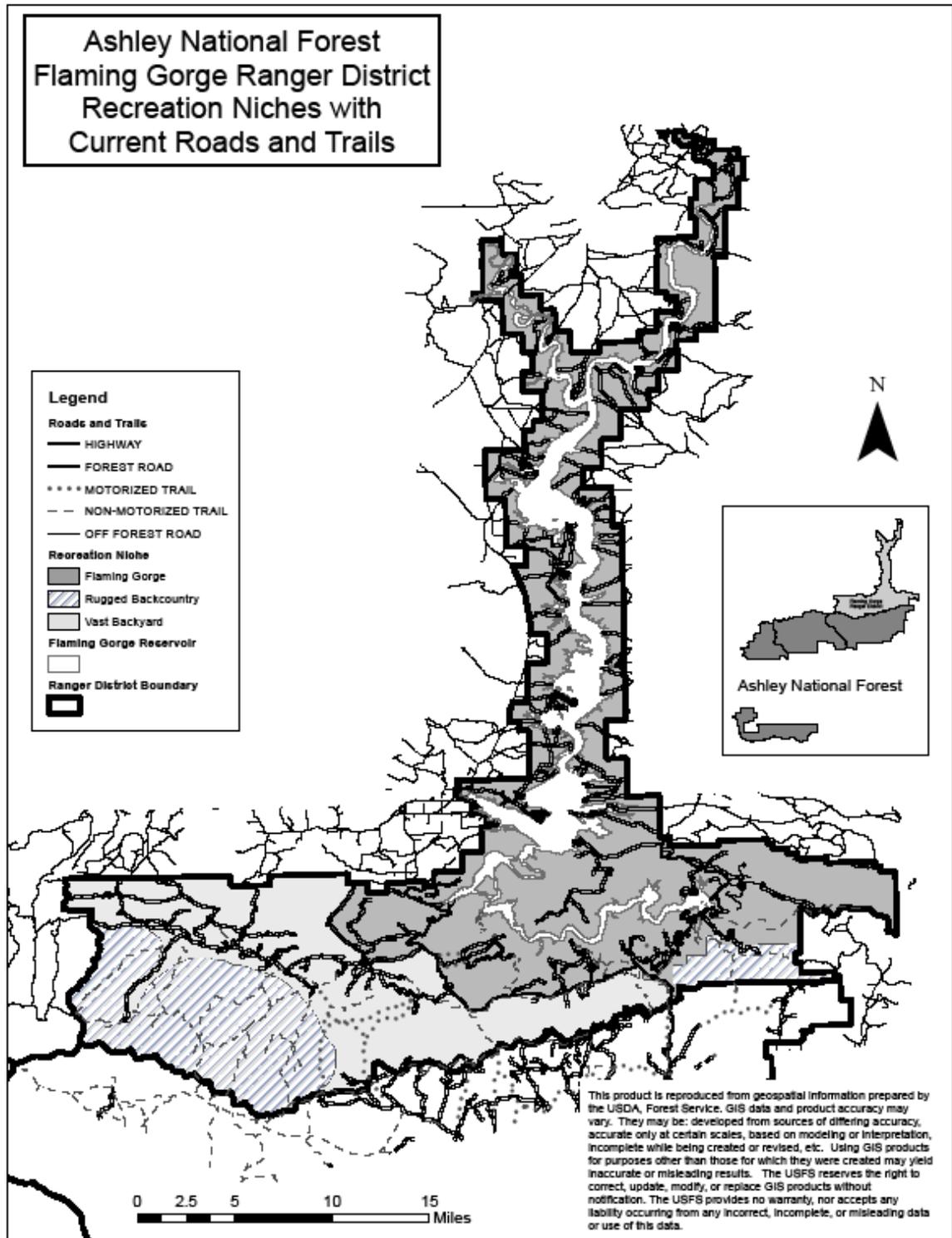
The analysis for recreation resources was developed utilizing a combination of field visits, interdisciplinary field reports, and Forest GIS data.

Identifying and tracking proposals - Over 1200 route changes were proposed during scoping. In order to track each proposed route or route change each proposal was given a unique number that was used to track that particular proposal throughout the process. The number was used to identify which district the route was on followed by three numbers randomly assigned to that proposal.

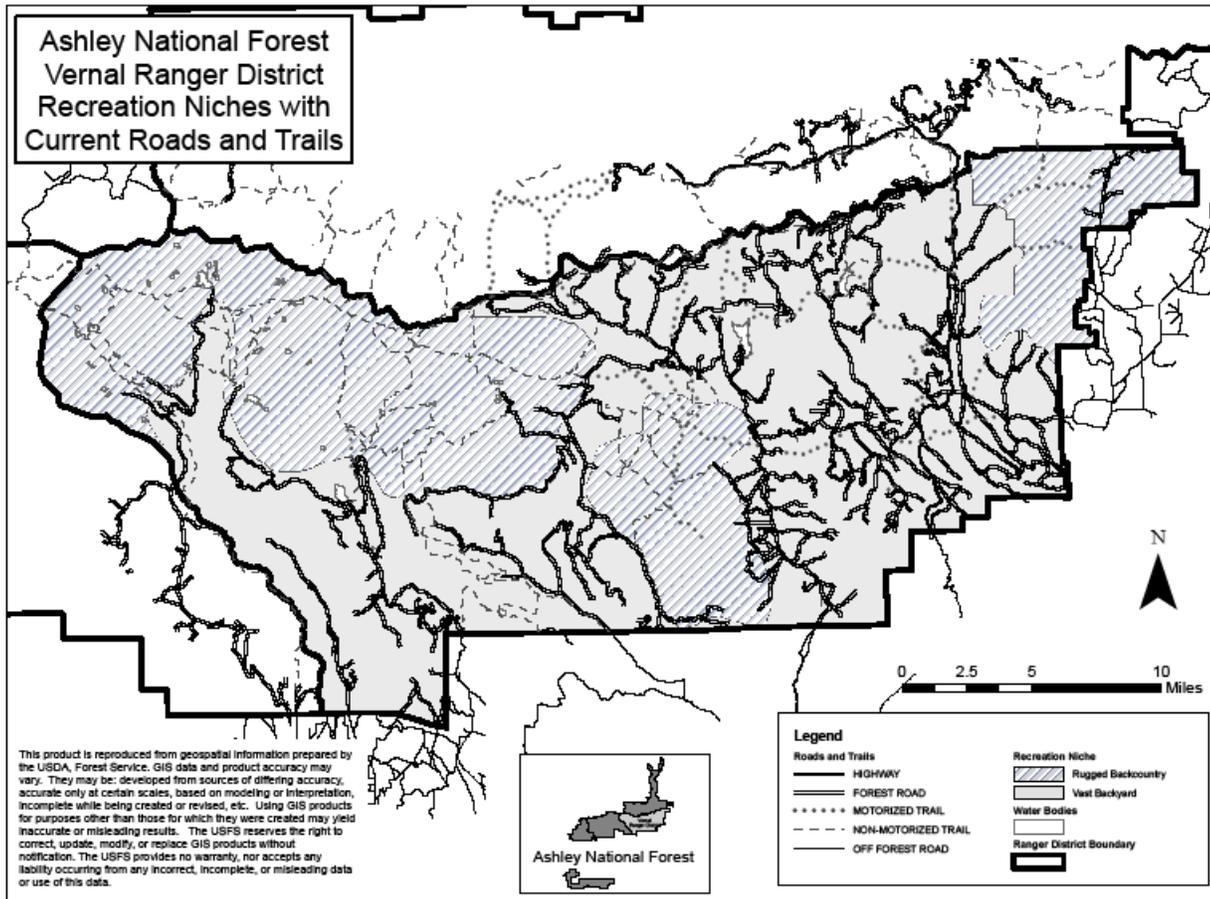
- Flaming Gorge Ranger District proposals start with the number “1” followed by three numbers.
- Vernal Ranger District proposals start with the number “2” followed by three numbers
- Roosevelt/Duchesne Ranger District North Unit proposals start with the number “3” followed by three numbers.
- Roosevelt/Duchesne Ranger District South Unit proposals start with the number “4” followed by three numbers.

(i.e. 1001 was the first proposal assigned an identifier on the Flaming Gorge Ranger District, 2040 was the fortieth proposal assigned an identifier on the Vernal Ranger District). The proposals in each district were assigned the identifier randomly and not according to status or ranking.

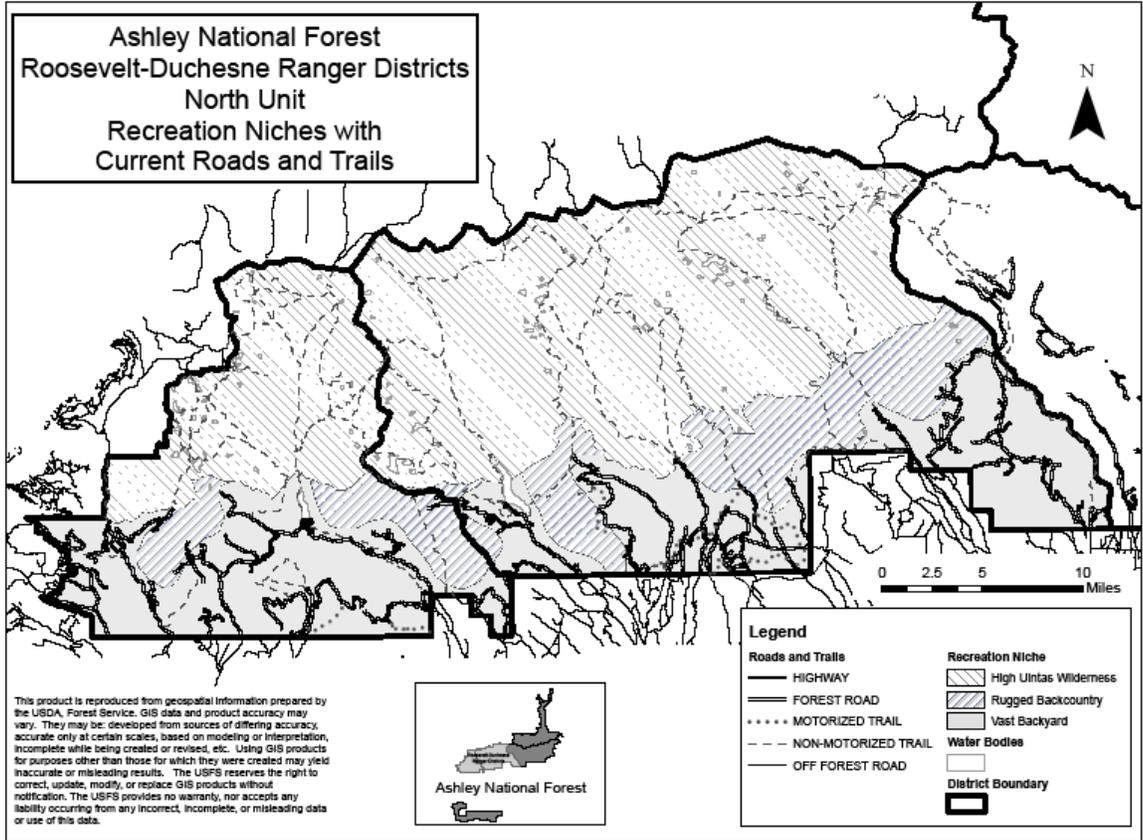
Forest Recreation Niche Areas—Flaming Gorge Ranger District (D1)



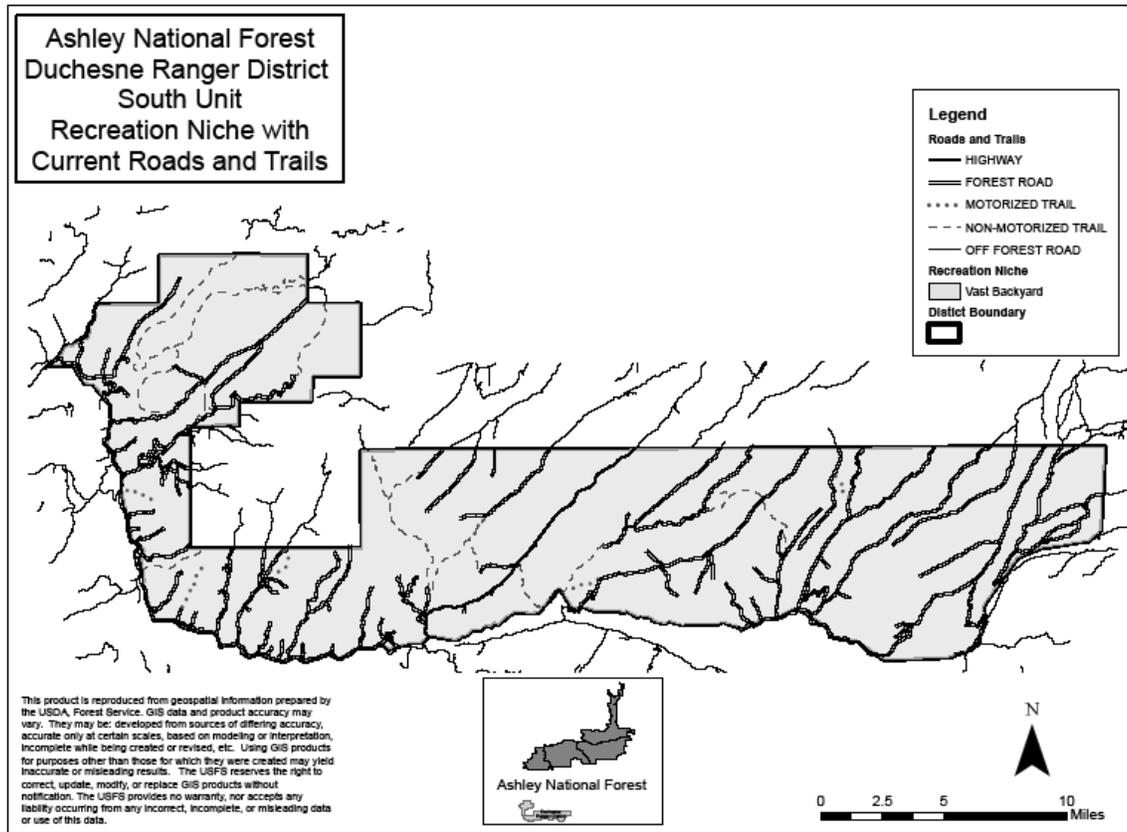
Forest Recreation Niche Areas—Vernal Ranger District (D2)



Forest Recreation Niche Areas—Roosevelt/Duchesne Ranger District North Unit



Forest Recreation Niche Areas—Roosevelt-Duchesne Ranger District (South Unit-D4)



3.1.3 Issues and Indicators

Recreation Issue 1 (Conflicts) - Travel route designations affect opportunities for both motorized and non-motorized recreation activities; the types, amount, and characteristics of the routes affect the experience of the forest user. Introducing new recreation activities or restrictions into an area could create conflicts; for example, non-motorized users generally seek areas that offer tranquility, away from the noise and dust that could accompany motorized activity, such as ATV use.

Indicators

- Miles of open NFS road by designation
- Miles of ATV trail (restricted to motor vehicles with an axel width less than 50 inches)
- Miles of motorized trails open to all vehicles
- Miles of non-motorized trails
- Changes in Recreation Opportunity Spectrum (ROS)

Recreation Issue 2 (Limiting dispersed camping): Limiting dispersed camping to 150 feet from designated routes may affect the experience and/or reduce the availability of areas to camp. Currently dispersed camping may occur any where on the Forest up to 300 feet from a

designated road, unless signed otherwise. Dispersed camping is considered an important recreational opportunity on the Forest and limiting motorized dispersed camping to 150 feet from designated routes may reduce available and desirable sites resulting in crowding and a reduction in the overall experience.

Indicators:

- Miles (or acres) of routes where dispersed camping may occur.

Recreation Issue 3 (Safety) -The amount, location, and designation of motorized and non-motorized roads and trails may affect the safety of Forest visitors. For example, roads that are open to mixed traffic allow for travel by large vehicles pulling trailers, as well as ATV's operated by inexperienced drivers, such as children over the age of eight who have completed a safety course.

Indicators

- Miles of road allowing mixed traffic

Recreation Issue 4 (Costs) -Travel management affects road and trail program costs. Implementing and managing the travel plan will require signing, installing barriers, patrolling and monitoring, mitigation, and maintenance of roads and trails. The cost of these activities may be prohibitive to adding new routes or routes that would require high maintenance or mitigation costs.

Indicators

- Costs to program management

Recreation Issue 5 (Enforcement) Incorporation of designated routes by themselves will not necessarily accomplish the goals of the Travel Management Plan unless enforcement concerns are considered.

Indicators

- Enforceability of route designations and closures and development of the motor vehicle use map (MVUM).
- Number, style, and location of physical barriers to restrict motorized vehicles.

3.1.4 Forest Plan Direction

The Forest Plan goals, objectives, and standards and guidelines define the direction of the forest-wide management, specify management activities, and describe conditions to be maintained or achieved through management activities (Forest Plan, p. IV-1). The following are the Forest Plan goals, objectives, and standards and guidelines that apply to recreation resources throughout the forest. All action alternatives are consistent with Forest Plan management direction.

Goals:

- Provide a broad range of recreation opportunities within land capabilities and according to recognized public need (Forest Plan p. IV-14).

Objectives:

- Allow public access and manage all travel to protect other resources, provide for public safety, and minimize conflicts with other users (Forest Plan pp. IV-14-16).
- Manage dispersed recreation use to avoid resource deterioration, improve economic efficiency and provide for public safety (Forest Plan p. IV-17).

- Provide areas and opportunities for all types of recreation user experience (Forest Plan p. IV-18).
- Manage Research Natural Areas to prevent site deterioration (Forest Plan p. IV-18).

Standards and Guidelines:

Implement the Forest District Travel Plan. Review annually and revise if necessary, using the following guidelines.

- Obliterate unnecessary roads or trails and exclude it from the Forest’s transportation system.
- Areas may be closed or restricted to:
 - Protect the public in concentrated use areas
 - Protect unique resources (i.e. cultural, geologic)
 - Protect natural resources and prevent damage to the natural values or functions of the ecosystems
- Achieve a variety of recreational opportunities
- Separate identified conflicting recreation uses whenever possible by public communication, signing, travel maps and enforcement, when necessary.
- Provide improved travel plans, signing and enforcement
- Allow dispersed recreation at a level where site deterioration does not occur

Direction:

Forest Plan direction for recreation is encompassed by Management Area (MA). A complete list of the current condition of all MAs can be found in the Recreation Resource Report Appendix A (available in the Project Record). The following MAs are where the majority of current routes and proposed changes to current management of roads and trails will occur.

- **Management Area Prescription “f”**—Dispersed Recreation Roaded. The MA includes areas receiving a variety of uses in a variety of landforms and vegetation types located throughout the Forest in a roaded environment (Forest Plan p. IV-7).
 - Visual Quality Objectives (VQO) at inventoried standards. Dispersed recreation is favored over other resources. Travel plan will be used to protect resources while permitting access (Forest Plan p. IV-7).
 - Maintenance at high levels (3 or 4) on main roads (Forest Plan P IV-8).
- **Management Area Prescription “g”**—Undeveloped Dispersed Recreation Unroaded. The area contains a variety of timbered and non-timbered lands between mid and high elevations (Forest Plan p. IV-7).
 - District Travel Plan will be used to resolve conflicting uses (Forest Plan p. IV-7).
 - No road construction. Facilities may be constructed for public safety, convenience, and protection of the site (Forest Plan p. IV-8).
- **Management Area Prescription “n”** – Range of resource uses and outputs. Commodity production modified for amenity production. This MA is found throughout the Forest and prescribes resource protection as needed outside of the NRA.
 - Resource protection as needed (Forest Plan p.IV-10).
 - Access may be controlled to enhance wildlife habitat (Forest Plan p.IV-10).

3.1.5 Recreation Site Facility Master Planning/Recreation Niche

The Forest Recreation Site Facility Master Plan (RSFMP) is a framework to guide the Forest in providing a quality, sustainable recreation program, and describes the vision (“niche”) for the overall Forest recreation program. The niche provides a broad overview of the Forest’s recreation resources, program priorities by area, and unique opportunities. The niche description focuses on who visits the Forest, what draws the majority of visitors to the Forest, and what makes the Forest a recreation destination.

The Forest developed four characteristic settings, “Recreation Niche Areas,” that best describe recreation opportunities by geographic area on the Forest. Acres and percentage of recreation niches within the Forest are shown in Table 3.1.1. The Recreation Niche Areas will be used to analyze recreation resources under each alternative for the Travel Plan.

Table 3.1.1 Size of Recreation Niche Areas on the Forest		
RECREATION NICHE AREA	ACRES	PERCENT OF FOREST
Flaming Gorge	217,090	14%
Vast Backyard	644,880	40%
Rugged Backcountry	292,040	18%
High Uintas Wilderness	453,670	28%

Recreation Opportunity Spectrum (ROS)

ROS is a framework used by the Forest Service to describe a range of recreation activities, settings and experiences. Areas on the Forest are assigned to one of six ROS classes: (1) primitive, (2) semi-primitive non-motorized, (3) semi-primitive motorized, (4) roaded natural, (5) rural, and (6) urban. Each class is characterized by the types of activities likely to occur there (for example, motorized recreation vs. foot and horse travel), the setting (natural vs. modified or developed by man) and the type of experience a person has in that area (a feeling of isolation and personal challenge, vs. a more comfortable and social experience).

The Forest ROS inventory can be used to characterize recreation values for a project area, and describe how those values might be altered if a project were implemented. It is a tool for analyzing effects that are often hard to quantify, and provides a more accurate description of the trade-offs involved in a project. Refer to Appendix C in the Recreation Resources Report available from the Project Record for maps of the inventoried ROS Classes on the Forest.)

3.1.6 Affected Environment

Current Trends and Recreation Use on the Forest

With over one million visitors, the Ashley National Forest developed its primary recreation niche, “Big Fish, Ancient Rocks” to describe the vision for the overall Forest recreation program and as a guide in providing quality, sustainable recreation. It is no surprise that about one-third of Forest visitors participate in fishing and that the majority of Forest visitation occurs on the Flaming Gorge National Recreation Area where popular landmarks such as the Flaming Gorge Reservoir and Green River are located (NVUM). The current Forest system roads and trails network and abundance of perennial streams, high lakes, and man-made reservoirs make fishing very accessible throughout the Ashley National Forest.

The majority of recreation on the Forest occurs within the front country that includes the Flaming Gorge and Vast Backyard Recreation Niche Areas. These two Recreation Niche Areas also contain almost all of the roads and developed recreation facilities on the Forest, such as visitor centers, campgrounds, and trailheads. The peak season of use at these facilities, and on the Forest in general, occurs during the summer months from Memorial Day weekend in May to Labor Day weekend in September. There is another spike in recreation activity during big game hunting season in October which also tends to be the peak season of use for the south unit on the Roosevelt-Duchesne Ranger District.

The most noticeable change regarding recreation activities on the Forest is the increase in OHV use. The Forest recognizes this growing recreation activity and has taken measures to develop sustainable motorized trail opportunities, but mostly at a smaller scale limited to district actions. The travel management process will address balancing motorized recreation opportunities at a Forest level, while retaining settings for non-motorized recreation.

There are some existing conditions that are common throughout the Forest. As stated above, the peak season of motorized use on the Forest occurs during the summer months --from Memorial Day weekend in May, to Labor Day weekend in September. The most sensitive and prevalent times when resource damage occurs is during the wet periods when the ground is still wet from snowmelt (usually around May/June) or when the ground is becoming more saturated during the seasonal transition into fall (usually around October). There is no motorized cross-country travel allowed by wheeled vehicles on the Forest, but travel off of designated routes is allowed within 300 feet when resource damage will not occur to access a temporary camp site; to gather firewood by permit; or for retrieval of legally taken big game (Forest Travel Maps 2005).

While it is somewhat difficult to quantify OHV trends at the project level, an indicator for local trends is the sales of OHV registrations. In the Uintah Basin growth in OHVs use has increased 616% over eleven years (Division of State Parks and Recreation and State of Utah Tax Commission, Department of Motor Vehicles 2009) Table 3.1.2.

Table 3.1.2 Utah OHV Registration Transactions*			
COUNTY	1998	2008	% GROWTH 1998-2008
Daggett	41	313	763%
Duchesne	340	2,347	690%
Uintah	844	4,891	580%
Tri-County Total	1,225	7,551	616%
Utah State Total	51,686	184,095	356%

* Utah State Parks and Recreation Data does not include snowmobile registrations

The National Visitor Use Monitoring (NVUM) surveys were conducted on the Forest in 2001 and 2007. The (NVUM) project was implemented as a response to the need to better understand recreation use and activities as well as satisfaction with National Forest recreation opportunities. The 2007 survey data does not have the same accuracy level (90% confidence interval width) as the 2001 data, likely due to missed survey dates. The data regarding visitation seems consistent between surveys. However, the data regarding participation in recreation activities on the Forest shows greater differences between surveys.

Results from the NVUM surveys are as follows:

- The Forest receives over 1 million visits per year.
- Over 75% of visitors live within 200 miles from the Forest.

- 25% participated in driving for pleasure
- 15% participated in motorized trail activity (not surveyed in 2001)
- 3-5% of the forest visitors participated in OHV use.

A report prepared by the Institute for Outdoor Recreation and Tourism at Utah State University Recreational Off-Highway Vehicle Use on Public Lands in Utah suggests that providing an atmosphere in which OHV owners feel a sense of relief from stressful situations and where nature can be appreciated with others in a group setting should be a prime focus in guiding the design and management of OHV trails and areas. In response to owners' reasons for going riding, and with a goal of providing for a positive experience, managers should make an effort to provide a wide variety of OHV opportunities for the recreationist to experience desired benefits.

Description of Recreation Niches

The Recreation Niches and current uses are summarized below; see the Recreation Specialist Report (available in the Project Record) for greater detail of the niches and their current uses.

Flaming Gorge Recreation Niche Area

- Setting—The primary features include the 91-mile-long Flaming Gorge Reservoir and the Green River. Red canyon walls provide a scenic backdrop for water-based recreation. Development is concentrated in a few areas leaving the rest in a predominantly natural state. Congress established this National Recreation Area to provide for public outdoor recreation and to conserve scenic, scientific, and historic resources.
- Activities and Opportunities—Highly-developed complexes support camping and reservoir access for fishing and motorized boating. Boat-in campsites provide a more isolated experience. A blue ribbon trout fishery attracts national use. Green River offers float-in only camping opportunities.
- ROS—Mostly roaded natural, with some rural and semi-primitive non-motorized and very sparse semi-primitive motorized areas.

The majority of roads within the NRA serve to access developed recreation facilities or to access the reservoir. The majority of unimproved roads allow mixed traffic. There is only one designated ATV trail located near Greendale campground on the NRA (Table 3.1.3).

The Red Canyon area is highly visited during the summer season because of popular destinations such as the Red Canyon Visitor Center, Overlook, Campground, and Lodge. Wildlife viewing is very popular as deer and big-horn sheep commonly browse in the area. A couple of small lakes are frequently used for fishing and picnicking. The current non-motorized trail system is very popular with hikers and mountain-bikers, and is utilized for horseback rides by a permitted outfitter.

Table 3.1.3 Current system road and trail miles in the Flaming Gorge Recreation Niche Area			
ROAD MILES (Roads open to public access)	MOTORIZED TRAIL MILES (Trails open to vehicles up to 50-in. wide)	NON-MOTORIZED TRAIL MILES (Trails open for non-motorized use)	ADMIN-CLOSED MILES (Roads restricted to authorized vehicles. Non-motorized access usually allowed)
317	4	33	14

Vast Backyard Recreation Niche Area

Setting— This roaded area is easily accessible, while offering motorized and non-motorized remote experiences. The feeling of expansiveness is enhanced by the proximity of Wilderness and rugged mountain settings.

Activities and Opportunities— Developed camping only occurs at lakes, reservoirs, and primary Wilderness staging areas. Dispersed camping is concentrated in designated areas, primarily self-contained, and supports rustic, less structured recreation, such as fishing, hunting, hiking, and backyard outings. A system of designated OHV routes and staging areas based on existing roads and existing capacity is located on the Vernal RD, with links to other districts and outside partners.

ROS—Mostly roaded natural, then followed by semi-primitive motorized and semi-primitive non-motorized.

The Vast Backyard is the largest recreation niche area on the Forest. It is predominantly comprised of roaded natural and semi-primitive motorized ROS classes. The Vast Backyard contains the majority of roads and recreation developments on the Forest (Table 3.1.4), making it easily accessible for both motorized and non-motorized recreation opportunities. This area acts somewhat like a vast backyard for locals throughout the Uintah Basin. This niche area is extremely popular for activities such as dispersed camping, picnicking, day trips and extended day trips, hiking, OHV riding, biking, hunting, and horseback riding.

The Vast Backyard houses the majority of the hatched travel area on the Vernal Ranger District. This travel area is limited to the Vernal Ranger District where routes are open to motorized vehicles on designated routes and established undesignated routes as long as resource damage is not occurring. These undesignated routes were inventoried using satellite and aerial photography. Routes that were not NFS roads or trails and were visible on the photography were digitized and stored in the Forest GIS data base. These routes are not considered system routes and are not maintained by the Forest. Approximately 111,800 acres or 33% of the Vernal Ranger District comprises the hatched travel area, which spans the width of the district, and contains approximately 368 miles of undesignated routes.

Table 3.1.4 Current system road and trail miles Vast Backyard Recreational Niche Area				
DISTRICT	ROAD MILES (Roads open to public access)	MOTOR TRAIL MILES (Trails open to vehicles up to 50-in. wide)	NON-MOTOR TRAIL MILES (Trails open for non-motorized use)	ADMIN-CLOSED MILES (Roads restricted to authorized vehicles. Non-motorized access usually allowed)
Flaming Gorge	90	10	37	16
Vernal	379	63	79	39
Roosevelt/Duchesne North Unit	249	28	67	13
Roosevelt/Duchesne South Unit	264	8	61	2
TOTAL	982	109	244	70

**The district acronyms listed in the table above refer to the ranger districts that comprise the Forest and include Flaming Gorge (D1), Vernal (D2), the north unit on the Roosevelt-Duchesne (D3), and the south unit on the Roosevelt-Duchesne Ranger Districts (D4).*

Various parts of this travel area are popular with local residents for dispersed camping and OHV activities, especially along the State Highway 191 corridor and around the Iron Spring area. Although users tend to stay on well-established routes, the lack of designation has created a management problem. Both visitors and managers find it difficult to distinguish between an established, undesignated route and a newly-created undesignated route. Furthermore, recognizing an established, undesignated route where resource damage is not occurring is more challenging to interpret and identify. As a result, enforcing current travel regulations within this travel area is problematic; and new routes are prolific and increase every year. Undesignated routes with resource damage are problematic because the district has no set way of identifying or maintaining these routes, and justification for improving or removing these routes is difficult due to budget constraints and “primary purpose” accountability issues. This area is a good example of what former USDA Forest Service Chief Dale Bosworth meant by unmanaged recreation.

Rugged Backcountry Recreation Niche Area

Setting— Remote areas of intact natural vegetation and healthy ecosystems epitomize this setting. These areas often provide greater solitude than Wilderness.

Activities and Opportunities— These areas provide remote, largely non-motorized recreation, including hunting, hiking, and horseback riding.

ROS—Predominantly semi-primitive non-motorized with sparse areas of primitive and semi-primitive motorized.

There are no developed campgrounds or other major recreation developments in the rugged backcountry. Recreation facilities are limited to trailheads with limited amenities such as unpaved parking, pit toilets, wooden corrals, and kiosks. Roads in this niche are sparse and motorized trails limited (Table 3.1.5).

Table 3.1.5 Current system road and trail miles in the Rugged Backcountry Recreation Niche Area				
DISTRICT	ROAD MILES (Roads open to public access)	MOTOR TRAIL MILES (Trails open to vehicles up to 50-in. wide)	NON-MOTOR TRAIL MILES (Trails open for non-motorized use)	ADMIN-CLOSED MILES (Roads restricted to authorized vehicles. Non-motorized access usually allowed)
Flaming Gorge	5	3	64	0
Vernal	29	23	116	5
Roosevelt/Duchesne North Unit	15	2	36	2
Roosevelt/Duchesne South Unit	0	0	0	0
TOTAL	49	28	216	7

**The district acronyms listed in the table above refer to the ranger districts that comprise the Forest and include Flaming Gorge (D1), Vernal (D2), the north unit on the Roosevelt-Duchesne (D3), and the south unit on the Roosevelt-Duchesne Ranger Districts (D4).*

High Uintas Recreation Niche Area

Setting— Capped by Roosevelt/Duchesne, the highest point in Utah, this Wilderness provides water to the deserts below and draws visitors seeking solitude and challenge.

Activities and Opportunities— Opportunities include hiking to destination lakes, peak-bagging, multi-day backpack trips, horse packing, fishing, and outfitter guide support.

ROS—Almost entirely primitive with sparse areas of semi-primitive non-motorized.

This niche area will not be discussed further in the recreation resource analysis because there are no proposals listed within the HUWA.

3.1.7 Environmental Consequences

Direct and Indirect Effects by Alternative

Alternative A—No Action

The current Travel Plan for the Forest does not effectively manage motorized travel or provide sufficient sustainable motorized recreation opportunities. It lacks motorized loop and connectivity attributes that are sought by many OHV users. In certain cases it encourages motorized use on poorly selected routes or fails to provide clear direction as to where and when motorized use is allowed.

Recreation Issue 1 (Conflicts) Travel route designations affect opportunities for both motorized and non-motorized recreation activities; the types, amount, and characteristics of the routes affect the experience of the forest user. Introducing new recreation activities or restrictions into an area could create conflicts; for example, non-motorized users generally seek areas that offer tranquility, away from the noise and dust that could accompany motorized activity, such as OHV use.

The Flaming Gorge Recreation Niche Area currently has opportunities for both motorized and non-motorized recreation activities and ROS classes ranging from semi-primitive non-motorized to rural. Under Alternative A, the current amount of open NFS roads, motorized trails, and non-motorized trails would be maintained. Since this alternative would not change the current management there would be no direct impacts to change the current level of conflicts between user groups.

The Vast Backyard Recreation Niche Area currently has numerous opportunities for motorized and non-motorized recreation opportunities and ROS classes ranging from semi-primitive non-motorized to roaded natural. Although there are no new proposals being considered under Alternative A, maintaining the status quo through No Action could create more user conflicts on the Vernal Ranger District. The lack of route designations and the current management of existing routes within hatched travel area would likely continue the trend of route proliferation and alter the setting within this 111,800 acre area. This could lead to continued or even increased conflicts between forest visitors who seek either a motorized or non-motorized experience.

The Rugged Backcountry Recreation Niche Area has a setting that is more conducive for non-motorized recreation opportunities. Some motorized recreation opportunities do exist, and they are mostly found on the Vernal Ranger District. ROS classes range from isolated areas of primitive to small fragments of roaded natural. Under Alternative A, the current amount of open NFS roads, motorized trails, and non-motorized trails would be maintained. However, maintaining the status quo through No Action could create more user conflicts on the Vernal Ranger District, as the Rugged Backcountry contains a small portion of the hatched travel area. The lack of route designations and the current management of existing routes within the hatched travel area would likely continue the trend of route proliferation and alter the setting. This could lead to continued or even increased conflicts between Forest visitors who seek either a motorized or non-motorized experience in this area.

Recreation Issue 2 (Dispersed Camping) - Limiting dispersed camping to 150 feet from designated routes may affect the experience and/or reduce the availability of areas to camp.

Developed campgrounds are popular across the Forest, but the popularity of dispersed camping away from developed facilities has increased considerably with the advent of modern recreational vehicles (RVs). Dispersed camping is very popular along Flaming Gorge Reservoir and in open areas with limited woody vegetation throughout the Forest, especially within the Vast Backyard Recreation Niche Area.

There is no motorized cross-country travel allowed by wheeled vehicles on the Forest, but travel off of designated routes is allowed within 300 feet when resource damage will not occur to access a temporary camp site; to gather firewood by permit; or for retrieval of legally taken big game (Forest Travel Maps 2005). Although the current travel plan allows motorized travel off of designated roads within 300 feet to access a temporary campsite, all action alternatives propose reducing the distance to 150 feet.

Field observations have noted that dispersed camping has become increasingly connected to group camping. It is very common to see two or more RV's camped together in one location and for campers to visit the same locations each season. Stay limits on the Forest would not be changed under any alternative, but they would still be used to encourage movement, so that other visitors get a chance to camp in an area. The use of OHV's has become more common with dispersed camping. There might only be one or two OHV's associated with a group, but campers take turns going out to ride trails, access fishing, visit friends camping nearby, collect firewood, and more. However, not every camp has an OHV, as there are several people who like to disperse camp with their RV and be away from the noise and dust that might accompany OHV use.

Although dispersed camping is specifically mentioned in the Vast Backyard Recreation Niche Area vision statement, it is still appropriate throughout other recreation niche areas on the Forest.

The Flaming Gorge Recreation Niche and the Vast Backyard Recreation Niche tend to have the most areas for dispersed camping. Part of this is due to the miles of routes within those areas and part is due to the location of those areas. Within the Flaming Gorge Recreation Niche many of the current roads access the reservoir a premier dispersed recreation area. A large portion of the hatched travel area in the Vernal Ranger District falls within the Vast Backyard Recreation Niche. This area is heavily used for dispersed camping.

The Rugged Backcountry is more limited to motorized dispersed camping generally because of the limited number and quality of roads within this niche.

Recreation Issue 3 (Safety) The amount, location, and designation of motorized and non-motorized roads and trails may affect the safety of Forest visitors. For example, roads that are open to mixed traffic allow for travel by large vehicles pulling trailers, as well as ATV's operated by inexperienced drivers, such as children over the age of eight who have completed a safety course.

The Flaming Gorge Recreation Niche Area has approximately 185 miles of NFS roads that allow mixed traffic; the Vast Backyard has approximately 761 miles of roads that allow mixed traffic; and the Rugged Backcountry has approximately 27 miles of roads that allow mixed traffic. Based on information gathered from Forest Law Enforcement Officers and Utah State Parks and Recreation, reported accidents between full size vehicles and OHV's on mixed use roads are extremely rare, only occurring sporadically, with an incidence of less than 10% of all accidents each year around the state. Overwhelmingly, OHV accidents are of the single vehicle type where the operator either hits a fixed object (rock, tree, parked vehicle, etc) or loses control off a route (either designated or undesignated). It is not likely that Alternative A, would affect the incidence of accidents between street-legal vehicles and OHV's on roads allowing mixed traffic.

Safety concerns would be more pressing in the hatched travel area where use is allowed on designated routes and established undesignated routes as long as resource damage is not occurring. Because the district does not maintain or regularly monitor undesignated routes, hazards and safety issues are more likely to arise in this area. As the trend of route proliferation in this area increases, due to the lack of route designations, so do the hazards and likelihood of accidents for forest users. The Forest Plan (p. II-5) states that trails deemed unsafe should be closed to protect the public. Forest engineering and trail programs continually assess travel-infrastructure, and when feasible work on reconstruction projects to keep Forest system roads and trails open.

Recreation Issue 4 (Costs) Travel management affects road and trail program costs. Implementing and managing the travel plan will require signing, installing barriers, patrolling and monitoring, mitigation, and maintenance of roads and trails. The cost of these activities may be prohibitive to adding new routes or routes that would require high maintenance or mitigation costs.

Roads and trails on the Forest are managed under the same direction regardless of their location within the Recreation Niche Areas. There are several administrative and environmental factors that affect the maintenance or reconstruction of NFS roads and trails. Administrative factors include items such as the road or trail class, managed use, and designed use. Environmental factors may include road or trail location, slope, soil type, elevation, and ease of access. All these factors influence the cost to maintain a road or trail.

The Forest maintains about 100 miles or 9% of the Forest's system trails (motorized and non-motorized) and about 400 miles or 30% of improved and unimproved roads to standard each year.

Costs for trail and road reconstruction are much greater than maintenance as the majority of trail reconstruction projects involve major repairs and hardening, or rerouting motorized trails because they run through poorly selected landscapes that are not well-suited for motorized vehicles. Reconstruction projects are implemented to correct resource damage and safety concerns. The Forest averages about one motorized trail reconstruction project per year, averaging three miles, but they are time consuming and may take as long as four weeks to complete. A study of Recreational OHV Use on Public Lands in Utah noted that across all agencies that manage OHV use, funding for the activity's management has not kept pace with growth

Under Alternative A there would be no additional roads or trails to maintain, but this would not result in any significant costs or savings to engineering and recreation programs. Existing system roads and trails would continue to be maintained as budgets allowed. The most heavily used trails, and those with resource damage or safety concerns would have the highest priority for maintenance and repair. However, it is not likely that a 9% yearly accomplishment of trails maintained to standard is sufficient to prevent trails from shifting into the reconstruction category. The Forest would continue to work with and develop its volunteer resources to assist with trails projects.

The No Action Alternative does not address the need to close certain, poorly located and poorly constructed trails. As a result they would remain on the system until they went through another process to either close, realign, or improve them. Failure to address route designation within the hatched travel area on the Vernal Ranger District might keep the miles of system roads and trails frozen, but it does not recognize the actual use occurring on the ground. This may minimize maintenance costs, but it fails to recognize costs associated with resource damage and unmanaged recreation use.

Recreation Issue 5 (Enforcement) Incorporation of designated routes by themselves will not necessarily accomplish the goals of the Travel Management Plan unless enforcement concerns are considered.

Compliance of Forest regulations and special orders are generally achieved through a series or combination of steps that are typically referred to as the "three E's: engineering, education, and enforcement." First, roads, trails, and other recreation infrastructure should be engineered for the targeted use. Engineering for a type of use encourages compliance. The need for and amount of trail management are reduced through effective trail location, design, and education (FSH2309.18_10). Unfortunately many trails on the Forest were never designed with recreation in mind, but were historic sheep and cattle driving routes, or were remnants of old timber sales that were later adopted as recreation trails.

Engineering can include barriers used to prohibit or limit access into a closed or restricted area. There are multiple types of barriers and generally the simpler the barrier the easier it is to ignore or remove. The most effective barriers involve a combination of methods with some explanation for the closure, and require personnel to monitor their effectiveness and need for replacement.

Education is used to encourage compliance by explaining the importance and relevance of Forest management actions and policies to Forest visitors. Education is normally linked to interpretation programs on the Forest. However, education also includes the availability of maps, kiosks, brochures, and signs to help inform Forest visitors about locations, distances, difficulty, and accepted uses on NFS roads and trails. The NVUM survey results indicate that visitor satisfaction of services including availability of information, signage, and employee helpfulness declined to 65% favorability in undeveloped areas where most trails are located. OHV owners ranked well signed trails and OHV areas as the most important category among five management actions, including law enforcement (Burr et.al.2008). However, the study also found that the availability

of information (rules, hazards, conditions, directions, etc. via multiple forms of media) is the biggest weakness on public lands.

Ideally, enforcement is the last action taken to encourage compliance of Forest regulations and special orders. However, when the other two actions (engineering and education) are loosely implemented, enforcement becomes more significant. Enforcement is heavily dependent on the number and availability of personnel. Overall, the lack of personnel on the ground committed to enforcing Forest regulations and special orders and promoting education through visitor contacts is a weakness in obtaining better compliance with the Forest Travel Plan.

Alternative A will result in no changes to the current Travel Plan and the same compliance and enforcement issues will continue. These issues include a lack of clarity to enforce compliance within the hatched travel area on the Vernal Ranger District; adherence to the 300 foot. allowance for driving off a designated route; obtaining compliance in areas with sparse woody vegetation; and increased noncompliance of the Travel Plan during big-game hunting seasons in October.

Use of unauthorized routes would persist on the Flaming Gorge NRA. There are several old roads leading to the reservoir that were never adopted by the Forest and some that were removed from the Travel Map over the years, but were never physically closed on the ground, or the closure was ignored. Consequently, these routes continued to be used over the years regardless of their status on Forest Travel Maps. Other Alternatives propose to designate some of these routes, but Alternative A proposes no changes to current travel management. The Forest would continue to utilize signs and barriers to implement and emphasize closures on the current Travel Map, as directed by the Forest Plan. The Forest would also continue to maintain, update, and strengthen the current directional and informational signing available to the public on NFS roads and trails; and would pursue strengthening interpretation and education efforts such as promoting Tread Lightly outdoor ethics and awareness.

3.1.8 Effects Common to All Action Alternatives

There are several proposals common to all actions alternatives. These range from seasonal closures of Forest system roads and trails to shortening the distance allowed for dispersed camping off of designated roads and trails. The majority of these proposals tend to share a common element which is to mitigate resource damage that has occurred for several years. Not all proposals common to all alternatives are identified below. However, proposals and actions considered to directly affect current recreation activities, and that are common to all action alternatives, are described below.

The Forest proposes to implement seasonal closures on system roads and trail in heavily used areas that are prone to resource damage. In the interest of consistency and ease of interpretation of the travel regulations, routes will be designated as follows:

- Flaming Gorge Ranger District roads south and east of Highway 44 would generally be open, at the earliest, from May 1 through December 19 unless otherwise designated. Motorized trails would be open from June 15 through November 19 unless otherwise designated. There would not be any seasonal restrictions on the rest of the district unless otherwise designated.
- Vernal Ranger District roads would generally be open, at the earliest, from May 1 through December 19 unless otherwise designated. Motorized trails would be open from June 15 through November 19 unless otherwise designated.
- Roosevelt/Duchesne Ranger District would have no seasonal restrictions common to all system roads and trails.

The most sensitive and prevalent times when resource damage occurs from recreation use is during the wet periods such as when the ground is still wet from snowmelt around May and June, or when the ground is becoming more saturated during the seasonal transition into fall around October. The season of use would be shorter for motorized trails than roads because roads are designed and constructed to drain water, carry higher traffic, and support large vehicles as compared to motorized trails. Motorized trails tend to have a lower standard of construction, generally utilizing native surface tread, that drains less effectively than roads and thereby retain moisture for longer periods. This makes motorized trails more susceptible to surface damage by motorized use during wet periods such as fall when rain and snow begin to accumulate and spring when snowmelt and runoff are abundant. No trails would be managed specifically for motorcycle use.

All Action Alternatives would eliminate the hatched travel area on the Vernal Ranger District, which is predominantly located within the Vast Backyard, by restricting travel to designated routes only. Therefore, after implementation of an action alternative motorized use on undesignated routes within the hatched travel area would be prohibited. This action would reduce conflicts between recreation users by designating routes for motorized travel. As a result, there would be a greater clarity of which routes are open and allow motorized use. The Forest would also be able to monitor and maintain routes in this area more closely and reduce hazards.

All OHV's operating on the Ashley National Forest would be required to comply with state OHV registration regulations. OHV's utilized on motorized trails would require a state OHV recreation decal. OHV's that are registered as street-legal vehicles within the state of Utah would be allowed to travel on Forest system roads that are restricted to street-legal vehicles only. OHV's that travel on both motorized trails and street-legal roads would require both registration types to legal operate on the Forest.

Under the current Forest Travel Plan, there is no motorized cross-country travel allowed by wheeled vehicles, but travel off of designated routes is allowed within 300 feet when resource damage will not occur to access a temporary camp site; to gather firewood by permit; or for retrieval of legally taken big game (Forest Travel Maps 2005). Although the current travel plan allows motorized travel off of designated roads within 300 feet to access a temporary campsite, all Action Alternatives propose reducing the distance to 150 feet.

This reduction in distance for use may result in some currently existing and legally available areas for dispersed camping to become unauthorized for future use. Forest visitors who have historically utilized these sites would then be required to camp in other locations that are within 150 feet of a designated route. In addition, the visitor recreation experience may be affected by camping closer to a road. Recreation opportunities for greater solitude and privacy may be impacted by being in a closer proximity to dust, noise, and traffic. Camping nearer to a road may also pose some added safety concerns if dispersed camp sites are along a busy route allowing for faster travel.

The Forest recognizes that there are numerous dispersed camping areas that have received historic use with minimal impacts in appropriate locations—both greater than 150 or 300 feet from system roads. However, there has also been an increase in the number of new routes created to access dispersed camping sites that have resulted in considerable resource damage to vegetation, soil, water, and recreation resources.

The action to limit motorized travel up to 150 ft. off of designated routes to access dispersed camping sites would result in excluding access to numerous historic dispersed camping locations. Consequently, some proposals within all Action Alternatives adopt routes that access dispersed camping areas which would otherwise be excluded. This does not pose any conflict with the Forest Plan as the majority of dispersed camping occurs within the F and N Management Area

Prescriptions on the Forest (IV-7 and IV-10). Only a limited number of these historic dispersed camping areas were carried forward in all alternatives, such as Proposal 2366 near Range Study on the Vernal RD. There are also at least eight proposals to prohibit dispersed camping in areas that have experienced continuous resource damage or conflict with Forest Special Order 022405A that prohibit dispersed camping within ¼ mile of developed recreation sites (Proposals 2318, 2322, 2340, 2349, 2352, 2353, 2402).

The action alternatives attempt to identify highly desirable motorized dispersed camping sites and include portions of them (depending on the alternative). The following rationale was used in order to develop units of measure that could be used to compare or contract the availability of dispersed camping areas.

- The Forest does not have an accurate inventory of all available dispersed camping areas across the forest.
- It is noted that not all Forest land allowing dispersed camping access located 150 or 300 feet from system routes is appropriate, accessible, or desirable for dispersed camping. Along any given route, numerous physical limitations of the site can restrict dispersed camping opportunities. For instance, travel may not be possible immediately off of system roads due to steep slopes, heavily forested areas, irregular terrain, wet meadows, streams, rocks, fences, etc. It is actually more appropriate to consider that there are more areas adjacent to designated routes that are limited from dispersed camping availability due to these physical barriers than there are areas that would be favorable for motorized dispersed camping.
- While this system of measure would overestimate the available areas for dispersed camping, the units of measure would be consistent and would show how dispersed camping opportunities may be affected by each alternative.
 - For Alternative A, 300 feet on either side of the road would be considered available for dispersed camping. One mile of route equals approximately 0.06 sq miles.
 - For the Action Alternatives, 150 feet on either side of the road (excluding those areas identified by the resource specialists as areas of concern) would be considered for dispersed camping. One mile of route equals approximately 0.03 sq miles.
- Within the Vernal Ranger District hatched travel area only those routes that have been inventoried for this project and deemed adequate size and accessible to recreation vehicles will be included in Alternative A as well as any action alternative it appears in. The rationale for this is because the majority of existing undesignated routes within this area are ATV routes and not appropriate for motorized dispersed camping. Those roads that have been inventoried have generally been identified as having areas where dispersed camping may occur. This will provide an equal basis for comparison.
- This method of determining area (300 feet=0.06 mi.² compared to 150 feet=0.03 mi.²) would overestimate the actual amount of available dispersed camping areas. As stated above, this is due to the fact that it does not account for physical barriers that make dispersed camping impossible or undesirable. Instead, it assumes an entire designated route would provide dispersed camping opportunities. However, sufficient data does not exist that would accurately account for the many variables involved. Therefore, while the measurement does allow for some comparison between alternatives, its inherent weaknesses should be considered.

All Action Alternatives would impose a 100 ft. restriction for motorized dispersed camping near water bodies such as streams and lakes. This would require vehicles to camp at least 100 ft. away from water sources in order to help protect water quality and fish habitat (FSH 2509.22-10). This distance is a little less restrictive than other common recommendations. For example, Leave No Trace and Tread Lightly are two nonprofit organizations that promote responsible recreation and outdoor ethics; both organizations recommend camping at least 200 ft. away from water. The 100 ft. camping restriction from water would affect several historically used dispersed camping sites throughout the Forest that are located less than 100 ft. from water. There would likely be some resistance resulting from this new restriction because people are naturally drawn to camping adjacent to water. Camping close to water is appealing because of fishing access; convenience in obtaining water for cooking, drinking, and washing; soothing sounds of flowing water; and often cooler temperatures.

All action alternatives propose adding mixed traffic to additional Forest system roads. This would help discourage use of unauthorized routes, such as those paralleling system roads that resulted because OHV use was prohibited on main system roads, such as Taylor Mountain (FSR044). There are concerns with having mixed use on additional Forest system roads; however, Forest engineering staff determined that there are negligible risks to public safety for mixed traffic proposals in all Action Alternatives.

In some cases, certain system roads were identified with specific safety concerns for mixed use. A road hazard analysis determined it would be safer to prohibit mixed traffic on certain improved roads located on the Vernal Ranger District: (1) Red Cloud Loop Scenic Backway (FSR 018) from the Forest boundary, north to the intersection with FSR 508 at Charleys Park; (2) Red Cloud Loop Scenic Backway (FSR 018) from the Taylor Mountain (FSR 044) intersection, east to the intersection with FSR 252 near Iron Springs; and (3) Mosby Mountain (FSR 104) from the Forest boundary, west to the intersection with FSR 447 at Bills Park. These roads share common hazards such as multiple switchbacks, limited visibility, steep grades, narrow sections, and frequent traffic. As a result, proposals to allow mixed traffic on these road segments were not included in any action alternatives.

Several proposals aim to either administratively close system ATV trails or convert them to non-motorized trails due to safety concerns (Proposal 1005, 2056, 2150). These trails have been determined to be a safety hazard due to steepness, difficulty maneuvering over large obstacles, and the presence of elevated drop offs. Some system ATV trails are proposed to be converted to non-motorized system trails because of resource concerns, such as trails bisecting streams and riparian habitat, channeling water, and causing severe erosion, or that fact that a route was never developed on the ground to accommodate the use (Proposal 2451, 2016, 2040, 2032 and 2045). For example, Forest system trail (FST) 028 (adjacent picture) is currently an ATV trail with steep slopes that bisects an active spring. Consequently, the system trail developed considerable resource damage and safety concerns.



Proposal 2144, located southeast of East Park Reservoir on the Vernal Ranger District, proposes to adopt a motorized ATV trail (open to vehicles less than 50 wide) that would require about ¼-mile of new construction. This action is tied to two other proposals (Proposal 2143 and 2056) in order to provide a more sustainable motorized trail network. Proposal 2144 would create a reroute for FST 028 near Little Brush Creek. Proposal 2144 would connect to FSR 021 (Proposal 2143) and make it possible to close and rehabilitate nearly one mile of FST 028 which has considerable

resource damage and safety issues (pictured above). The new trail construction would occur along a higher elevation with drier soils and avoids wet meadows and utilizes more gradual slopes; thereby making it less susceptible to erosion.

Proposal 2274.2 utilizes an existing route along a powerline corridor north of Grizzly Ridge to designate an ATV trail open to motorized vehicles less than 50 inches wide. This route is already commonly used because it is an “established undesignated route” located within the hatched travel area on the Vernal Ranger District. Consideration has been given to the fact that this proposal would likely lead to ATV’s crossing State Highway 191 in order to connect with FSR 253 near Stringham Cabin. State Highway 191 is open year-long and has considerable traffic during the summer months. This could pose a risk to Forest visitors using the trail and to motorists on State Hwy. 191. However, ATV’s have used this connection for several years and there have been no reported accidents or complaints from this activity. The risk to trail and highway motorists is minimized because of the straight alignment along that section of State Highway 191. Although not required for mitigation, some tree thinning along both shoulders of the road could improve site distance and reduce public risks.

Alternative B— Preferred Alternative

The Forest created Alternative B based on public feedback from the initial scoping process and from input received by local partners such as county governments and state agencies. The majority of proposals that would create additional motorized access are located within the Flaming Gorge and Vast Backyard Recreation Niche Areas. Alternative B would retain and maximize dispersed camping access to popular areas. It would incorporate additional mixed traffic on Forest system roads, so that OHVs would share more miles with typical street-legal passenger vehicles. Thus, it would improve access and create connectivity with existing developed recreation facilities and other system roads and trails. Motorized loop opportunities would greatly improve, so that OHV users could start loop tours from camp rather than having to trailer their vehicles to a trailhead in order to ride a loop. Alternative B would also adopt specific routes that were very popular and consistently requested during the scoping process. This Alternative would be highly favorable for dispersed camping in hand with OHV use, but lacks dispersed camping opportunities where OHV use is not allowed in order to create a different setting for RV campers that seek a quieter experience. Alternative B would also remove motorized use from some system roads and trails that were considered to have resource or safety concerns as determined by Forest staff and verified during the scoping process.

Recreation Issue 1 (Conflicts) Alternative B has proposals that conform to Forest Plan standards and guidelines or management direction, but would change the current ROS class inventory for the Forest.

Flaming Gorge Recreation Niche Area.-For the most part, Alternative B proposes to adopt additional unimproved routes for mixed traffic including street-legal vehicles and OHV’s within the Flaming Gorge Recreation Niche Area. There are 74 of these proposals that incorporate about 38 miles of unauthorized routes. A majority of these routes are located on the Wyoming side of the District and are used to access dispersed camping areas and the reservoir for water-based activities. There is currently a vast network of unauthorized routes around the reservoir. Alternative B would select a limited number of frequently used routes in order to maintain reservoir access and eliminate redundant routes that access the same locations. Since the routes are commonly used during the summer, it is unlikely that their designation would create additional conflicts between users. These proposals are also included in Alternative C.

There are also proposals within the Flaming Gorge Recreation Niche Area to allow mixed traffic on several improved and unimproved Forest system roads that are currently restricted to street-legal vehicles only. These proposals are also included in Alternative C and include:

- Proposals 1004, 1154, 1155, 1258, 1259, 1260, 1262, 1266(all), 1270

Similarly, there are nine proposals (Proposals 1024, 1073, 1074, 1076, 1080, 1081, 1082, 1083, 1089) to adopt motorized trails open to all vehicles to access the reservoir for dispersed camping and fishing opportunities. These proposals total about 2.5 miles of unauthorized routes, but have historic use and do not conflict with any direction in the Forest plan.

A 79-acre dispersed camping “open area” is proposed south of Buckboard Crossing (Alternatives B and C) where concentrated use such as dispersed camping is popular (Proposal 1200). This area contains multiple routes that are commonly used. Designation of an “open area” could help minimize unauthorized use in other nearby places and reduce conflicts with OHV’s by designating an area with limited motorized recreation restrictions. On the other hand, the dispersed camping open area could also encourage more use that could lead to crowding and unauthorized expansion, thereby creating more conflicts.



This proposal does not conflict with the Forest Plan. However, Transportation Management decisions for protection and management of the FGNRA (Forest Plan, Appendix A) state to (1) locate and construct a well-designed and adequate internal and circulatory system of roads and trails to standards which fully provide for soil stabilization, recreational, wildlife, and esthetic values (A-20); and (2) to minimize visual, air, and noise pollution along major routes of travel, at administrative sites, and in areas of concentrated public use. It is difficult to predict what noise and dust levels at this area would reach or if they would conflict with other Forest visitors such as at nearby Buckboard Crossing campground or other dispersed recreation along the reservoir. Opportunities for more natural and isolated settings near the reservoir would still be available.

Proposals 1255.1 (FSR 625) and 1255.2 (FST 157) address a current issue with a system ATV trail (FST 157) and two unimproved mixed use roads (FSR 376 and 625) located between Swett Ranch and Greendale within the Conifer Forest Canyon Management Area on the Flaming Gorge Ranger District. The current travel map shows that FSRs 376 and 625 are open to mixed traffic, but the Flaming Gorge Ranger District signed Forest system road 376 closed to ATV’s as recently as 2006 after receiving complaints from residents of the adjacent Flaming Gorge Acres subdivision. Forest system road 376 passes very close to the Flaming Gorge Acres subdivision and residents felt this was a safety issue because it encouraged hunting too close to their homes. Local residents were also concerned with noise, traffic, and dust from ATV’s using unimproved Forest system road 376; vehicles driving on designated ATV system trail 157 to make a loop; disturbances to big game; and resource damage resulting from fording Allen Creek.

Since the closure was implemented, the Forest has received equally polarized comments; wanting the loop either closed to ATV use or open to ATV use, while street-legal traffic does not seem to be a concern. For example, the Forest received comments from residents of Flaming Gorge Acres and The Pines requesting that ATV’s be allowed to use FSR 376 since it already allows street-legal access. Their reasoning is that the unimproved road and connecting ATV trail allow better access for ATV traffic than street-legal vehicles because larger vehicles cannot maneuver the terrain as easily or legally connect the loop. This loop is popular with residents of both the

Flaming Gorge Acres and the nearby Pines subdivisions for both motorized and non-motorized uses. The management area subunit, Greendale Management Unit (CFC-4), states that the Forest should provide a buffer adjacent to private lands (A-39). This buffer would permit compatible uses should but be designed to maintain scenic values and the natural character of the land (A-39). However, both the current roads and trail were in place prior to development of the Flaming Gorge Acres subdivision.

Alternative B (and Alternative C) would address the motorized access issue by designating the system roads (FSR 376 and 625) as open to mixed traffic, including ATV’s, and the trail (157) would remain open to ATV use. The concerns presented to the Forest would be mitigated by implementing a seasonal closure (October 1 – June 30) on FSR 625 (Proposal 1255.1) and FST 157 (Proposal 1255.2) to disconnect the loop with the adjoining road (FSR 376), thereby reducing ATV traffic, reducing disturbances to big game, and reducing the number of hunters within close proximity of the residences. The ford at Allen Creek would be improved prior to opening FST 157 to motorized use and barriers would be implemented to keep vehicles wider than 50 inches off of the trail.

The Vast Backyard contains the majority of proposed changes in Alternative B. Table 3.1.6 compares miles of Forest system roads and trails between the current condition (Alternative A) and Alternative B.

Table 3.1.6—Road and Trail Miles in the Vast Backyard Recreation Niche Area			
	ALT. A	ALT. B	DIFFERENCE
Administratively Closed Road	71	63	(8)*
Street-legal Only Road	221	169	(52)
Mixed Use Road	761	845	84
Motorized Trail Open to all Vehicles	0	44	44
Motorized Trail less than 50"	110	108	(2)
Non-motorized Trail	243	257	14
Change to ROS	Yes. Approximately 6,460 acres from semi-primitive non-motorized to semi-primitive motorized		

*() indicates a negative number

The most obvious change proposed by Alternative B is to allow mixed traffic on several improved and unimproved roads on the Forest that are currently restricted to street-legal vehicles only, such as along Taylor Mountain Road (FSR 044) on the Vernal Ranger District. This action would greatly improve motorized recreation opportunities for OHV users by connecting additional Forest system roads to dispersed camping areas, motorized trails, developed recreation sites, and creating links with other Forest system roads. This action could help reduce some of the heavy use on current Forest system motorized trails by transferring some of that use to engineered roads that are able to sustain constant vehicle traffic. Currently, there are approximately 313 miles of improved roads, and about 675 miles of unimproved roads that allow mixed traffic throughout the Forest, and the vast majority of them are located within the Vast Backyard. The proposals to allow additional mixed traffic would increase these figures by about 50 miles on improved roads, and approximately 97 miles on unimproved roads throughout the Forest; nearly all are located within a roaded natural ROS class. These proposals to add mixed traffic within the Vast Backyard are consistent with the management of the area and include:

- Vernal RD Proposals: 2018, 2043, 2055, 2091, 2093, 2194, 2197, 2253
- Roosevelt-Duchesne RD Proposals: 3005, 3040, 4015

Currently, reported conflicts and complaints on Forest system roads allowing mixed traffic are negligible, so it is not likely that additional use by OHV's on system roads would escalate conflicts between recreation users.

The next obvious variation with Alternative B within the Vast Backyard is the addition of approximately 32 miles of motorized trails open to all vehicles (83 proposals) by incorporating unauthorized routes in order to accommodate access to historic dispersed camping areas, and to incorporate some OHV routes. The current travel regulations allow vehicles to travel off of designated routes up to 300 ft. to access dispersed camping locations. The new Travel Plan would limit the distance allowed off of designated routes to 150 ft. Therefore, a majority of the proposed "motorized trails open to all vehicles" within the Vast Backyard access current dispersed camping—located over 150 ft. from designated routes having suitable historic use, with limited ground disturbance. Dispersed camping has been identified as an important recreation use within the Vast Backyard and incorporation of proposals to access dispersed camping areas would ensure continued access to for this popular recreation activity. Many of these proposals are also located within the hatched travel area on the Vernal Ranger District. No new conflicts between recreation user groups are expected since these proposals occur in historically utilized areas. However, proposals 4001 and 4002 located on the South Unit of the Roosevelt Duchesne Ranger District would bisect an area currently inventoried as semi-primitive non-motorized. If these two proposals were adopted, then it would change the ROS class inventory to an area 2.5 square miles wide and leave a fragment, too small to remain classified as semi-primitive non-motorized. Therefore, Proposals 4001 and 4002 would result in a change to the ROS inventory from semi-primitive non-motorized to semi-primitive motorized to an area over 8.5 square miles (5,500 acres) wide.

Alternative B also proposes to open up and allow mixed traffic for public use on Forest system roads that are currently administratively closed. These proposals would benefit motorized recreation opportunities by creating additional motorized access, creating desirable loop opportunities, and improving connectivity with other Forest system roads and motorized trails. There are 12 of these proposals in Alternative B without extended seasonal closures, and all are located within the Vast Backyard:

- Flaming Gorge RD Proposals: 1007, 1187
- Vernal RD Proposals: 2048, 2058, 2061, 2085, 2145, 2146, 2153, 2180
- Roosevelt-Duchesne RD Proposals: 3011, 4004

Some currently administratively closed roads would allow mixed traffic to provide additional OHV opportunities, but would have seasonal closures (from October 1 to June 30) to protect big game, such as near North East Park (Prop 2047, 2058, and 2145) on the Vernal Ranger District as proposed in Alternatives B, C, and E. Administratively closed roads near North East Park access historic timber sales and receive little recreation activity, except during hunting season. Introducing motorized traffic around North East Park would unlikely create many conflicts between recreation users as it is already within a Roaded Natural ROS class.

Proposal 1007 on the Flaming Gorge RD intends to open up currently administratively closed Sols Canyon road (FSR 016) to public access and allow motorized mixed traffic. Its purpose is to create an OHV route between the town of Manila and the Forest. The Forest received a considerable amount of feedback in support of this connection during the public scoping process. Access would be seasonally restricted from October 1 to June 30 to keep vehicles off the road during wet periods and to help reduce wildlife disturbances. The Sols Canyon road is currently

managed as an administratively closed road in order to protect the dam and its associated infrastructure, so access is limited to authorized users conducting canal/dam maintenance.

Proposal 1007 does not conflict with the Forest Plan. However, there would be management changes as a result of implementing this proposal. For example Sols Canyon road (FSR 016) is currently managed as a Maintenance Class Level I Road and implementing the proposal would change it to, at least, Maintenance Class Level II. About ½-mile of this road is located within an area inventoried as semi-primitive non-motorized. If the proposal were implemented it would change the ROS inventory from semi-primitive non-motorized to semi-primitive motorized across an area about 0.5 square-mile wide. About 1-mile or half of the Sols Canyon road is located in Management Area Prescription G—Undeveloped Dispersed Recreation Unroaded (IV-7). The Forest Plan directs that there be no road construction; that the District Travel Plan will be used to resolve issues; and that facilities may be used for public safety, convenience, and protection of the site (IV-7 and 8). This proposal would not involve new road construction and there is no direction that states motorized public access is prohibited or that ROS inventories cannot be changed. However, keeping this route administratively closed would be most consistent with the management area prescription (MA-G), and currently managed use. This proposal is also included in Alternatives C, and E.

Proposals 3074.5 and 3074.6 located on the Roosevelt-Duchesne Ranger District near Rock Lake aim to connect the Rock Creek and Farm Creek drainages for OHV travel. Proposal 3074.5 would add a motorized trail for vehicles greater than 50 inches wide by utilizing an old extension of FSR 199, which was removed from the Forest road system several years ago as indicated by old

records. This route goes through Management Area Prescription G—Undeveloped Dispersed Recreation Unroaded (IV-7). The Forest Plan direction for MA-G states that there should be no road construction; that the District Travel Plan will be used to resolve issues; and that facilities may be used for public safety, convenience, and protection of the site (IV-7 and 8). Proposal 3074.6 would add an ATV trail nearly two miles long by using an existing route along the Corral Creek drainage. Although proposal 3074.6 utilizes an existing route, there are resource



concerns regarding this proposal. A field visit identified that the route crosses Corral Creek and parallels sections of riparian habitat (as shown in adjacent picture). These conditions are not ideal for a sustainable motorized trail. From a recreation management perspective, this proposal would not conflict with existing management since there are other system roads located near the proposed routes and MA-G is a small isolated fragment covering about 17 acres. Proposal 3074.6 would need to be rerouted away from the segments that cross and traverse riparian habitat along the Corral Creek drainage prior to being shown on the motor vehicle use map and opened to motorized travel (see Table 3.2.9 Specific Mitigation or Other Needs by Proposal). A reroute for segments of Proposal 3074.6 would require outside funding sources, but would be a good candidate because it creates additional access that links two drainages and addresses resource issues. These proposals and associated issues are contained in Alternatives C and E.

Alternative B would also designate new ATV trails (motorized routes open to vehicles less than 50 inches wide) by utilizing existing routes and new construction occurring only within the Vast Backyard. These actions (19 proposals) aim to create additional desirable motorized recreation opportunities, such as additional connectivity and loops with other system roads and motorized trails, in a setting managed to accommodate motorized use. The route locations are usually on existing hardened surfaces such as administratively restricted roads or old skid trails from historic

logging sites. However, five of these proposals for motorized trails may require small segments of new construction generally less than ¼-mile long, as explained below.

Proposals 2129 and 2130 combine opening up an administratively closed road and designating a new OHV trail (motorized vehicles over 50 inches wide) in order to create a new motorized loop located northwest of Oaks Park Reservoir, near Ranger Peak, on the Vernal RD. These proposals would connect with FSR 037 on the west and FST 1179 on the east to create a loop by connecting into FSR 020. Proposal 2130 utilizes old skid trails from historic timber harvests but would require a small piece of new construction less than ¼-mile long to accommodate OHV's. This proposal is also included in Alternatives C and E.

Proposal 3013 located on the Roosevelt-Duchesne RD near Lower Stillwater would require new construction less than ¼-mile long for an ATV trail. Currently, FSR 198 near Lower Stillwater allows mixed traffic. However, a portion of the road crosses into the Uintah and Ouray Indian Reservation where ATV's are not allowed. This new segment of ATV trail would help retain motorized access for ATV's by avoiding the Indian Reservation and allowing ATV's to utilize FSR 198 through its entirety.

Proposals 1179, 1017 (1017.1, .2, and .3), and 1011 (1011.1 and .2) would designate a combination of unauthorized routes and new construction to develop an ATV trail system that parallels the Hickerson Park road (FSR 221). This proposed trail system would provide an alternate route for ATV's that avoids the road and would meander through a more primitive setting with scenic vistas that are not available from the road. Proposal 1017.2 would require approximately one mile of new construction. A section near Sheep Creek Lake approaches an open, wet meadow landscape. A preferred alignment would be to keep the trail on the north side of the reservoir and cross the dam in order to stay out of the wet meadow. Otherwise, crossing the wet meadow would conflict with current trail management practices and management actions that the Forest has taken to reroute motorized trails off of wet meadows. Under Proposal 1017.1, approximately 1.25 miles of the proposed ATV trail would bisect an area inventoried as semi-primitive non-motorized. If the proposal were implemented it would change the ROS inventory from semi-primitive non-motorized to semi-primitive motorized across an area over 1 square-mile wide.

Proposals 1011.1 and 1011.2 utilize an existing abandoned timber route and require nearly ¼-mile of new construction. The existing route would require improvements to the trail tread as well as brushing and clearing work to remove deadfall and trees that have grown back in along the route. The ¼-mile of new construction would be required along a riparian area with wet meadows. The combination of the two proposed routes would cross three perennial streams with wet meadow / riparian complexes (see 3.2 Soil and Water Resources). It does not appear that a better route could be developed nearby to avoid wet soils and at least two of the crossings would require culverts or bridges. Cap and gravel turnpikes have been used on motorized system trails throughout the Forest to mitigate resource damage in riparian habitat, but only in small sections less than 50 yards long. Motorized system trails on the Forest that have created resource damage through riparian habitat such as wet meadows, through larger stretches (over 50 yards) have been either rerouted or closed. Therefore Proposal 1011, to adopt a motorized trail through riparian habitat, would conflict with current trail management practices and management actions the Forest has taken to reroute motorized trails off of wet meadows.

Proposals 1179, 1017 (all), and 1011 (all) do not seem to support the Vast Backyard Recreation Niche which states that "a system of designated OHV routes and staging areas based on existing roads and existing capacity is located on the Vernal Ranger District, with links to other districts and outside partners." This route would be located on the Flaming Gorge Ranger District and does not link other districts or outside partners, nor

does it serve to mitigate resource impacts. The intent of these proposals is to resolve a safety issue which appears weakly based as pointed out in the safety discussion below. These proposals are also considered under Alternatives C and E.

Alternative B would eliminate the hatched travel area on the Vernal Ranger District, which is predominantly located within the Vast Backyard. This action would reduce conflicts between recreation users by designating routes for motorized travel. As a result, there would be no confusion about what constitutes an “established, undesignated route” that allows motorized use.

Limited conflicts would be expected from Alternative B within the Vast Backyard because this recreation niche area is predominantly Roaded Natural and managed to accommodate motorized recreation opportunities.

The Rugged Backcountry has the fewest number of proposed changes to the current travel plan. Table 3.1.7 compares Forest system road and trail miles between the current condition (Alternative A) and Alternative B within the Rugged Backcountry.

Table 3.1.7 Roads and Miles of Trails in the Rugged Backcountry Recreation Niche Area			
	ALT. A	ALT. B	DIFFERENCE
Administratively Closed Road	6	13	7
Street-legal Only Road	21	16	(5)*
Mixed Use Road	27	33	6
Motorized Trail Open to all Vehicles	0	7	7
Motorized Trail less than 50"	29	19	(10)*
Non-motorized Trail	217	219	2
Changes to ROS	Yes approximately 640 acres from semi-primitive non-motorized to semi-primitive motorized		

*() indicates a negative number

Opportunities for non-motorized recreation in more natural and isolated settings are abundant throughout the Rugged Backcountry. Alternative B aims to address current user conflicts, such as in areas that are not well-suited for OHV trails because they are located along wet meadows and are surrounded by non-motorized trails, or to expand motorized use on roads that would be more easily accessible by OHV’s rather than street-legal vehicles.

Approximately six miles of current motorized trail (FST 034, Prop 2038.3 and 2038.4; and FST 106, Prop 2038.1 and 2038.2) near Galloway Spring are proposed for non-motorized use because of numerous concerns including poor soil conditions that are not suitable for motorized travel, difficult terrain to maneuver vehicles, issues with noncompliance by ATV’s traveling beyond authorized Forest system trails, and complaints from equestrians and hikers about conflicting trail uses. The cluster of proposals under Proposal 2038 would remove motorized travel from FST 034 and 106. ATV’s would still have access to FST 110 and along the Outlaw ATV Trail (FST 1196 and 026) to complete a loop. Removing motorized travel from the remaining trails would address the following issues: eliminate crossing South Fork Ashley Creek where there is erosion at the approaches; reduces erosion and resource damage where Forest system trail 034 traverses an active spring near Death of James Meadow; eliminate a safety hazard and reduce erosion along the steep and narrow Forest system trail 106 to Galloway Spring; and eliminate the conflict of ATV’s illegally traveling on non-motorized system trails 106 to Frenches Park and FST 034 to

Alma Taylor where the Forest has received several complaints from hunters and equestrians. This proposal is also included in Alternative D.

Approximately three miles of unauthorized routes are proposed as “motorized trails open to all vehicle types” (Prop. 2101 and 2208), located within the Rugged Backcountry on the Vernal RD to access dispersed camping and routes suitable for OHV’s greater than 50 inches wide. These proposals would access current dispersed camping—located over 150 ft. from designated routes having suitable historic use, with limited ground disturbance and they do not appear to conflict with the Forest Plan nor would they change the ROS class inventory. Proposal 2101 appears in Alternatives B and C. Proposal 2208 appears in Alternatives B, C, and E.

Proposal 2013 is located near Paradise Reservoir on the Vernal RD. It starts at Julius Park Reservoir in the Rugged Backcountry and terminates in the Vast Backyard. The proposal utilizes a canal maintenance road to provide a motorized loop opportunity for OHV’s by connecting Julius Park Reservoir with Mosby Mountain/Paradise Road (FSR 104). Proposal 2013 is included in Alternatives B, C, and E and does not conflict with the Forest Plan or the ROS class inventory.

The Dry Ridge road on the Roosevelt-Duchesne Ranger District is proposed to be changed from an unimproved street-legal road to an unimproved mixed use road in order to accommodate OHV access during the summer season (Proposal 3082), and would have a seasonal closure from October 1 to June 30 to help prevent resource damage during wet periods and to minimize wildlife disturbances. Such a closure could also enhance the quality of non-motorized big game hunting. This proposal appears in Alternatives B, C, and E.

Proposal 3043 is located between the Grandview Trailhead and South Fork Rock Creek in the Rugged Backcountry Recreation Niche on the Roosevelt-Duchesne RD. It proposes to designate a currently unauthorized route to a motorized trail open to all vehicles, approximately two miles long, in order to provide mixed vehicle access to scenic views and dispersed camping opportunities. The trail would be closed seasonally from October 1 to June 30 in order to protect wet soils and reduce wildlife disturbances. This proposal is within an area having a semi-primitive non-motorized ROS class, so adopting Proposal 3043 would affect the current ROS inventory. It would change and split the current ROS inventory from semi-primitive non-motorized to semi-primitive motorized across an area over one square-mile wide. However, this action does not conflict with the Forest Plan because the ROS classifications for the Forest are only an inventory and not part of the Forest Plan.

Recreation Issue 2 (Dispersed Camping) - As outlined earlier in this chapter, all action alternatives change the current travel direction of allowing dispersed camping from 300 feet off of a designated route to 150 feet. This change in designation may affect the experience and/or reduce the availability of areas to camp.

The Forest recognizes that there are numerous dispersed camping areas that have received historic use with minimal impacts in appropriate locations both greater than 150 or 300 feet. However, there has also been an increase in the number of new routes created to access dispersed camping sites that have resulted in considerable resource damage to vegetation, soil, water, and recreation resources.

The Flaming Gorge Recreation Niche and the Vast Backyard Recreation Niche tend to have the most areas for dispersed camping. Part of this is due to the miles of routes within those areas and part is due to the location of those areas. Within the Flaming Gorge Recreation Niche many of the current roads access the reservoir a premier dispersed recreation area. A large portion of the hatched travel area in the Vernal Ranger District falls within the Vast Backyard Recreation Niche. This area is heavily used for dispersed camping.

The Rugged Backcountry is more limited to motorized dispersed camping generally because of the limited number and quality of roads within this niche.

Throughout the Forest there are sites that are historically used for dispersed camping. Many of these sites are 150 ft or greater from the current system roads, some are beyond 300 ft and are therefore use is not authorized under the current travel plan. Alternatives B and C identify and propose to adopt the greatest number of these highly desirable motorized dispersed camping sites. Special consideration has been made for sites that are appropriately being used and are within the previous legal definition of 300 feet.

Table 3.1.8 - Table 3.1.10 shows miles (length) and square miles (area) of potential dispersed camping areas by Forest recreation niche areas. The numbers displayed in the tables assume every mile of open route is suitable and desirable for dispersed camping. As discussed earlier in this section, there are inherent weaknesses with this assumption. Natural barriers such as irregular terrain, heavy forest, steep slopes, wet areas and streams, as well as management tools such as fencing and road drainages would prohibit a large portion from being available for use. Therefore, these numbers are used for trend comparison purposes only.

Because there is not an accurate method for determining the exact amount of existing available dispersed camping areas, it is impossible to demonstrate the precise impact to dispersed camping for each alternative. However, the travel plan recognizes the potential for change to the visitor experience. Alternative B attempts to minimize these impacts by closely examining those areas that currently authorized under the previous travel plan and adopting those areas that are considered appropriate and would sustain such use.

Flaming Gorge Recreation Niche - Alternative B would specifically designate an additional 83 routes totaling 41 miles (including the 78 acres open dispersed camping area mentioned above). These areas primarily access dispersed camping areas within the Flaming Gorge Recreation Niche Area that are not available under the current travel management plan.

Table:3.1.8 Miles and Square Miles of Potential Dispersed Camping Areas in the Flaming Gorge Recreation Niche Area		
	Alternative A (300 ft either side of route)	Alternative B (150 ft either side of route)
Flaming Gorge Ranger District	232 miles = 26 sq. miles	247 miles = 14 sq. miles

Vast Backyard Recreation Niche - Alternative B would specifically designate 209 routes totaling 67 miles which primarily access dispersed camping areas within the Vast Backyard Recreation Niche Area. Of these routes 106 totaling 44 miles are outside of the hatched travel area and are not available under the current travel management plan.

Table:3.1.9 Miles and Square Miles of Potential Dispersed Camping Areas in the Vast Backyard Recreation Niche Area		
	Alternative A (300 ft either side of route)	Alternative B (150 ft either side of route)
Flaming Gorge Ranger District	63 miles = 7 sq miles	71 miles = 4 sq miles
Vernal Ranger District*	363 miles = 41 sq miles	373 miles = 21 sq miles
Roosevelt/Duchesne Ranger District	450 miles = 51 sq miles	470 miles = 27 sq miles

* Includes 25 miles of routes in the hatched travel area for Alternative A

Rugged Backcountry Recreation Niche - The Rugged Backcountry would have the least miles and acres of designated routes accessing dispersed camping. This is partly due to the low miles of roads in this area as well as the low maintenance level of many of these roads. Alternative B would specifically designate an additional eight routes totaling five miles which primarily access dispersed camping areas within the Rugged Backcountry Recreation Niche Area of which three miles are not available under the current travel management plan.

Table:3.1.10 Miles and Square Miles of Potential Dispersed Camping Areas in the Rugged Backcountry Recreation Niche Area		
	Alternative A (300 ft either side of route)	Alternative B (150 ft either side of route)
Flaming Gorge Ranger District	3 miles = 0.4 sq miles	4 miles = 0.2 sq miles
Vernal Ranger District*	28 miles = 3 sq miles	37 miles = 2 sq miles
Roosevelt/Duchesne Ranger District	10 miles = 1 sq miles	10 miles = 0.5 sq miles

* includes 2 miles of routes within the hatched travel area in Alternative A

Recreation Issue 3 (Safety)—Overall, Alternative B poses no new safety concerns with the exception of two different types of proposals. First, it is possible that the proposal to create a 79-acre dispersed camping open area (Proposal 1200) south of Buckboard Crossing may create more safety concerns by eliminating route designations. However the area is sparsely vegetated and allows for good site distance (refer to photo in Recreation Issue 1 above). The topography is fairly level with very few significant changes in elevation to create visual obstructions. With the lack of route designations, it would be up to the user to operate a vehicle, in that area, at their own risk.

Proposals 1179, 1017 (1017.1, .2, and .3), and 1011 (1011.1 and .2) would designate a combination of unauthorized routes and new construction to develop an ATV trail system that parallels the Hickerson Park road (FSR 221). The purpose of these proposals is to reduce ATV traffic and, therefore, the risk of accidents with vehicles on Hickerson Park road (FSR 221). FSR 221 is a well-maintained, improved gravel road that is open to mixed traffic; and its straight, wide alignment leads to high vehicle speeds. However, FSR 221 has had mixed use for several years without any history of ATV accidents, partly because this area is fairly level and not heavily wooded, so there is good sight distance on the road. Engineering road hazard analysis has not

determined that this section of road is of particular concern for mixed traffic. There are no proposals under any Alternatives to remove ATV use (mixed traffic) off of Hickerson Park (FSR 221), so ATV's would still be allowed on this road regardless if Proposal 1017 were implemented or not. Therefore, the argument to adopt Proposals 1179, 1017, and 1011 because of safety concerns is not compelling. Although not required for any mitigation, it would be more prudent to add or improve signing on a section of Hickerson Park road than to spend over \$10,000 on new trail construction and increase the burden of trail maintenance on the Forest.

Recreation Issue 4 (Costs)—Overall, Alternative B would likely increase maintenance costs for the roads and trails programs because it would add miles to Forest system roads and trails. There is a general reduction in roads open to street-legal vehicles, but the miles associated with them were picked up by roads allowing mixed traffic. Roads that allow mixed traffic are generally more expensive to maintain because they require more signs to manage mixed traffic and may receive more frequent use. There is also an increase in miles of designated motorized trails which would increase maintenance costs for the trails program. Since most proposals are located within both the Flaming Gorge and Vast Backyard Recreation Niche Areas, it seems that the majority of system roads and trails would be easily accessible for maintenance, resulting in less expensive maintenance costs.

The cost to implement the five proposals requiring new construction (Proposals 1011.2, 1017.2, 2130, 2144, and 3013) would be at least \$50,000. Based on the history of passed trails projects, it is likely that the Forest could not implement these projects with only base trail program funds and would require outside funding sources. The Forest has successfully obtained grants for motorized trails projects that address access issues and mitigate resource damage as well as serious safety concerns. It seems that Proposals 2144 and 3013, best fit these criteria. The alignments and purposes of Proposals 1011.2, 1017.2, and 2130 have flaws and they poorly address historic criteria for outside funding sources.

Some savings would be anticipated from Alternative B. Administratively closing roads, implementing seasonal closures, and changing trail designations from motorized to non-motorized use would likely reduce maintenance and reconstruction costs. It would reduce motorized traffic that could otherwise accelerate erosion and create resource damage, such as in poorly selected areas with steep slopes, wet meadows, or sensitive soils; or when use occurs during certain times of the year like spring or fall when soils are considerably wet. Although designating routes within the hatched travel area on the Vernal Ranger District would increase maintenance costs to the Forest, it would reduce future needs to repair resource damage caused by unmanaged recreation.

Alternative B would likely increase overall costs to manage the roads and trails programs on the Forest. The alternative would increase system roads open to Forest visitors by over 73 miles and motorized trails by approximately 43 miles—creating over \$120,000 in additional costs to maintain Forest system roads and trails. Increasing the number of trail miles on the Forest may decrease the overall percentage (9%) of trails maintained to standard each year. The same scenario is likely for Forest system roads and could result in less than 30% of Forest system roads maintained to standard each year.

Recreation Issue 5 (Enforcement)—Alternative B contains proposals that address enforcement concerns and would help obtain better compliance with the Forest Travel Plan, but it also has proposals that could create additional issues. Alternative B eliminates the hatched travel area on the Vernal Ranger District and restricts all motorized travel to designated roads and trails. This management approach is clearer and avoids confusion for everyone by indicating that a route is closed unless signed open, making it easier to enforce.



It is difficult to predict what challenges, if any, a dispersed camping open area (proposal 1200) would pose to law enforcement. There is currently a spider-web of unauthorized routes located throughout a concentrated area on a small peninsula at south Buckboard Crossing (adjacent picture). Therefore, the Open Area is somewhat landlocked because it is surrounded by water and access is limited to one side of the peninsula. This area has natural boundaries but a fence, approximately ¼-mile long, could be constructed to define the boundary along the accessible side. It is possible that the open area could alleviate OHV use and reduce noncompliance in nearby areas.

Restricting dispersed camping off of system routes to 150 ft. would be easier to monitor during routine patrols as compared to the current 300 ft. restriction, but may create more crowding adjacent to major roads. Alternative B would also incorporate more recreation opportunities for OHV's and connects system routes which could encourage compliance with the travel plan. A majority of the proposals that create more motorized opportunities are located within the Vast Backyard. This recreation niche area is more readily accessible and easier to monitor during routine patrols. Allowing more mixed traffic on system roads would help discourage unauthorized routes that parallel system roads, such as by people who do not want to get caught riding on roads restricted to street-legal vehicles only. Implementing seasonal restrictions and administrative closures would require monitoring to enforce, but it would also help reduce the number of incidents involving resource damage. Non-system routes would be monitored on routine patrols and could be closed with barriers if they were to show signs of continued use and did not revegetate on their own.

Alternative C—Additional Motorized Opportunities

Alternative C would create the most motorized opportunities out of all the Action Alternatives. It would allow more motorized access into high elevation areas such as the Rugged Backcountry Recreation Niche Area and would create additional access by opening up the greatest number of system roads that are currently managed as administratively closed. Alternative C would also allow the most miles of mixed traffic on Forest system roads and introduce OHV use closer to trails that are managed for non-motorized use. Under this Alternative, Forest visitors who prefer trails and settings managed for non-motorized use would notice more encounters with OHVs in areas that once restricted their use.

Recreation Issue 1 (Conflicts) -Alternative C does not conflict with Forest Plan direction, but contains proposals that would change the current ROS class inventory for the Ashley National Forest. Alternative C differs from all other proposals in that it proposes the greatest increase to the number of system road and trail routes and miles on the Forest.

Flaming Gorge Recreation Niche Table 3.1.11 compares system road and trail miles between the current condition (Alternative A) and Alternative C within the Flaming Gorge Recreation Niche.

Table 3.1.11—Road and Trail Miles in the Flaming Gorge Recreation Niche Area			
	ALT. A	ALT. C	DIFFERENCE
Administratively Closed Road	14	16	2
Street Legal Only Road	131	114	(17)*
Mixed Use Road	185	242	57
Motorized Trail Open to all Vehicles	0	3	3
Motorized Trail less than 50"	4	15	11
Non-motorized Trail	33	27	(6)*
Change to ROS	None		

*() indicates a negative number

Alternative C proposes to adopt additional unimproved routes for mixed traffic (street-legal vehicles and OHV’s) within the Flaming Gorge Recreation Niche by utilizing both system roads and unauthorized routes. There are 96 proposals that incorporate 45 miles of unauthorized routes (26 proposals and seven miles more than Alt. B). A majority of these routes are located on the Wyoming side of the District and are used to access the reservoir and nearby dispersed camping opportunities. Since the routes are commonly used during the summer, it is unlikely that their designation would create additional conflicts between users.

A 79-acre dispersed camping open area is proposed south of Buckboard Crossing where concentrated use such as dispersed camping is popular (Prop. 1200). This proposal was discussed in detail under Alternative B.

Proposals 1255.1 (FSR 625) and 1255.2 (FST 157) address a current issue with a system ATV trail (FST 157) and two unimproved mixed use roads (FSR 376 and 625) located between Swett Ranch and Greendale within the Conifer Forest Canyon Management Area on the Flaming Gorge Ranger District. Refer to Alternative B for a detailed description of the proposal and mitigation. The only difference between the two alternatives is that Alternative C does not implement a seasonal closure on FSR 625 (Proposal 1255.1).

Unique to Alternative C is a small network of ATV trails (Proposals 1248.1 – 1248.7) proposed near Red Canyon Lodge that would connect to other existing and proposed motorized routes. The proposals would create a connecting network of motorized trails that would provide OHV access to nearby attractions such as Swett Ranch and Flaming Gorge Lodge. This area is highly visited during the summer season because of popular destinations such as the Red Canyon Visitor Center, Overlook, Campground, and Lodge. Wildlife viewing is very popular as deer and big-horn sheep commonly browse in the area. A couple of small lakes are frequently used for fishing and picnicking. The current non-motorized trail system is very popular with hikers and bikers, and is utilized for horseback rides by a permitted outfitter.

Under the current travel plan, roads in the Red Canyon area are restricted to street-legal vehicles and there are no motorized trails, so it is likely that new ATV trail designations would create user conflicts. Undeveloped Areas Management Unit (CFC-3) discourages heavy use around Eagle Basin (A-37) which could result from proposals 1248.1 and 1248.2. Greendale Management Unit (CFC-4) aims to maintain scenic values and natural character of the lands (A-39), and to limit motor vehicle travel to existing routes (A-40). Proposal 1248.4 would not conform with CFC-4 because it would require new trail construction and would not limit motor vehicle travel to

existing routes. Alternative E has similar motorized trail proposals for Red Canyon, but was modified to not include those portions of 1248.2 which would require new construction and may include resource concerns.

The Vast Backyard contains the majority of proposed changes in Alternative C. Table 3.1.12 compares system road and trail miles between the current condition (Alternative A) and Alternative C within the Vast Backyard Recreation Niche.

Table 3.1.12—Road and Trail Miles in the Vast Backyard Recreation Niche Area			
VAST BACKYARD RECREATION NICHE AREA			
	ALT. A	ALT. C	DIFFERENCE
Administratively Closed Road	71	45	(26)*
Street Legal Only Road	221	162	(59)*
Mixed Use Road	761	870	109
Motorized Trail Open to all Vehicles	0	53	53
Motorized Trail less than 50"	110	110	0
Non-motorized Trail	243	252	9
Change to ROS	Yes. Approximately 6,460 acres from semi-primitive non-motorized to semi-primitive motorized		

*() indicates a negative number

Similar to the Preferred Alternative, the most obvious change within the Vast Backyard Recreation Niche under Alternative C is to allow mixed traffic on several improved and unimproved Forest system roads, such as along Taylor Mountain Road (FSR 044; Proposal 2043) on the Vernal Ranger District. The proposals to allow additional mixed traffic would increase these figures by 61 miles of improved roads, and around 118 miles of unimproved roads throughout the Forest under Alternative C. Nearly all of these proposals are located within a roaded natural ROS class. Proposals to add mixed traffic to currently improved and unimproved Forest system roads within the Vast Backyard include:

- Vernal RD Proposals: 2018, 2043, 2055, 2091, 2093, 2194, 2197, 2253
- Roosevelt-Duchesne RD Proposals: 3005, 3016 (Alt. C and D), 3040, 3082 (Alt. C and D), 4015

Currently, reported conflicts and complaints on Forest system roads allowing mixed traffic are negligible, so it is not likely that additional use by OHV’s on system roads would escalate conflicts between recreation users.

The next obvious variation with Alternative C in the Vast Backyard is the designation of approximately 36 miles of unauthorized routes as “motorized trails open to all vehicles” (96 Proposals) in order to accommodate access to historic dispersed camping areas and to incorporate some OHV routes. Alternative C has the highest number of additional miles and proposals to adopt unauthorized routes for motorized trails open to all vehicles. As with Alternative B, proposals 4001 and 4002 located on the South Unit of the Roosevelt Duchesne Ranger District would bisect an area currently inventoried as semi-primitive non-motorized. If these two proposals were adopted, then it would change the ROS class inventory to an area 2.5 square miles wide and leave a fragment, too small to remain classified as semi-primitive non-motorized. Therefore, Proposals 4001 and 4002 would actually result in a change to the ROS inventory from

semi-primitive non-motorized to semi-primitive motorized to an area over 8.5 square miles (5,500 acres) wide.

Alternative C also proposes to open up and allow mixed traffic for public use on Forest system roads that are currently administratively closed. Alternative C incorporates the 12 proposals listed in Alternative B (12 proposals, 14 miles), as well as three additional proposals listed below. The combined 15 proposals incorporate a total of 26 miles without extended seasonal closures, and all are located within the Vast Backyard:

- 12 proposals listed in Alternative B
- Vernal RD Proposals: 2027, 2139
- Roosevelt-Duchesne RD Proposals: 3025

Some currently administratively closed roads would allow mixed traffic to provide additional OHV opportunities, but would have seasonal closures (from October 1 to June 30) to protect big game, such as near North East Park (Prop 2047, 2058, and 2145) on the Vernal Ranger District. These are the same as those proposed under Alternative B. Alternatives C and E incorporate Proposal 2027 to open up Marsh Bench Road (FSR017) in order to provide OHV access to high-elevation locations and nearby lakes for additional dispersed camping, fishing, and hunting opportunities. Marsh Bench Road (FSR 017) is an administratively closed road that is sometimes opened to street-legal vehicles during the summer. However, this road has become popular with hikers, horseback riders, and hunters. Introducing mixed traffic onto this road could cause some conflicts with people who have historically used this administratively closed road for non-motorized recreation.

Proposal 1007 on the Flaming Gorge RD intends to open up currently administratively closed Sols Canyon road (FSR 016) to public access and allow motorized mixed traffic. Its purpose is to create an OHV route between the town of Manila and the Forest. Access would be seasonally restricted from October 1 to June 30 to keep vehicles off the road during wet periods and to help reduce wildlife disturbances. The Sols Canyon road is currently managed as an administratively closed road in order to protect the dam and its associated infrastructure, so access is limited to authorized users conducting canal/dam maintenance. This proposal and its issues are the same as described in Alternative B.

Alternative C would also designate new ATV trails (motorized routes open to vehicles less than 50 inches wide) by utilizing existing routes and new construction occurring only within the Vast Backyard. This would provide greater OHV opportunities (22 proposals, 25 miles) than any other Alternative. The route locations are usually on existing hardened surfaces such as administratively restricted roads or old skid trails from historic logging sites. However, five of these proposals for motorized trails may require small segments of new construction less than ¼-mile long. These proposals are the same as those identified and discussed in Alternative B.

Proposals 1179, 1017 (1017.1, .2, and .3), and 1011 (1011.1 and .2) would designate a combination of unauthorized routes and new construction to develop an ATV trail system that parallels the Hickerson Park road (FSR 221) under Alternatives B and C. Refer to Alternative B Recreation Issue 1 (Conflicts) and Recreation Issue 3 (Safety) for detailed information.

Unique to Alternative C is Proposal 2028. Proposal 2028 aims to adopt a motorized trail for vehicles over 50 inches wide near Marsh Bench Road. This would create a long loop trail between Marsh Bench Road and Horseshoe Park (FSR 031). However, this route may create conflicts between motorized and non-motorized users because it is outside the hatched travel area and is currently a non-motorized trail that is surrounded by additional non-motorized trails. This may create some confusion and lead to unauthorized use by OHV's connecting into the non-motorized trail network.

Limited conflicts would be expected from Alternative B within the Vast Backyard because this recreation niche area is predominantly Roded Natural and managed to accommodate motorized recreation opportunities.

The Rugged Backcountry has the fewest number of proposed changes to the current travel plan. Table 3.1.13 compares system road and trail miles between the current condition (Alternative A) and the Alternative C within the Rugged Backcountry Recreation Niche.

Table 3.1.13 Road and Trail Miles in the Rugged Backcountry Recreation Niche Area			
	ALT. A	ALT. C	DIFFERENCE
Administratively Closed Road	6	3	(3)
Street Legal Only Road	21	13	(8)
Mixed Use Road	27	41	14
Motorized Trail Open to all Vehicles	0	10	10
Motorized Trail less than 50"	29	26	(3)
Non-motorized Trail	217	218	1
Change to ROS	Yes. Approximately 640 acres from semi-primitive non-motorized to semi-primitive motorized		

*() indicates a negative number

There are different proposals within the Rugged Backcountry Recreation Niche that are an obvious change to the current map. Approximately 10 miles of new trails, open to all vehicle types, are proposed on the Vernal and Roosevelt/Duchesne Ranger Districts to access dispersed camping and routes suitable for OHV's greater than 50 inches wide.

The Dry Ridge road on the Roosevelt-Duchesne Ranger District is proposed to be changed from an unimproved street-legal road to an unimproved mixed use road in order to accommodate OHV access during the summer season (Prop. 3082), and would have a seasonal closure from October 1 to June 30 (as proposed in Alternative B).

- Proposal 3043 has the same intent and issues for Alternative C as described under Alternative B.

Alternative C does not incorporate Proposals 2038.1, 2038.2, 2038.3, and 2038.4 to remove motorized use from approximately six miles of current motorized trails (FST 034 and FST 106) near Galloway Spring. The existing concerns including poor soil conditions that are not suitable for motorized travel, difficult terrain to maneuver vehicles, issues with noncompliance by ATV's traveling beyond authorized Forest system trails, and complaints from equestrians and hikers about conflicting trail uses would be mitigated by heavy maintenance trail projects to correct these problems. However there is not a clear time-frame when this work would be completed.

Approximately three miles of unauthorized routes are proposed as "motorized trails open to all vehicle types" (Prop. 2101 and 2208), located within the Rugged Backcountry on the Vernal RD to access dispersed camping and routes suitable for OHV's greater than 50 inches wide. These proposals (2101 and 2208) as well as Proposal 2013 are the same as those identified in Alternative B.

Alternative C contains the most proposals that might create new conflicts between user groups. However, numerous opportunities for more natural and isolated settings would still remain throughout the Rugged Backcountry.

Recreation Issue 2 (Dispersed Camping) - As outlined earlier in this chapter, all action alternatives change the current travel direction of allowing dispersed camping from 300 feet off of a designated route to 150 feet. This change in designation may affect the experience and/or reduce the availability of areas to camp. The discussion of the general impacts of this change has been addressed earlier in this chapter and is outlined in the description of earlier alternatives.

Alternative C recognizes the impacts of the change in this rule and attempts to maximize motorized dispersed camping opportunities while still implementing the 150 foot designation. Alternative C attempts to identify highly desirable existing dispersed camping sites and include them in this alternative. The alternative takes a more liberal approach in allowing for areas that may have some resource concerns but that are within an acceptable level of disturbance. In addition, this alternative would incorporate a greater number of routes that allow OHV use. This would provide a greater number of opportunities for camping with OHV use, but would also negatively impact opportunities for dispersed camping away from OHV use. Special consideration has been made for incorporation of sites that are appropriately being used and are within the previous legal definition of 300 feet.

Tables 3.1.14 - 3.1.16 below shows miles (length) and square miles (area) of potential dispersed camping areas by Forest recreation niche areas. The numbers displayed in the tables assume every mile of open route is suitable and desirable for dispersed camping. As discussed earlier in this section, there are inherent weaknesses with this assumption. Natural barriers such as irregular terrain, heavy forest, steep slopes, wet areas and streams, as well as management tools such as fencing and road drainages would prohibit a large portion from being available for use. Therefore, these numbers are used for trend comparison purposes only.

Because there is not an accurate method for determining the exact amount of existing available dispersed camping areas, it is impossible to demonstrate the precise impact to dispersed camping for each alternative. However, the travel plan recognizes the potential for change to the visitor experience. Alternative C attempts to minimize these impacts by closely examining those areas that currently authorized under the previous travel plan and adopting those areas that are considered appropriate.

Flaming Gorge Recreation Niche - Alternative C would specifically designate and additional 85 routes totaling 42 miles (including the 78 acres open dispersed camping area mentioned above). These areas primarily access dispersed camping areas within the Flaming Gorge Recreation Niche Area that are not available under the current travel management plan.

Table:3.1.14 Acres of Potential Dispersed Camping Areas in the Flaming Gorge Recreation Niche Area		
	Alternative A (300 ft either side of route)	Alternative C (150 ft either side of route)
Flaming Gorge Ranger District	232 miles = 26 sq miles	271 miles = 15 sq miles

Vast Backyard Recreation Niche - Alternative C offers the most acres of dispersed camping of the action alternatives. This alternative creates more ATV access from and around dispersed camping areas and offers the least opportunities for motorized dispersed camping away from ATVs. The Vast Backyard would have the most available dispersed camping areas of the action alternatives.

Alternative C would specifically designate 232 routes totaling 82 miles which primarily access dispersed camping areas. 126 routes of these routes totaling 58 miles are outside of the hatched travel area and are not available under the current travel management plan.

Table:3.1.15 Acres of Potential Dispersed Camping Areas in the Vast Backyard Recreation Niche Area		
	Alternative A (300 ft either side of route)	Alternative C (150 ft either side of route)
Flaming Gorge Ranger District	63 miles = 7 sq miles	72 miles = 4 sq miles
Vernal Ranger District	363* miles = 41 sq miles	387 miles = 22 sq miles
Roosevelt/Duchesne Ranger District	450 miles = 51 sq miles	489 miles = 28 sq miles

* Includes 25 miles of routes within the hatched travel area in Alternative A

Rugged Backcountry Recreation Niche - Alternative C offers the most acres of dispersed camping of the action alternatives. However dispersed camping access within the Rugged Backcountry Recreation Niche Area is limited primarily due to the number of routes and the management levels of those routes.

Alternative C would specifically designate nine routes totaling nine miles which primarily access dispersed camping areas. Of these routes seven totaling seven miles are outside of the hatched travel area and are not available under the current travel management plan.

Table:3.1.16 Acres of Potential Dispersed Camping Areas in the Rugged Backcountry		
	Alternative A (300 ft either side of route)	Alternative C (150 ft either side of route)
Flaming Gorge Ranger District	3 miles = 0.4 sq miles	4 miles = 0.2 sq miles
Vernal Ranger District	28 miles = 3 sq miles	33 miles = 2 sq miles
Roosevelt/Duchesne Ranger District	10 miles = 1 sq miles	11 miles = 0.6 sq miles

Recreation Issue 3 (Safety)—Overall, Alternative C poses no new safety concerns with the exception of two different types of proposals as already identified in Alternative B (1200, 1179, 1011, and 1017).

Recreation Issue 4 (Costs) —Alternative C shares the same costs as covered under Alternative B, plus additional expenses. Alternative C is the most expensive Alternative to implement because it proposes the greatest increase to system road and trail miles on the Forest. The alternative increases system roads open to Forest visitors by over 84 miles and motorized trails by approximately 74 miles—creating over \$150,000 in additional costs to maintain Forest system roads and trails. Under Alternative C, it is more likely that increasing the number of trail miles on the Forest may decrease the overall percentage of trails maintained to standard each year (less than 9%). The same scenario is likely for Forest system roads and could result in less than 30% of Forest system roads maintained to standard each year.

Recreation Issue 5 (Enforcement) — Alternative C contains similar proposals that address enforcement concerns and would help obtain better compliance with the Forest Travel

Plan as addressed in Alternative B. However, Alternative C would pose more challenges than all other action alternatives because it proposes the most road and trail miles to enforce. It also likely that existing conflicts would continue or even escalate such as near East Galloway on the Vernal RD. There would also be new areas to patrol more frequently such as along Marsh Bench Road.

Alternative D—Additional Non-Motorized Opportunities

Alternative D reduces road densities throughout the Forest. There is a 10-mile reduction in overall system roads that are open to Forest visitors and approximately a 52 mile increase in administratively closed roads. There are several proposals in this alternative that remove mixed traffic from system roads. As a result, there would be fewer motorized recreation opportunities, especially for OHV users. This alternative would have the fewest opportunities for motorized loops and connectivity to other roads, trails, recreation developments, and dispersed camping areas. Dispersed camping opportunities would be considerably reduced regardless of an area’s popularity and historic use such as along the Flaming Gorge Reservoir and within the hatched travel area. Forest visitors who prefer non-motorized recreation would benefit most by enjoying expansive settings that restrict OHV use. However, they would still be affected by limited access to motorized dispersed camping opportunities.

Recreation Issue 1 (Conflicts) — Alternative D does not conflict with the current ROS class inventory for the Forest or Forest Plan standards and guidelines or management direction. This alternative does not incorporate any proposals for OHV open areas, and provides limited access for dispersed camping opportunities.

The Flaming Gorge Recreation Niche has the fewest number of proposed changes to the current travel plan under Alternative D. Table 3.1.17 compares system road and trail miles between the current condition (Alternative A) and Alternative D.

Table 3.1.17 Road and Trail Miles in the Flaming Gorge Recreation Niche Area			
	ALT. A	ALT. D	DIFFERENCE
Administratively Closed Road	14	23	9
Street Legal Only Road	131	121	(10)*
Mixed Use Road	185	191	6
Motorized Trail Open to all Vehicles	0	0	0
Motorized Trail less than 50"	4	0	(4)*
Non-motorized Trail	33	36	3
Change to ROS	None		

*() indicates a negative number

Alternative D contains 12 proposals to incorporate about five miles of currently unauthorized routes to access the reservoir and adjacent areas for dispersed camping and water-based activities. This is a considerable contrast to the action alternatives which propose over four times as many routes and miles.

There are five proposals (Proposal 1004, 1154, 1155, 1158, and 1262) within the Flaming Gorge Recreation Niche Area to allow mixed traffic on current Forest system roads restricted to street-legal vehicles.

In contrast to all other action alternatives, Alternative D does not propose to adopt any motorized trails open to all vehicles.

Alternatives D and E do not contain any dispersed camping open areas within the Flaming Gorge Recreation Niche Area, or anywhere else on the Forest.

Proposals 1255.1 (FSR 625) and 1255.2 (FST 157) address a current issue with a system ATV trail (FST 157) and two unimproved mixed use roads (FSR 376 and 625) located between Swett Ranch and Greendale within the Conifer Forest Canyon Management Area on the Flaming Gorge Ranger District. Refer to Alternative B for a detailed description of the proposal and mitigation. Alternative D imposes an administrative closure on FST 157 (Proposal 1255.2). Alternative D aims to address the noise and traffic issues raised by administratively closing the system ATV trail (FST 157) in order to disconnect the loop between FSR 376 and 625 and reduce motorized vehicle traffic in the area.

The Vast Backyard contains the majority of proposed changes in Alternative D. Table 3.1.18 compares system road and trail miles between the current condition (Alternative A) and Alternative D within the Vast Backyard Recreation Niche.

Table 3.1.18—Road and Trail Miles in the Vast Backyard Recreation Niche Area			
	ALT. A	ALT. D	DIFFERENCE
Administratively Closed Road	71	96	25
Street Legal Only Road	221	202	(19)*
Mixed Use Road	761	781	20
Motorized Trail Open to all Vehicles	0	7	7
Motorized Trail less than 50"	110	79	(31)*
Non-motorized Trail	243	257	14
Change to ROS	None		

*() indicates a negative number

Alternative D has the fewest proposals to adopt mixed traffic on improved and unimproved Forest system roads that are currently restricted to street-legal vehicles.

Alternative D would increase the number of improved Forest system roads that allow mixed traffic within the Vast Backyard by 29 miles. There would be a reduction in the number of unimproved Forest system roads that allow mixed traffic. This would result in a net gain of approximately 20 miles more of improved and unimproved Forest system roads allowing mixed traffic. The proposals to add mixed traffic within the Vast Backyard are similar to the other action alternatives, but are limited to:

- Vernal RD Proposals: 2018, 2043, 2093, 2197
- Roosevelt-Duchesne RD Proposals: 3005, 3040, 4015

Alternative D contains no proposals to open up Forest system roads currently managed as Administratively Closed, in order to allow mixed traffic for public use. This is a contrast to all other action alternatives.

Alternative D would adopt the fewest proposals for additional ATV trails (motorized route open to vehicles 50 inches or less wide) that utilize existing routes and new construction occurring only within the Vast Backyard. Alternative D is limited to 4 proposals that total about 4 miles. They

include proposals 2144, 2274.2, 2425, and 2426. Refer to the section Effects Common to All Action Alternatives for details. Proposal 2144 is the only proposal that would require new construction under Alternative D.

The Rugged Backcountry has the fewest number of proposed changes to the current travel plan. Table 3.1.19 compares system road and trail miles between the current condition (Alternative A) and the Alternative D.

Table 3.1.19—Road and Trail Miles in the Rugged Backcountry Recreation Niche Area			
	ALT. A	ALT. D	DIFFERENCE
Administratively Closed Road	6	25	19
Street Legal Only Road	21	17	(4)*
Mixed Use Road	27	21	(6)*
Motorized Trail Open to all Vehicles	0	1	1
Motorized Trail less than 50"	29	9	(20)*
Non-motorized Trail	217	227	10
Change to ROS	None		

*() indicates a negative number

Alternative D would reduce the number of current system ATV trail miles by approximately 20 miles—mostly within the Vast Backyard and Rugged Backcountry Recreation Niches on the Vernal Range District. For example, approximately six miles of current motorized trails (FST 034/Prop 2038.3 and 2038.4 and FST 106/Prop 2038.1 and 2038.2) are proposed for non-motorized use near Galloway Spring due to multiple concerns as identified in Alternative B. Reducing motorized trail recreation opportunities could help reduce conflicts between users, but it may result in more conflicts with enforcement and compliance of the Travel Plan. Additionally, Alternative D would not adopt any unauthorized routes within the Rugged Backcountry for motorized use by vehicles over 50 inches wide.

Recreation Issue 2 (Dispersed Camping) - As outlined earlier in this chapter, all action alternatives change the current travel direction of allowing dispersed camping from 300 feet off of a designated route to 150 feet. This change in designation may affect the experience and/or reduce the availability of areas to camp. The discussion of the general impacts of this change has been addressed earlier in this chapter and is outlined in the description in earlier alternatives.

Alternative D attempts to provide a greater amount of nonmotorized recreation opportunities by providing fewer motorized use recreation opportunities. As such, this alternative takes a more conservative approach in designation of dispersed camping areas than the other alternatives. Typically, only those areas that are within 150 feet of a designated route would be incorporated, with some exceptions for areas that have specific high benefits and are deemed appropriate for adoption in all alternatives. Alternative D also utilizes a more conservative approach when considering routes in or near inventoried roadless areas. The alternative attempts to minimize motorized impacts within these areas, including motorized dispersed camping use.

Alternative D would have the least amount of designated routes. Therefore, this alternative would offer the fewest available dispersed camping opportunities. In contrast, there would be the greatest opportunities for non-motorized camping and remote camping experience.

Reducing motorized access for dispersed recreation may result in conflicts between forest users by decreasing the overall area available to disperse camp and increasing the density of people camping in the 150 foot area. This may result in a change or loss in the Forest experience that would be available if a more remote motorized dispersed camping experience were available. This alternative would exclude access to numerous historic dispersed camping locations that are located over 150 feet from designated routes.

Tables 3.1.20 - 3.1.22 below shows miles (length) and square miles (area) of potential dispersed camping areas by Forest recreation niche areas. The numbers displayed in the tables assume every mile of open route is suitable and desirable for dispersed camping. As discussed earlier in this section, there are inherent weaknesses with this assumption. Natural barriers such as irregular terrain, heavy forest, steep slopes, wet areas and streams, as well as management tools such as fencing and road drainages would prohibit a large portion from being available for use. Therefore, these numbers are used for trend comparison purposes only.

Because there is not an accurate method for determining the exact amount of existing available dispersed camping areas, it is impossible to demonstrate the precise impact to dispersed camping for each alternative. However, the travel plan recognizes the potential for change to the visitor experience. Alternative D would have the greatest impact to existing motorized dispersed camping opportunities, as it would adopt the least amount of routes and dispersed camping opportunities within the Vernal travel area and Forest-wide.

All other action alternatives propose to adopt more routes that provide access to many of these dispersed camping areas. Alternative D is not as inclusive of dispersed camping access and imposes the most limitations upon dispersed camping opportunities by designating the fewest routes, most of which are within the hatched travel area to access dispersed camping areas beyond 150 feet.

Flaming Gorge Recreation Niche - Alternative D would designate 17 routes totaling 14 miles or which five miles is not currently authorized use.

Table:3.1.20 Acres of Potential Dispersed Camping Areas in the Flaming Gorge Recreation Niche Area By District		
	Alternative A (300 ft either side of route)	Alternative D (150 ft either side of route)
Flaming Gorge Ranger District	232 miles = 26 sq. miles	234 miles = 13 sq miles

Vast Backyard Recreation Niche - Alternative D proposes the fewest motorized trails open to all vehicles in order to accommodate access to dispersed camping areas and OHV routes. The impacts to the Vast Backyard niche would be the greatest of all niche areas, as this recreation niche specifically identifies dispersed motorized camping as an integral component. In addition, this area includes the Vernal hatched travel area, which has numerous existing legal undesignated routes where dispersed camping occurs. This alternative would incorporate the fewest of these routes.

Alternative D would specifically designate 71 routes totaling 13 miles which primarily access dispersed camping areas. Of these routes six totaling 1.5 miles are outside of the hatched travel area and are not available under the current travel management plan.

Table:3.1.21 Acres of Potential Dispersed Camping Areas in the Vast Backyard Recreation Niche Area By District		
	Alternative A (300 ft either side of route)	Alternative D (150 ft either side of route)
Flaming Gorge Ranger District	63 miles = 7 sq miles	64 miles = 4 sq miles
Vernal Ranger District	363* miles = 41 sq miles	344 miles = 20 sq miles
Roosevelt/Duchesne Ranger District	450 miles = 51 sq miles	451 miles = 26 sq miles

* Includes 25 miles of undesignated routes within the hatched travel area in Alternative A

Rugged Backcountry Recreation Niche - Alternative D identifies the least available area for motorized dispersed camping. This creates the opportunity for more non-motorized dispersed camping and retains more acres of wilderness potential in undeveloped areas by restricting this activity.

Alternative D would specifically designate three routes totaling two miles which primarily access dispersed camping areas outside of the hatched travel area and are not available under the current travel management plan.

Table:3.1.22 Acres of Potential Dispersed Camping Areas in the Rugged Backcountry Recreation Niche Area By District		
	Alternative A (300 ft either side of route)	Alternative D (150 ft either side of route)
Flaming Gorge Ranger District	3 miles = 0.4 sq miles	3 miles = 0.2 sq miles
Vernal Ranger District	28 miles = 3 sq miles	25 miles = 1 sq mile
Roosevelt/Duchesne Ranger District	10 miles = 1 sq miles	4 miles = 0.2 sq miles

Recreation Issue 3 (Safety)- Alternative D has the fewest safety concerns because it has the fewest number of system road and trail miles open to motorized vehicles.

Alternatives D and E do not contain a dispersed camping open area proposal. Alternative D also proposes to remove motorized use from a handful of designated ATV trails (e.g. proposal 2150) that have been determined to be a safety hazard due to steepness, difficulty maneuvering over large obstacles, and the presence of elevated drop offs. As with the other action alternatives, this alternative would eliminate the hatched travel area by restricting travel to designated routes only. As a result, the Forest would be able to monitor and maintain routes in this area more closely and reduce hazards.

Recreation Issue 4 (Costs)— There would be an initial increased cost to the Forest roads and trails programs to implement Alternative D in order to reflect changes to system roads and trails, such as signing trails from motorized to non-motorized use. It is also likely that there would be additional costs to the Forest in order to effectively close and restrict use to non-system routes, and to install gates or barriers on administratively closed roads. Alternative D would have the lowest cost for new trail construction and would be limited to implementing proposal 2144 at an estimated cost of less than \$10,000. However, an overall savings to the Forest would be expected because maintenance on roads open to Forest visitors would be reduced by about 10 miles and

maintenance of motorized trails would be reduced by approximately 43 miles. By reducing road and motorized trail densities, this alternative could also help increase the percentage of trails (greater than 9%) and roads (greater than 30%) maintained to standard each year.

Recreation Issue 5 (Enforcement) - Alternative D would likely be challenging to enforce and would require several barriers to discourage use and to close non-system routes. It accommodates a limited number of dispersed camping areas on the Forest, relative to what has historically been used, and incorporates fewer recreation opportunities for OHV's. Restricting dispersed camping off of system routes to 150 ft. would be easier to monitor during routine patrols, but may result in frequent noncompliance especially where dispersed camping is popular within the Vast Backyard and Flaming Gorge Recreation Niche Areas. Implementing additional seasonal restrictions and administrative closures will require monitoring to enforce, and it will help reduce the number of incidents involving resource damage. This alternative would require several barriers to discourage use and to close non-system routes.

Alternative E—Blend of Alternative C and D

Alternative E is a blend of Alternatives C and D, but is still quite different from Alternative B. For example, Alternative E shares the same limited opportunities for motorized dispersed camping as Alternative D. It would also incorporate more OHV opportunities on system roads and trails, such as motorized access to high elevation areas as in Alternative C, and by incorporating mitigation efforts for proposals that were not carried forward in Alternative B.

Recreation Issue 1 (Conflicts) - Table 3.1.23 compares system road and trail miles between the current condition (Alternative A) and Alternative E within the Flaming Gorge Recreation Niche.

Table 3.1.23—Road and Trail Miles in the Flaming Gorge Recreation Niche Area			
	ALT. A	ALT. E	DIFFERENCE
Administratively Closed Road	14	22	8
Street Legal Only Road	131	120	(11)*
Mixed Use Road	185	209	24
Motorized Trail Open to all Vehicles	0	1	1
Motorized Trail less than 50"	4	11	7
Non-motorized Trail	33	30	(3)*
Change to ROS	None		

*() indicates a negative number

By blending Alternatives C and D together, Alternative E somewhat balances the mix of motorized and non-motorized recreation opportunities. For example, within the Flaming Gorge Recreation Niche, Alternative E proposes adding more miles of roads open to mixed traffic than the current condition, but balances it by retaining more roads restricted to street-legal vehicles, limiting the number of motorized trails open to all vehicles, and excluding any dispersed camping open areas. A majority of changes and new routes, within the Flaming Gorge Recreation Niche, are located on the Wyoming side of the NRA and are used to access the reservoir and associated dispersed camping. There are 58 proposals that incorporate 26 miles of unauthorized routes. It is unlikely that designation of these routes would create additional conflicts between users, because many of them are already being used by Forest visitors.

There are also proposals within the Flaming Gorge Recreation Niche Area to allow mixed traffic on several improved and unimproved Forest system roads that are currently restricted to street-legal vehicles only. Alternative E is limited to only six of these proposals and includes: 1004, 1154, 1155, 1258, 1262, and 1270. This alternative has only one proposal (Proposal 1089) to adopt a motorized trail, open to all vehicles that would access the reservoir for dispersed camping and water-based recreation opportunities.

Proposals 1255.1 (FSR 625) and 1255.2 (FST 157) address a current issue with a system ATV trail (FST 157) and two unimproved mixed use roads (FSR 376 and 625) located between Swett Ranch and Greendale within the Conifer Forest Canyon Management Area on the Flaming Gorge Ranger District. Refer to Alternative B for a detailed description of the proposal and mitigation. The difference between the alternatives is that Alternatives D and E impose an administrative closure on FST 157 (Proposal 1255.2). Alternatives D and E aim to address the noise and traffic issues conveyed, by proposing to administratively close the system ATV trail (FST 157) in order to disconnect the loop between FSR 376 and 625 and reduce motorized vehicle traffic in the area.

Alternative E proposes to designate a small network of ATV trails near Red Canyon Lodge (Proposals 1248.1–1248.7). These proposals are similar to Alternative C with the exception that the routes would be seasonally closed from October 1 through June 30 in this alternative and Proposal 1248.2 is excluded in Alternative E, which would require new construction. A description of these proposals and their associated issues can be found under Alternative C.

The Vast Backyard contains the majority of proposed changes in Alternative E. Table 3.1.24 compares system road and trail miles between the current condition (Alternative A) and Alternative E.

Table 3.1.24—Comparison of road and trail miles in the Vast Backyard Recreation Niche Area			
	ALT. A	ALT. E	DIFFERENCE
Administratively Closed Road	71	56	(15)*
Street Legal Only Road	221	184	(37)*
Mixed Use Road	761	836	75
Motorized Trail Open to all Vehicles	0	38	38
Motorized Trail less than 50"	110	103	(7)*
Non-motorized Trail	243	256	13
Change to ROS	Yes. Approximately 6,460 acres from semi-primitive non-motorized to semi-primitive motorized		

*() indicates a negative number

Alternative E increases mixed traffic on Forest system improved roads by about 37 miles and about 69 miles on Forest system unimproved roads throughout the Forest. These proposals to add mixed traffic within the Vast Backyard are the same as Alternative C.

Alternative E contains 63 proposals totaling about 25 miles of additional trails open to all vehicles by incorporating unauthorized routes to access existing dispersed camping areas and OHV routes within the Vast Backyard. Many of these proposals are also located within the hatched travel area on the Vernal Ranger District. No new conflicts between recreation user groups are expected since these proposals occur in historically utilized areas. However, proposal 4001 located on the South Unit of the Roosevelt Duchesne Ranger District would bisect an area

currently inventoried as semi-primitive non-motorized. If these this proposal was adopted, then it would change the ROS class inventory to an area two square miles wide and leave a fragment, too small to remain classified as semi-primitive non-motorized. Therefore, Proposal 4001 would actually result in a change to the ROS inventory from semi-primitive non-motorized to semi-primitive motorized to an area over 8.5 square miles (5,500 acres) wide.

Alternative E has eight proposals to open up and allow mixed traffic on nine miles of Forest system roads that are currently managed as Administratively Closed. These proposals are all located within the Vast Backyard and include:

- Flaming Gorge RD Proposals: 1007, 1187
- Vernal RD Proposals: 2061, 2085, 2153
- Roosevelt-Duchesne RD Proposals: 3011, 3025, 4004

Alternative E has 19 proposals totaling 21 miles to designate additional ATV system trails by utilizing existing unauthorized routes and new construction. Alternative E proposes to adopt the five proposals discussed in Alternatives B and C that would require new construction (Proposals 2130, 2144, 3013, 1017, and 1011).

Alternative E is similar to the Proposed Action within the Vast Backyard Recreation Niche. For example, it includes proposals to allow mixed traffic at Sols Canyon (Prop 1007), it designates motorized trails near Sheep Creek Lake (Prop 1017) and

Upper Basin (Prop. 3074.6), and incorporates other proposals discussed in detail under Alternative B.

Alternative E also has some noticeable differences from the Proposed Action such as allowing mixed traffic on a portion of Chepeta Road (FSR 110; Prop. 3016); opening up Marsh Bench (FSR 017) seasonally for public use by allowing street-legal vehicles (Prop. 2027); and Alternative E has fewer cherry-stems to access dispersed camping along motorized trails open to all vehicles. It is likely that having a more limited number of miles open to OHV's, as compared to the Proposed Action, would result in fewer conflicts on Forest system roads; and between motorized and non-motorized dispersed recreation participants.

The Rugged Backcountry has the fewest number of proposed changes to the current travel plan. When compared to the Preferred Alternative, Alternative E retains similar proposals within the Rugged Backcountry, such as motorized trails near Blanchett Park (Proposal 2013) and southeast of Grandview Trailhead (Proposal 3043), and allowing seasonal mixed use on Dry Ridge (Proposal 3082) as previously described in Alternative B. Overall Alternative E would propose a slight increase in administrative closures and fewer motorized trails within the Rugged Backcountry—resulting in a reduced potential for conflicts between Forest visitors.

Table 3.1.25 compares the current condition (Alt A) and Alternative E within the Rugged Backcountry Recreation Niche.

Table 3.1.25-- Road and Trail Miles in Rugged Backcountry Recreation Niche Area			
	ALT. A	ALT. E	DIFFERENCE
Administratively Closed Road	6	8	2
Street Legal Only Road	21	19	-2
Mixed Use Road	27	33	6
Motorized Trail Open to all Vehicles	0	6	6
Motorized Trail less than 50"	29	22	-7
Non-motorized Trail	217	218	1
Change to ROS	Yes. Approximately 640 acres from semi-primitive non-motorized to semi-primitive motorized		

*() indicates a negative number

Approximately three miles of current motorized trail FST 106 (Prop. 2038.1 and 2038.2) near Galloway Spring are proposed for non-motorized use because of poor soil conditions that are not suitable for motorized travel, difficult terrain to maneuver vehicles, issues with noncompliance by ATV’s traveling beyond designated routes, and complaints from equestrians and hikers about conflicting trail uses. Proposals 2038.1 and 2038.2 would remove motorized vehicles from Forest system trail 106 at Cow Hollow and keep ATVs off the most concerning section of the trail where it is susceptible to erosion and safety concerns because of its steep incline. ATV use would still be allowed north of Cow Hollow.

Proposal 2208 is the only proposal located within the Rugged Backcountry under Alternative E that would adopt an unauthorized route for a motorized trail open to all vehicles.

Recreation Issue 2 (Dispersed Camping) - As outlined earlier in this chapter, all action alternatives change the current travel direction of allowing dispersed camping from 300 feet off of a designated route to 150 feet. This change in designation may affect the experience and/or reduce the availability of areas to camp. The discussion of the general impacts of this change has been addressed earlier in this chapter and is outlined in the description of earlier alternatives.

Alternative E attempts to minimize these impacts by closely examining those areas that are currently authorized under the previous travel plan and adopting those areas that are considered appropriate and would sustain such use. However, alternative E also attempts to blend the importance of preserving nonmotorized recreation opportunities and takes a more conservative approach in adopting routes for designation than in alternatives B or C. Special consideration has been made for incorporation of sites that are appropriately being used and are within the previous legal definition of 300 feet.

Tables 3.1.26 - 3.1.28 below shows miles (length) and square miles (area) of potential dispersed camping areas by Forest recreation niche areas. The numbers displayed in the tables assume every mile of open route is suitable and desirable for dispersed camping. As discussed earlier in this section, there are inherent weaknesses with this assumption. Natural barriers such as irregular terrain, heavy forest, steep slopes, wet areas and streams, as well as management tools such as fencing and road drainages would prohibit a large portion from being available for use. Therefore, these numbers are used for trend comparison purposes only.

Because there is not an accurate method for determining the exact amount of existing available dispersed camping areas, it is impossible to demonstrate the precise impact to dispersed camping for each alternative. However, the travel plan recognizes the potential for change to the visitor experience. Alternative C attempts to minimize these impacts by closely examining those areas that currently authorized under the previous travel plan and adopting those areas that are considered appropriate.

Flaming Gorge Recreation Niche - Alternative E proposes adding more miles of roads open to mixed traffic than the current condition, but balances it by retaining more roads restricted to street-legal vehicles, limiting the number of motorized trails open to all vehicles, and excluding any dispersed camping open areas. Alternative E offers a variety of dispersed camping opportunities including those that access ATV trails and those that offer a quieter experience away from ATVs.

Alternative E would specifically designate 46 routes totaling 21 miles which primarily access dispersed camping areas.

Table:3.1.26 Acres of Potential Dispersed Camping Areas in the Flaming Gorge Recreation Niche Area		
	Alternative A (300 ft either side of route)	Alternative E (150 ft either side of route)
Flaming Gorge Ranger District	232 miles = 26 sq. miles	250 miles = 14 sq miles

Vast Backyard Recreation Niche - Alternative E offers a variety of dispersed camping opportunities including those that access ATV trails and those that offer a quieter experience away from ATVs.

Alternative E would specifically designates 186 routes totaling 68 miles which primarily access dispersed camping areas. Of these, 84 routes totaling 46 miles are outside of the hatched travel area and are not available under the current travel management plan.

Table:3.1.27 Acres of Potential Dispersed Camping Areas in the Vast Backyard Recreation Niche Area By District		
	Alternative A (300 ft either side of route)	Alternative E (150 ft either side of route)
Flaming Gorge Ranger District	63 miles = 7 sq miles	71 miles = 4 sq miles
Vernal Ranger District*	363 miles = 41 sq miles	372 miles = 21 sq miles
Roosevelt/Duchesne Ranger District	450 miles = 51 sq miles	467 miles = 27 sq miles

* Includes 25 miles of undesignated routes within the hatched travel area in Alternative A

Rugged Backcountry Recreation Niche - Alternative E offers a variety of dispersed camping opportunities including those that access ATV trails and those that offer a quieter experience away from ATVs.

Alternative E would specifically designate nine routes totaling nine miles which primarily access dispersed camping areas. Of these routes seven totaling seven miles are outside of the hatched travel area and are not available under the current travel management plan.

	Alternative A (300 ft either side of route)	Alternative E (150 ft either side of route)
Flaming Gorge Ranger District	3 miles = 0.4 sq miles	4 miles = 0.2 sq miles
Vernal Ranger District	28 miles = 3 sq miles	32 miles = 2 sq miles
Roosevelt/Duchesne Ranger District (North Unit)	10 miles = 1 sq miles	10 miles = 0.5 sq miles

Recreation Issue 3 (Safety)— Overall, Alternative E does not cause any new safety concerns. It poses fewer concerns than Alternatives B and C because there are no proposals for a dispersed camping open area.

Recreation Issue 3 (Costs)— Overall, Alternative E would likely increase maintenance costs for the roads and trails programs on the Forest, but would be less expensive to implement than Alternatives B or C because it proposes fewer miles of roads open to mixed traffic and fewer miles of motorized trails open to all vehicles. There is a general reduction in roads open to street-legal vehicles, but the miles associated with them were picked up by roads allowing mixed traffic. There is about a 39 mile increase in motorized trails that would increase maintenance costs for the trails program. However, since most proposals are located within both the Flaming Gorge and Vast Backyard Recreation Niche Areas, it seems that the majority of system roads and trails would be more easily accessible for maintenance.

Alternative E increases system roads open to Forest visitors by about 45 miles and motorized trails by about 39 miles—creating over \$90,000 in additional costs to maintain Forest system roads and trails. This cost is lower than Alternatives B and C. Increasing the number of trail miles on the Forest may also decrease the overall percentage (less than 9%) of trails maintained to standard each year. The same scenario is likely for Forest system roads and could result in less than 30% of Forest system roads maintained to standard each year. It is also likely that there would be additional costs to the Forest in order to effectively close and restrict use to non-system routes, and to install gates or barriers on administratively closed roads.

Recreation Issue 4 (Enforcement)— Similar to Alternative D, Alternative E would be slightly more challenging to enforce than Alternatives B or C because it accommodates a limited number of dispersed camping areas on the Forest, relative to historical use, and incorporates fewer recreation opportunities for OHV’s. Restricting travel off of system routes to 150 ft. would be easier to monitor during routine patrols, but may result in frequent noncompliance especially within the Vast Backyard Recreation Niche where dispersed camping is popular.

Alternative E eliminates the hatched travel area on the Vernal Ranger District and restricts all motorized travel to designated roads and trails only. This management approach is clearer and avoids confusion for everyone by indicating that a route is closed unless signed open, and is easier to enforce. Implementing additional seasonal restrictions and administrative closures will require monitoring to enforce, but it will also help reduce the number of incidents involving resource damage. This alternative would require several barriers to discourage use and to close non-system routes.

3.1.9 Cumulative Effects _____

The following actions were considered in the cumulative effects analysis for the recreation resource:

- Past and future road construction and management: The road system that is designated will continue to offer multiple recreation opportunities. The closure of the hatched travel area may increase use on remaining system roads.
- Past trail construction and management: The trail system designated will continue to offer multiple recreation opportunities. The closure of the hatched travel area may increase use on remaining system trails designated for motorized use.
- Past and future timber sales: Timber sales require access roads and skid trails to harvest trees.
- Past and future range developments: Grazing and range management activities require travel to access livestock, and improvements such as fences and guzzlers.
- Wildland fires: Preventing and fighting wildland fires requires access to variable locations and creating fuel breaks to reduce the potential for fires to spread.
- Special Use Permits and Right of Ways: Rights of ways for utilities such as power lines and gas lines, and other permitted activities such as irrigation canals often create sparsely vegetated corridors and access routes.
- Program budgets: Program budgets tend to fluctuate, so the percent of Forest system roads and trails maintained to standard will continue to fluctuate
- Past management actions: Cross-country motorized travel by wheeled vehicles was allowed in areas on the Forest as recent as ten years ago.

Recreation Issues: Conflicts, Safety, Costs, Enforcement

Recreation is a complex resource to manage. It involves people, capacities, experiences, expectations, infrastructure and several other facets that are difficult to measure and quantify. The Forest has tools such as the Forest Plan, the ROS inventory, and Facility Master Plan and Recreation Niche giving local direction to manage recreation on the Ashley National Forest. Even with these tools conflicts between recreation uses will exist.

The history of a majority of system roads and trails on the Forest were for utilitarian purposes, to access sites such as timber sales, grazing developments, dams, and headgates. The consideration of recreation as a resource came much later. As the travel network became increasingly used for recreation in combination with their original purpose, conflicts developed.

Past timber sales are a direct cause for many of the unauthorized routes found on the Forest. Timber sales require access roads and skid trails to run an efficient harvest. Many of the past timber sales used minimal efforts, such as a berm or ditch, to close these corridors. When combined with past management practices such as allowing cross-country motorized travel or the hatched travel area, these corridors became commonly used by motorized vehicles. This resulted in conflicts with other users such as hunters who were not accustomed to seeing motorized vehicles in the area. It also creates enforcement issues because the volume of routes makes it unlikely to witness and correct the unauthorized use. Future timber sales will need to do a better job of closing, obliterating, and masking these corridors, so that they do not exacerbate unauthorized use, recreation conflicts, and enforcement issues.

Range management and livestock grazing require extensive travel throughout the Forest. What once was a job spending multiple days on foot or on a horse transitioned into working more efficiently by getting the same work done in a fraction of the time with a truck or OHV. As a result, two track routes became established throughout the Forest paralleling fences or accessing

range developments. When combined with past management practices such as allowing cross-country motorized travel or the hatched travel area, these corridors became commonly used by motorized vehicles. This resulted in conflicts with other users who were not accustomed to seeing motorized vehicles in the area. Although administrative use by the permit holder will continue to be allowed managing future range allotments will require more work to educate forest visitors about “permitted” activities on the Forest, clear signing to mark system routes and permissible uses, and consideration in using less impacting modes of travel, such as more frequent use of horses when possible. Otherwise unauthorized use, recreation conflicts, and enforcement issues will continue and possibly worsen.

Preventing and fighting wildland fires requires access to variable locations and creating fuel breaks to reduce the potential spread of fires. These actions require removing vegetation in order to remove fuel sources or to disrupt the fuel ladder. What remains is often a corridor or an area with sparse vegetation that is an attractive route for motorized travel. When combined with past management practices such as allowing cross-country motorized travel or the hatched travel area, these corridors also became commonly used by motorized vehicles; and resulted in conflicts with other users who were not accustomed to seeing motorized vehicles in the area. Future actions to manage wildland fires will require more frequent use of signs and barriers to discourage unauthorized use by motorized vehicles in these areas. The travel plan restricts motorized travel on these routes because they would not be designated as forest roads or trails. Otherwise, unauthorized use, recreation conflicts, and enforcement issues will continue and possibly worsen.

Rights of ways (ROWs) for utilities such as power lines and gas lines, and other permitted activities such as irrigation canals often create sparsely vegetated corridors and access routes that are used for motorized travel by Forest visitors. When combined with past management practices such as allowing cross-country motorized travel or the hatched travel area, these corridors became commonly used by motorized vehicles; and resulted in conflicts with other users who were not accustomed to seeing motorized vehicles in the area. Future actions to manage permitted activities and ROWs will require more frequent use of signs and barriers to discourage unauthorized use by motorized vehicles in these areas. The travel plan restricts motorized travel on these routes because they would not be designated as forest roads or trails. Otherwise, unauthorized use, recreation conflicts, and enforcement issues will continue and possibly worsen.

Flat or decreasing budgets will be a constant variable that leads to conflicts, safety issues, and enforcement issues on the ground. Shrinking budgets may result in a maintenance backlog for Forest system roads and trails and could lead to further disrepair. Consequently, the number of hazards on Forest system roads and trails would increase—affecting the safety of Forest visitors. A lack of funds would affect not just the availability of maintenance staff, but would affect the availability of staff to enforce the Travel Plan, educate Forest visitors, monitor system routes, and close non-system routes. The proliferation of non-system routes will be a constant safety and enforcement issue if not properly managed.

The Forest will need to continually assess its system road and trail network. As direct by the Travel Plan, roads that cease to serve a purpose should be closed; and trails deemed to pose a health and safety risk to Forest visitors or that are difficult to locate because they are rarely used and maintained should be closed. The Forest Travel Plan would only restrict motorized access by Forest visitors to system roads and trails. Otherwise, visitors are allowed non-motorized access to just about anywhere on the Forest.

3.2 SOIL AND WATER RESOURCES

3.2.1 Scope of the Analysis

The analysis area for soils and water encompasses the entire Forest with the exception of The High Uinta Wilderness Area because, as wilderness, it is not open to motorized travel. For organizational purposes the soil and water analyses report is divided by district; the Flaming Gorge Ranger District which includes the NRA, and the Sheep Creek Geological Area, the Roosevelt Duchesne District which is broken in to two areas of analysis; the upper portion connected to the Wilderness and the Vernal District, and the South Unit, located on the Tavaputs Plateau and the Vernal Ranger District. A map of the watershed analysis area is included in the project record. Where necessary, watersheds were used within the district to determine specific hydrological analysis.

GIS and field verification were used to analyze the following information.

3.2.2 Issues and Indicators

Soils and Water Issue 1: Open areas, such as alpine and meadows, which are close to or traversed by motorized vehicles are susceptible to off route use because of their openness. This can lead to resource damage, vegetation damage and spread of noxious weeds.

Indicators:

- Miles of motorized route traversing through meadow, alpine, and other open areas.

Soil and Water Issue 2: The type, extent, and location of travel routes on the forest have the potential to adversely affect water resources by contributing to accelerated soil erosion and increased sediment delivery to lakes and streams (Grace III, 2002, Satterlund and Adams, 1992). Wetlands and riparian areas are particularly vulnerable to rutting and damage from motorized traffic. Their proximity to water further increases the likelihood of accelerated stream sedimentation, bank instability, and channel headcutting from travel route related damage. Human use is often concentrated in and near these areas where terrain and gradient often provide the easiest relative access. Water quality can in turn be adversely affected by these point and non-point sources of pollution.

While these effects can occur with both motorized and non-motorized roads and trails (depending on surface type, slope, alignment, and proximity to streams) generally the majority of sediment production occurs from unpaved motorized roads and OHV trails (Grace III, 2002, Walsh, 2008).

Indicators:

- Miles of unpaved motorized route within 300' of perennial streams and lakes greater than 1 acre.
- Miles of unpaved motorized route crossing mapped meadow and riparian habitat.
- Miles of unpaved motorized route encroaching on perennial streams.
- Number of crossings of perennial streams by unpaved motorized routes.
- Miles of unpaved motorized route within source protection zones 1-3 of municipal watersheds
- Miles of unpaved motorized route in 303(d) and 305(b) listed impaired watersheds.

3.2.3 Forest Plan Direction

The Forest Plan goals, objectives, and standards and guidelines define the direction of the forest-wide management, specify management activities, and describe conditions to be maintained or achieved

through management activities (Forest Plan, p. IV-1). The following are the Forest Plan goals, objectives, and standards and guidelines that apply to the soils and water resources throughout the forest.

Goals:

Soil, Water, and Air

Improve and conserve the basic soil and water resources (Forest Plan, p.IV-37)

Riparian

Protect and enhance the unique and valuable characteristics of riparian areas (Forest Plan, p. IV-45).

Objectives:

Soil, Water, and Air

Maintain or improve soil stability, site productivity, and repair or stabilize damaged watersheds (Forest Plan, p. IV-39).

Riparian

Maintain or improve riparian areas and riparian dependent resource values including wildlife, fish, vegetation, watershed, and recreation in a stable or upward trend. Manage for species diversity (Forest Plan, p. IV-45).

Standards and Guidelines:

Soil, Water, and Air

- Provide soil and water guidance to other resource activities (Forest Plan, p. IV-39).
- Rehabilitate disturbed areas based on aquatic and riparian ecosystems.
- Riparian areas outside of aquatic ecosystems and riparian ecosystems (Forest Plan p. IV-41).

Riparian

- Maintain natural complexity and high relative productivity of riparian areas (Forest Plan, p. IV-45).
- Maintain capability of riparian areas to act as an effective sediment buffering zone in relation to upslope activities (Forest Plan, p. IV-45).
- Riparian area dependent resources will be given preferential consideration in cases of irresolvable conflicts (Forest Plan, p. IV-45).
- Restrict facilities and ground disturbing activities to areas outside riparian areas unless alternative routes have been reviewed and rejected as being more environmentally damaging (Forest Plan, p. IV-45).
- Riparian areas will be given a high priority for rehabilitation in range improvement, fish and wildlife improvement, watershed restoration, road maintenance, and KV programs (Forest Plan, IV-46).

3.2.4 Affected Environment

Soils

Soil productivity is “the inherent capacity of a soil under management to support the growth of specified plants, plant communities, or a sequence of plant communities” (R4 Supplement FSH 2509.18). Roads are a total soil resource commitment, which means that there is diminished soil

productivity in the area the road courses (Elliot, et al, 1999). Roads remove organic matter, alter soil properties, change the microclimate and accelerate erosion. Roads can concentrate, divert and intercept water flow from rainfall and subsurface flows affecting the hydrologic function of an area (Gucinski, et al, 2000) (Ouren, et al, 2007). Motorized vehicles can damage soils directly from impact from surface traffic and indirectly by hydrologic modifications, soil transport, and deposition. Direct mechanical impact has several components - abrasion, compaction, shearing, and deposition that can affect the soil resource (Meyer 2002).

Puddling, compaction and displacement are all conditions associated with detrimental soil disturbance according to the Region 4 supplement to FSH 2509.18. Detrimental soil disturbance is the alteration of natural soil characteristics that results in immediate or prolonged loss of soil productivity and soil-hydrologic conditions. Puddling indicates soil impermeability, indicated by water sitting above the soil, in roads this is usually where ruts are observed. Compaction is decrease in pore space between the soil particles, generally this impacts sands less than soils with silt and clay content (Meyer, 2002) compaction takes place when vehicles pass over soils. Soil displacement is removal of soil either mechanically or by erosion. This is important, not so much for the existing routes, although it can indicate poor route placement, but unauthorized routes which have a tendency to not be engineered and therefore more prone to be blazed where soil conditions can be degraded and hydrologic function compromised as in trail braiding (Meyer, 2002).

Unauthorized and undesignated routes are a resource concern to soils as these routes were not designated or designed, and generally do not receive maintenance. Erosion, sedimentation, riparian, water quality, meadows, alpine, and other open areas were resource concerns not addressed at the time these routes were created.

Water quality and soil productivity on the Forest have been directly impacted by the type, extent, and location of designated roads, motorized trails, and existing, undesignated route vehicle use. These impacts have affected the existing condition of all districts to varying degrees.

Non-motorized Trails, Unauthorized Roads, Closed NFS Roads, and Unauthorized Motorized Vehicle Use

The following effects discussions are common to non-motorized trails, unauthorized roads, closed NFS roads, and unauthorized motor vehicle use in all districts.

Non-motorized trails: Maintenance is conducted on approximately 25-30 percent of the Forest trails annually. However, the potential for erosion exists on all trails. Sediment delivery is greatest where the trails are located in areas where they are in close proximity to or intersect streams and on steep slopes.

Unauthorized roads: Unauthorized roads may or may not be open or drivable. Access may be physically blocked by down or live trees. These roads receive no maintenance, so most have drainage and erosion problems. Drainage structures such as ditches, cross-drains, waterbars, or dips may have never been constructed or are no longer functioning. Failures at stream crossings are common, resulting in erosion and sediment delivery.

Closed NFS (Level 1 maintenance) roads: These roads are designated NFS roads that have been closed to public access, but are open to administrative use. The majority of these roads are associated with past timber sales and some still need to be physically closed and stabilized to keep them from contributing sediment to adjacent streams.

Unauthorized motor vehicle use: Unauthorized motorized use would continue to be a problem that adversely affects soil productivity and water quality. The major problems occur on unauthorized roads, Level 1 roads posted but not physically closed or ineffectively closed, and in open areas such as meadows and alpine that are adjacent to roads and motorized trails.

Water Quality

It is Forest Service policy to ensure safe drinking water subject to public use on National Forests, whether the source is a natural or developed water supply (FSH 2532.02, 2); to design all management activities of other resources to minimize short-term impacts on the soil and water resources and to maintain or enhance long-term productivity, water quantity, and water quality (FSH 2503.2); and to identify the water quality implications of proposed and alternative land management practices (FSH 2532.03, 4). As such, an assessment of current water quality conditions is included.

The State of Wyoming beneficial uses for water quality that apply to the Wyoming waters on the Forest continue to be: (2AB) protected for coldwater fisheries (Wyoming DEQ, 2007). Water Quality of streams and lakes on the Forest continue to meet all state of Wyoming designated beneficial uses. No stream or water body is listed as impaired in the current 303(d) CWA listing (Wyoming DEQ, 2006). No Total Maximum Daily Load (TMDL) analyses are being conducted or planned in the near future for waters within Wyoming portions of the Forest.

The State of Utah beneficial uses for water quality that apply to the waters within the Utah portion of the Forest are: (1C) domestic use with prior treatment, (2B) secondary-water contact water sports (excluding swimming), (3A) cold water aquatic life, (3B) warm water aquatic life and (4) for agricultural uses including irrigation of crops and stock watering. By cooperative agreement water chemistry samples collected by Forest Service and State of Utah Division of Water Quality personnel are analyzed and compared to the standards set for these categories in determining whether State standards are met. (Rule R317-2 Standards of Quality for waters of the State of Utah, Div. of Water Quality).

303(d) and 305(b) Listed Waters:

Table 3.2.1 show the watersheds on the Forest that are listed by the State of Utah as impaired and either requiring a Total Maximum Daily Load plan (TMDL), 303(d) listing 5A, or having had a Total Maximum Daily Load plan completed and approved by the EPA, 305(b) listing 4A, (Utah DEQ,2006).

Table 3.2.1 Watersheds on the Forest Listed as Impaired			
Stream/Watershed (hydrologic unit code)	Unmet Beneficial Use Class	Parameter	TMDL completed
Antelope Creek (1406000305)	4	TDS	Yes
Dry Gulch Creek (1406000309, 1406000310)	4	Salinity/TDS/Chlorides	Yes
Deep Creek (1406000313)	4	Salinity/TDS/Chlorides	Yes
Indian Canyon Creek (1406000407)	4	Total Dissolved Solids(TDS)	Yes
Pariette Draw Creek (1406000501)	3B, 4	Selenium, Boron, TDS	No

The **Antelope Creek Watershed**, to which Sowers Creek is also a tributary, is in the state of Utah's 303(d) listing as impaired for total dissolved solids (TDS). The state of Utah has recently posted the draft of its Total Maximum Daily Load Plan for reducing TDS in the Duchesne River drainage (including the Antelope Creek watersheds). A TMDL is an analysis prescribed by the Clean Water Act for watersheds designated as impaired. The analysis is used to determine the sources of impairment to a watershed and develop a strategy for improving water quality to retain beneficial use status. This document cites natural geology, cut banks, and oil and gas development present below the forest boundary as the major contributing sources to total dissolved solids in Sowers Creek (State of Utah TMDL, 2005).

The **Dry Gulch Creek** and **Deep Creek watersheds** are in the state of Utah's 305(b) listing as impaired for salinity, total dissolved solids, and chlorides. The document cites irrigation return flows in the lower portion of the watersheds as the major contributing source of TDS and chloride readings, where irrigated agricultural land and rangeland are the dominant land uses and the geology is more saline. The document refers to the upper (Forest Service managed) portions of the watershed as not contributing to impairments downstream. "Although data are limited in the middle and upper portions of the watershed, lower TDS concentrations occur in those portions of the watershed where forest is the primary land use and the geology consists of less-saline parent material and surface substrate." (State of Utah TMDL, 2002)

Indian Canyon Creek is also in the 303(d) listing for impairment in total dissolved solids. The state of Utah has recently posted the draft of its Total Maximum Daily Load Plan for reducing total dissolved solids in the Duchesne River drainage (including the Antelope Creek watersheds). This document cites natural geology, and livestock practices below the forest boundary as the major contributing sources to total dissolved solids (State of Utah TMDL, 2005).

The uppermost portions of **Pariette Draw Creek watershed** lie on Forest Service lands of the Duchesne District (South Unit). Perennial channels in the watershed are downstream of the forest boundary, springs and ephemeral beds are the only channels on Forest Service administered portions of the watershed. The watershed is in the state of Utah's 303(d) listing as impaired for selenium, boron, and total dissolved solids. A TMDL plan for the watershed has yet to be written or approved.

Brownie Lake on the Flaming Gorge District is the only lake on the forest listed as impaired by the State of Utah Division of Water Quality. Impairment for this small reservoir is for dissolved oxygen and phosphorus. A TMDL study was completed in 2003. The study determined that the major source of low dissolved oxygen readings in the hypolimnion of the lake is by internal loading from phosphorus bound to sediments carried to the lake after the Weyman wildfire of 1985 (UDWQ 2003). According to the TMDL study reduction in these impairments will be attained with current Forest Service management practices in place. Over time the nutrient-rich sediments present in the lake bottom will be covered by more recent sediments that do not have the high nutrient content associated with those sediments eroded from the Weyman fire.

Municipal Watersheds:

Flaming Gorge District

The town of Dutch John, UT draws its municipal water supply directly from the Flaming Gorge Reservoir. The source protection plan written by the municipality and registered with the Utah State Division of Drinking Water designates source protection zones and assesses potential contamination sources for the Dutch John Municipal watershed. This source protection plan only identifies State Roads 44 and 191 as potential contamination sources from accidental spills, herbicides, and de-icing salts. However, it is also noted that “the Flaming Gorge Reservoir has a low susceptibility to contamination from the state roads.”

Portions of the Flaming Gorge District near Sols Canyon and the Sheep Creek Drainage serve as municipal watersheds for a secondary water supply for the town of Manila, Utah. The town’s primary source of municipal water is a series of wells below the forest boundary. No source protection plan is currently published.

Vernal District

The City of Vernal’s Municipal Watershed is located in portions of the Ashley and Dry Fork and Brush Creek drainages. The Municipality’s source protection plan (Utah Dept. of Environmental Quality, Drinking Water Division; May, 2002) identifies susceptibility to source contamination for this municipal watershed as low, due to the karst geology, the remoteness of the setting and a lack of development, active mining, or permanent residential areas within source protection zones of the watersheds.

The **Red Fleet Municipal Watershed** serves as an alternate public drinking water source for Vernal and other communities in the Ashley Valley. The source protection plan for the municipal watershed identifies sewage and wastewater from Red Fleet State Park, accidental spills from US Hwy 191, and underground storage tanks, sediments, and phosphates from a phosphate mine below the forest boundary as potential contamination sources. However, it is also noted that “the natural setting and remoteness of the watershed decreases the likelihood of contamination” (Drinking Water Source Protection Plan, 2002).

Red Fleet Reservoir, a water body within source protection zone 1 of the drinking water source is currently listed by the State of Utah as impaired for low dissolved oxygen readings. In compliance with the Clean Water Act, the State of Utah is drafting a TMDL study is being drafted to assess the sources of the impairment as well as a plan to restore the water quality of the reservoir.

The **Whiterocks-Tridell Municipal Watershed** is located in the Whiterocks River portion of the Vernal Ranger District. The Whiterocks-Tridell source protection plan identifies Whiterocks Campground, Tribal Lands, and abandoned mines as potential contamination sources to the water supply. The plan lists the Whiterocks River as having a low susceptibility to contamination from Whiterocks Campground, the only contamination source listed under the jurisdiction of the Forest.

Roosevelt-Duchesne District

Portions of the City of Duchesne's Municipal Watershed lie in the Duchesne River, Timber Canyon and Avintaquin Drainages of the Forest. A number of municipal groundwater sources exist on the Roosevelt-Duchesne District. These sources include Stockmore wells north of the town of Hannah and Cow Canyon Springs serving the town of Altamont.

No municipal watersheds exist on the Wyoming portions of the Forest.

3.2.5 Environmental Consequences

Introduction

The following is a discussion of the seven Soil and Water indicators (SWIs) and how they are used to evaluate the differences between alternatives on the soil and water resources. Effects were determined to be an improvement, no change, or degradation to soil productivity. The extent of the effects is relative to each other.

The following effects analysis compares each of the proposed Alternatives (B-E) with the "No Action Alternative"(A). The numeric measures were created as a result of water resource related issues identified during the scoping process. Analysis was made based on scientific literature regarding travel route effects to water resources, field visits to selected sites, and the data available in the forest's GIS database.

3.2.6 Direct and Indirect Effects

While information in the database may not be fully accurate regarding the exact location and alignment for some of the proposed routes as well as the presence of smaller perennial seeps and riparian areas; these mapping limitations were analyzed/applied equally for all alternatives. With large-scale forest-wide applications such as travel plan analysis, the information gathered remains an effective tool for comparing alternatives. As previously mentioned, detrimental effects to water resources can occur from both motorized and non-motorized roads and trails (depending on surface type, slope, alignment, and proximity to wetlands and streams) however research indicates the significant majority of sediment production and its associated effects to water quality comes from unpaved motorized roads and OHV trails (Grace III, 2002, Walsh, 2008).

Direct and Indirect Effects Common to all Alternatives:

Point and non-point related watershed effects will continue to occur along motorized and non-motorized travel routes throughout the forest. Effects include loss of vegetative cover, soil compaction, erosion, and sediment delivery to streams. The degree of such effects will vary based on a variety of factors including: route construction and surfacing, the type, season, and amount of use, the level of maintenance a route receives, its slope and proximity to water, the route density within a watershed, as well as the number and type of stream crossings within a watershed. Adherence to best management practices standards and guidelines regarding road and trail maintenance and construction would reduce the degree of these effects.

Continued motorized use of closed routes, undesignated routes and the further creation of unauthorized routes may occur under all alternatives with potentially adverse effects to soil productivity and water resources. The majority of the unauthorized routes were created without engineering standards or best management practices as to their placement or construction, nor have these routes received maintenance. Effects to soil and water resources from such routes can be more acute than those associated with maintained system routes. Currently estimated at over 1400 miles, the number of undesignated and unauthorized routes on the forest, and how they will be addressed,

poses a potentially greater effect to soil and water resources than which of the proposed alternatives is chosen. Over time with public education, continued enforcement, and signing of authorized routes, it is hoped the occurrence and effects from illegal motorized use will be greatly reduced.

Soil and Water Issue 1 (Soil degradation) Motorized travel (including access to dispersed camping) in areas of sensitive soils such as meadows and alpine may loss of soil productivity and result in detrimental disturbance to soil resources.

The direct detrimental effect of roads to soil resources in open areas, such as alpine, wet and dry meadows, and the Limestone Plateau Association, is unauthorized off-route vehicle use. Indirect effects occur once the number of passes on a newly created route is enough to increase compaction, and alter soil properties. This varies with soil texture and moisture, with wetter, finer soils being more susceptible to degradation (Mayer, 2002).

Alpine

Alpine areas were chosen for this analysis because they are sensitive to disturbance, once vegetation and soil crusts have been removed they are slow to recover and prone to wind and water erosion. Alpine environments are high in elevation, and because of this have short growing seasons. The vegetation tends to be low to the ground, and even where shrubs exist they tend to be dwarfed compared to lower elevations. Alpine areas on the northern portion of the Roosevelt – Duchesne Ranger District (D34) of the Ashley NF are easy to access via motorized travel because of their openness and have evidence of unauthorized use. On the eastern portion of the forest there are no motorized routes in alpine areas although there is visual evidence that unauthorized motorized access is occurring (Draft Ecosystem Report, internal Ashley NF document).

Unauthorized use is already taking place in these areas which are difficult if not impossible to protect with barriers. The more miles of motorized routes there are, the more opportunities there are for unauthorized use. Currently there is approximately eight miles of designated motorized routes (Alternative A) in the alpine. Alternatives B would increase the miles of designated route to 12 miles, followed by C and E at approximately 14 miles. Alternative D retains approximately eight miles of routes however a greater number of these routes are administratively closed and would not be available for motorized travel. All the proposed routes currently exist as system routes or unauthorized routes and designation of the routes would not change the current condition of the soil resources. However, as stated earlier it is the unauthorized cross-country motorized use coming from these designated routes that causes damage to the fragile alpine environment. The more miles of designated routes accessible to motor vehicles the greater the likely-hood of unauthorized route uses. Much of the off-road use occurs during hunting season and so seasonal restrictions have been placed on many of the routes from October 1 through June 1. Even with the seasonal closures the risk of unauthorized cross-county travel remains the highest in Alternatives B, C, and E and may lead to further degradation of soil resources. Because Alternative D administratively closes approximately three additional miles of road than is currently closed it is likely this Alternative would be an improvement to soil resources.

Meadows and Riparian Corridors

Wet and dry meadows are being analyzed because they are open areas that, like alpine, receive unauthorized use when motorized access is close by. Wet meadows in particular are prone to compaction because of the high water table and as a result the hydrologic function of the meadow can be affected. With all the Action Alternatives dispersed camping will be restricted to 150 feet from designated routes, 150 feet from riparian corridors, and crossing a wet meadow or riparian area to access a dispersed camping area would be prohibited. Currently dispersed camping may occur up to 300 feet from designated routes, forest wide and existing, undesignated routes within the hatched

travel area in the Vernal Ranger District. Dispersed camping in riparian areas or crossing meadows is only restricted if resource damage is occurring.

Flaming Gorge Ranger District has approximately 4,886 acres of meadow and riparian areas through which 13 miles of motorized routes pass. All action alternatives would change the current mileage of routes less than one mile. However Alternatives B, C, and E proposed different amounts of new trail construction which could potentially affect stream corridors and/or wet meadows.

Alternative B proposes approximately one mile of new trail construction in proposal 1011. This proposal would provide an alternative route to ATVs which would reduce mixed traffic on the Hickerson Park road, a well groomed and high speed dirt road that goes from the Sheep Creek loop to Spirit Lake. Proposal 1017 would require new construction by routing traffic over Sheep Creek Lake dam to avoid a wet meadow area. Proposal 1011 the east end of the Hickerson Park road by pass route would cross three perennial streams with wet meadow /riparian complexes associated with each. Choice of route would have to avoid wet soils where possible, at least two of the crossings would require culverts or bridges. Cap and gravel may be necessary in portions of wet meadow that could not be avoided. Regardless of the mitigation new construction would result in a loss to soil productivity and degradation to soil resources.

Alternatives C and E propose the same as above as well as proposal 1248 which would create a route linking Red Canyon Lodge with Flaming Gorge Lodge area for ATV's. To achieve this, two miles or more of route would have to be constructed, including possible construction across wet meadow and streams. Depending on where this route would be located, mitigations would be necessary in areas of wetlands, steep slopes, and streams. Again regardless of the mitigation, new construction would result in a loss to soil productivity and degradation to soil resources.

Alternatives B, C and E would determinately disturb soil resources, and reduce soil productivity with the construction of new motorized trail across wet meadows and stream corridors.

Although there is no significant difference in the change of route miles through meadows or riparian corridors between Alternative A and D the reduction of dispersed camping from 300 feet off designated routes to 150 feet coupled with more restrictive guidelines would be expect to result in an overall improvement to soil resources with implementation of Alternative D.

Vernal Ranger District has approximately 9,329 acres of meadow and riparian corridors through which 40 miles of motorized routes pass (including existing, unauthorized routes in the hatched travel area). Alternatives C and E would reduce the miles of routes passing through meadow and riparian corridors to 33 miles, Alternative B 32 miles, and Alternative D 30 miles. Detrimental disturbance should be reduced with implementation of Alternatives B, C, D, and E due to the removal of the open travel area in which existing, undesignated routes are open to motor vehicle use. Detrimental disturbance would continue to occur along designated roads and motorized trails due to permitted limited access for parking and dispersed camping in those areas. However with dispersed camping reduced from 300 feet off designated routes to 150 feet the amount of disturbance would be expected to be less with an overall improvement to soil resources with implementation of the action alternatives. With proper education and enforcement, unauthorized detrimental disturbance should be reduced as only designated routes will be open for travel.

Roosevelt/Duchesne Ranger District (North Unit) has 1,568 acres of meadow and riparian corridors through which pass approximately 4 miles of motorized route, of which almost 0.5 miles is paved. No significant difference exists between the Alternatives at this scale of analysis, and little or no change to the soil resources is expected from the action alternatives. However, with dispersed camping reduced from 300 feet off designated routes to 150 feet the amount of disturbance would be expected to be less with an overall improvement to soil resources with implementation of the action alternatives.

Roosevelt/Duchesne Ranger District (South Unit) has approximately 406 acres of mostly riparian corridors. Alternative A has the highest mileage of routes (approximately one mile). The Action Alternatives vary by approximately 0.2 miles. No significant difference exists between the Alternatives at this scale of analysis and little or no change to the soil resources is expected from the action alternatives. However, with dispersed camping reduced from 300 feet off designated routes to 150 feet the amount of disturbance would be expected to be less with an overall improvement to soil resources with implementation of the action alternatives.

Limestone Plateau Association

The Limestone Plateau Association was included in this analysis as this LTA is a wide open area with few trees to inhibit unauthorized travel. There is a concern because unauthorized use has increased in this area producing resource damage. Because some areas have late hanging snow banks, vehicles drive up steep slopes to avoid the area creating bare soil and erosion. There are no paved roads in this LTA and it exists only on the northern portion of the Roosevelt/Duchesne Ranger District.

Currently on the Limestone Plateau there are approximately 14 miles of motorized system routes. Alternative D would propose the least miles of route with approximately 12 miles followed by Alternatives B, C and E with approximately 15 miles of route. The biggest threat to soils is not so much from the roads, but rather from the opportunities for unauthorized off road travel from these roads as the terrain is open and relatively flat. Seasonal closures can be used to keep the roads closed until the hanging snow banks are gone, and can restrict motorized travel during hunting season when most of the unauthorized off road travel occurs. However, like the alpine, the more miles of designated routes accessible to motor vehicles the greater the likely-hood of unauthorized route uses. Therefore, Alternatives B, C, and E and may lead to further degradation of soil resources, while Alternative D could improve soil resources.

Over all there are less miles of route in Alternative D for the issues identified through the scoping document for the soil resource. For the soil resource Alternative D, which has the fewest miles of routes, would meet the Forest Service goal of maintaining or increasing soil productivity (NFMA) because it is the only alternative that consistently has the lowest number of miles therefore the potential to increase soil productivity whereas Alternative A would maintain soil productivity, and Alternatives B,C and E, which include additional road construction, would decrease soil productivity in areas where this activity takes place.

Soil and Water Issue 2 (Water quality) Water resources may be affected due to increased erosion, degraded soil productivity, compaction, and delivery of sediment into streams.

Miles of unpaved motorized route within 300' of perennial streams

Table 3.2.2 represents unpaved motorized route within 300 feet of perennial streams. The riparian influence zone is considered by many conservation standards to be the zone within 300 feet of perennial streams, lakes and wetlands greater than one acre and is often used when determining riparian buffers (INFISH, 1995). By proximity, activities within this zone have the greatest potential to influence streams and water values. This measure is similar in nature to the surface-water source protection zones set for municipal watersheds; consequently the results are similar to those obtained in the "Municipal Watershed source protection zones 1-2" measure.

Table 3.2.2 Miles of Unpaved Motorized Route Within 300' of Perennial Streams					
RESOURCE AREA	Alt A	Alt B	Alt C	Alt D	Alt E
Flaming Gorge District	18	18	19	16	18
Vernal District	45	40	44	37	40
Vernal District existing undesignated routes in hatched travel area	17	0	0	0	0
Roosevelt-Duchesne District (North)	19	20	20	18.8	19
Duchesne District (South Unit)	17	17	17	17	17
Forest Total	116	95	100	90	95

When compared to the No Action Alternative, Alternative D represents a decrease in unpaved motorized routes within the riparian influence zone (and the highest potential for improvement to water resource conditions within these stream buffers).

Alternative C represents a general increase in these routes except in the case of the Vernal District. Within the Vernal District and when totaled across the Forest, all proposed alternatives represent a reduction in routes and a potential for improved water resource conditions compared to the No Action Alternative. This result can be attributed to the marked reduction in unpaved motorized routes within the Vernal District.

Alternatives B and E were similar, representing marked decreases in motorized routes within the riparian influence zone for the Vernal District. Differences between Alternatives B and E were not discernible at this scale of analysis.

Miles of unpaved motorized route encroaching on perennial streams

Table 3.2.3 displays miles of unpaved motorized route in close proximity (within 50 feet) of perennial channels on the forest. Routes within this zone have a high potential to directly influence bank stability, water quality, and stream function. As such, even small differences between numbers in the alternatives could represent substantial influence on stream health. For this reason results are displayed in the nearest tenths of miles.

Table 3.2.3 Miles of Unpaved Motorized Route Encroaching on Perennial Streams					
RESOURCE AREA	Alt A	Alt B	Alt C	Alt D	Alt E
Flaming Gorge District	11.2	11.7	11.9	10.1	11.1
Vernal District	30.8	31.1	31.9	27.9	31.1
Vernal District existing undesignated routes in hatched travel area	9.6	0	0	0	0
Roosevelt-Duchesne District (North)	3.2	3.3	3.3	3.2	3.3
Duchesne District (South Unit)	.4	.6	.6	.4	.6
Forest Total	55.2	46.7	47.6	42.1	46.1

When comparing forest-wide totals to the No Action Alternative, all proposed alternatives represent a reduction in these motorized routes (a potential for improved conditions to water resources). Alternative D represents the greatest reduction in unpaved motorized routes in this high-risk zone for water resources. No marked difference between Alternatives B and E is apparent at this scale of analysis.

Miles of unpaved motorized route within 300 feet of lakes greater than 1 acre

Table 3.2.4 shows another component of the riparian influence zone concept set in many conservation buffers (INFISH, 1995). For most resource areas there is little change between the alternatives. Alternative C in the Roosevelt-Duchesne District represents a small increase compared to the other alternatives. In the Vernal District Alternatives B-E represents a decrease in routes over the No Action Alternative (potential for improvements in water resource conditions). This is due to reductions in cross-country travel zone routes. In the Flaming Gorge District there is a marked increase in miles of unpaved motorized route in Alternatives B C and E when compared to the No Action Alternative, a potential for degradation to water resources. This result is related to the amount of proposed routes in the district which would access the shoreline along the Flaming Gorge Reservoir.

Table 3.2.4 Miles of Unpaved Motorized Route Within 300' of Lakes >1 acre					
RESOURCE AREA	Alt A	Alt B	Alt C	Alt D	Alt E
Flaming Gorge District	27.0	47.5	47.9	28.8	37.9
Vernal District	8.6	8.4	8.5	8.0	8.4
Vernal District existing undesignated routes in hatched travel area	4.0	0	0	0	0
Roosevelt-Duchesne District (North)	6.2	6.2	7.2	6.1	6.30
Duchesne District (South Unit)	0	0	0	0	0
Forest Total	45.8	62.4	63.4	42.9	52.6

Due to the highly fluctuating water levels inherent to most reservoirs, there is usually limited riparian vegetation along their shoreline. For this reason reservoirs generally are considered to not have riparian zones except where rivers and streams enter the lake pool. The Flaming Gorge Reservoir is an example of such a reservoir. The Utah portion of this lake is within Source Protection Zone 1 of the Dutch John Municipal Watershed. Primarily for reasons of topography the majority of the proposed new routes accessing the lake are outside of this source protection zone in the state of Wyoming.

No lakes greater than an acre are present in the South Unit, as such zero values were obtained for this measure.

Number of crossings of perennial streams by unpaved motorized routes

Table 3.2.5 displays the number of perennial stream crossings along motorized unpaved routes. Such crossings, especially unimproved fords, have the highest potential for increased sediment and hydrocarbon inputs to streams. Though no layer exists in the roads and trails database for the number and location of open ford crossings, it is assumed that analysis of unpaved motorized road and trail crossings would yield similar results for alternative comparison. For this measure Alternatives A and C have the greatest number of these stream crossings, no change from the current condition is anticipated for Alternative C. Alternative D has the lowest number of crossings (a potential for improved water resource conditions). Alternatives B and E has slightly higher number of stream crossing but would still represent an improvement for water resources from the current condition. The reduction of crossing is attributable to the marked decrease in routes currently receiving motorized use within the cross-country travel zone of the Vernal District.

Table 3.2.5 Unpaved Motorized Route Crossings of Perennial Streams					
RESOURCE AREA	Alt A	Alt B	Alt C	Alt D	Alt E
Flaming Gorge District	54	51	54	48	53
Vernal District	97	103	109	96	101
Vernal District existing undesignated routes in hatched travel zone	50	1	1	1	1
Roosevelt-Duchesne District (North)	19	26	28	26	26
Duchesne District (South Unit)	7	8	8	8	8
Forest Average	227	189	200	179	189

Miles of unpaved motorized route within surface and ground water source protection zones 1-3 of municipal watersheds

Table 3.2.6 shows motorized routes on the forest as they relate to municipal watersheds. The chart above depicts by alternative the miles of unpaved motorized route within surface-water source protection zones 1 and 2 present on the forest. These zones lie in corridors along the main perennial channels of the municipal watersheds where point and non-point pollution sources could have increased potential for impairing water quality.

Table 3.2.6 Miles of Unpaved Motorized Route in Municipal Watersheds: Surface Water Source Protection Zones 1-2					
RESOURCE AREA					
Flaming Gorge District	48.3	52.3	54.6	45.7	50.6
Vernal District	71.4	65.7	69.8	63.4	69.3
Vernal District existing undesignated routes in hatched travel zone	24.5	0	0	0	0
Roosevelt-Duchesne District (North)	15.4	16.2	16.2	14.9	16.0
Duchesne District (South Unit)	11.1	11.1	11.1	11.1	11.1
Forest Total	170.7	145.4	151.7	135.0	146.9

For this measure Alternative D represents the least miles of unpaved motorized routes within these source protection zones, thus the highest potential improvement to water resource conditions in these source protection zones when compared to the No Action Alternative and the other proposed alternatives. In most resource areas Alternative C represents the most miles of routes within these source protection zones. Alternatives B and E generally has comparable numbers to the No Action Alternative. In the Vernal district and totaled Forest wide, the No Action Alternative represents the most miles of unpaved motorized route. This is attributable to the amount of undesignated routes in

the cross country travel zone currently used on the district. In Alternatives B – E these routes would no longer be open to use.

Table 3.2.7 displays unpaved motorized routes as they relate to municipal and transient groundwater drinking sources on the Forest. A transient groundwater source refers to wells that provide drinking water only for portions of the year, such as wells for summer homes and campgrounds. While unpaved motorized routes do not pose a potential for direct sediment effects to groundwater sources as they would for surface waters, the potential exists for leaching by contaminant spills or herbicides used in the treatment of noxious weeds which tend to occur and spread along motorized travel routes. However the level of risk from Forest Service noxious weed control practices to groundwater sources is low and further reduced by buffers, the type of herbicide chosen, and best management practices used in the herbicide's application.

Table 3.2.7 Miles of Unpaved Motorized Route in Municipal and Transient Groundwater Source Protection Zones 1-3					
RESOURCE AREA	Alt A	Alt B	Alt C	Alt D	Alt E
Flaming Gorge District	14.9	17.6	17.9	14.6	17.9
Vernal District	14.7	17.6	17.6	14.6	17.2
Vernal District existing undesignated routes in hatched cross-country travel zone	5.7	0	0	0	0
Roosevelt-Duchesne District (North)	30.8	31.2	31.2	28.1	31.2
Duchesne District (South Unit)	0	0	0	0	0
Forest Total	66.1	66.4	66.7	57.3	66.3

For the comparison of routes within groundwater source protection zones there is not a marked variation by alternative in order to show any variation the differences are displayed in tenths of miles. Alternative D represents a small decrease in routes (potential for improved water resource conditions) compared to the No Action Alternative. Alternatives B, C, and E represent small increases in routes (virtually unchanged from Alternative A) with no significant differences apparent between them.

No municipal or transient groundwater drinking sources were present in the South Unit as such zero values were obtained.

Miles of unpaved motorized route in 303(d) and 305(b) listed impaired watersheds.

Table 3.2.8 shows total miles of unpaved motorized route in watersheds on the forest that are listed as impaired by the State of Utah Division of Water Quality for not fully supporting beneficial use standards (see previous discussion on water quality.) Except for Alternative D there is an increase in unpaved motorized routes for the proposed alternatives. This number represents all unpaved motorized routes within these watersheds, not specifically those in close proximity to streams or other water resource values. As such this measure, while useful for comparison, may not be as significant a water resource indicator as others in this analysis.

Table 3.2.8 Miles of Unpaved Motorized Route in 303(d) and 305(b) Listed Watersheds					
RESOURCE AREA	Alt A	Alt B	Alt C	Alt D	Alt E
Flaming Gorge District	0	0	0	0	0
Vernal District	21	22	22	21	21
Roosevelt-Duchesne District (North)	34	34	34	34	34
Duchesne District (South Unit)	137	142	145	135	141
Forest Total	192	199	202	191	197

In resource areas on the forest which have 305(b) and 303(d) listed watersheds Alternative D would have the least number of unpaved motorized routes, followed by the No Action Alternative, Alternative E, Alternative B, with Alternative C having the highest number of these routes. This would indicate Alternative D as having the highest potential for improvement in water resource conditions within these impaired watersheds, with Alternatives B, C, and E having the increased potential for degradation.

Site Specific Comparisons of Alternatives:

A number of travel proposals carried forward in some alternatives involve opening motorized use on currently undesignated/unauthorized routes or on routes that would involve new construction. Some of these routes were identified as having a potential risk to water resources by their proximity to streams and wetlands and existing or potential erosion, rutting, and sediment transport issues identified during field visits. Specific proposals which would require new construction, substantial mitigation, or maintenance needs if implemented are shown in Table 3.2.9.

Table 3.2.9 Specific Mitigation, Maintenance, or Other Needs by Proposal and Alternative		
Proposal	Description	Alternatives containing motorized use
1011.3	Portions of route may involve new construction. Route crosses three perennial stream/seeps with wet meadow habitat. Mitigation may include moving route with new construction, cap and graveling of meadow portion of route, culverts or bridges over some streams. Stream alteration permit (CWA sec. 404) may be required.	B, C, E
1017.2	Portions of route involve new construction. Alignment of route would pass over dam at Sheep Ck Lake to avoid wet meadow and stream crossing.	B, C, E
1248.2	Portions of route involve new construction. Depending on alignment substantial mitigation may be necessary	C,E
2028	Route crosses terrain with frequent seeps and wet pothole ponds. Frequent improved stream crossings and trail surfacing may be required if opened to motorized use.	C

Table 3.2.9 Specific Mitigation, Maintenance, or Other Needs by Proposal and Alternative		
Proposal	Description	Alternatives containing motorized use
2038	Existing motorized trail with resource damage occurring in meadows and on slopes. Maintenance needs include rerouting around wet meadows and reengineering on steep slopes. Proposal to close all or portions of trail to motorized use.	A, C, E (partial)
2039	Existing motorized trail with resource damage occurring in meadows and at stream crossings. Maintenance needs would include large portions of route being relocated away from stream corridor and wetlands with a reduction to the minimum stream crossings needed of Big Brush Creek.	C
2050	An existing motorized trail which passes through terrain with seeps and wet meadows. Portions of trail pass through wet soils with rutting occurring. Maintenance needs to reduce resource effects would involve relocating routes out of meadows and surfacing of trail where relocation is not possible.	A, B, C, E
2090	Route ascends up several steep slopes with erosion gullying present. Sections of trail would need engineering to reduce erosion hazard. Possibly (switchbacks, waterbars, gravel surfacing) numerous spur routes off trail would need blocking to prevent continued motorized use.	C
2129, 2130	Route may involve new construction to form connection with other motorized routes. As drawn route passes through bouldery terrain with dispersed wet seeps. Trail surfacing and stream alteration permit (CWA sec 404) may be required. Barriers would be needed at intersection of trail if proposal to close trail to motorized use is brought forward (Alt's B, D, and E). Route would designate motorized travel to OHVs greater and less than 50" axle width. The route forms connection with motorized trail open to ATV's <50". Barrier at connection would have to be constructed to prevent <50" use beyond this point.	B, C, E
2144	Route would involve new construction. Its creation would bypass and allow closure of currently ATV trail with pronounced soil and water resource damage occurring along it. Would constitute an overall benefit to water resources in the area if proposal were adopted	B,C,D,E
3074.6	Portions of route would involve surfacing in wet meadow and improvement of perennial stream crossings (may require stream alteration 404 permit) or rerouting the trail on hillside avoiding the meadow and stream. Construction on hillslopes may involve cutting and fill to develop a trail prism.	B, C, E
3013	Route would involve new construction along contouring hillslopes with 10-40% gradient. Construction would involve cutting and filling of slope for development of trail prism.	B, C, E

Water Resources Conclusion of Alternatives:

Based on overall measurements of the indicators discussed above, the proposed alternatives have been categorized in Table 3.2.10 relative to their potential adverse effects on water resources.

Table 3.2.10 Potential Adverse Effects on Water Resources by Alternative				
Alternative A No Action Alternative	Alternative B Preferred Alternative	Alternative C	Alternative D	Alternative E
Highest number of potential adverse effects	Moderate number of potential adverse effects	Higher number of potential adverse effects	Minimal number of potential adverse effects	Moderate number of potential adverse effects

Of the proposed alternatives, Alternative D represents the lowest potential for adversely affecting water resources. Alternatives B and E represent higher potential for adverse effects relative to Alternative D, lower potential for adverse effects when compared to Alternatives C and A. At the scale of analysis used in comparing the alternatives, a marked difference between potential effects associated with Alternatives B and E is not apparent. In the Flaming Gorge District Alternative E represents a reduced potential for water resource effects than Alternative B. In the remaining districts of the Forest Alternative B represents the reduced potential for water resource effects of these two Alternatives.

Compared to the other alternatives, proposed Alternatives C and A represent a higher potential for adverse water resource effects with Alternative A representing the highest relative potential for adverse water resource effects.

Mitigation

For those unauthorized routes that would be designated as motorized routes, the potential for adverse travel-related effects to soil and water resources can be reduced by following standards and guidelines regarding trail and road location, construction and maintenance found in Forest Service handbooks 2509.22 (chapter10), 2309.18 (chapters 3, 4, 10 and 20), 7709.57 and 7709.58.

Other site specific mitigation can include: seasonal closure of routes in areas prone to seasonally wet soils, rerouting sections of motorized trail which traverse meadows and wet soils, use of bridges or hardened fords at stream crossings, and in areas with fine grained substrate (prone to erosion) surfacing OHV trails 200 feet either side of perennial stream crossings with gravel. See Soil and Water Resource Report for site specific mitigation.

For routes not currently in the travel system, full implementation of a selected action alternative would not occur until mitigation is met.

3.2.7 Cumulative Effects

In Travel Plan analysis, any route or trail that is not decommissioned can contribute to an overall cumulative effect on soil and water resources. Past and present Forest Service activities creating both permanent and temporary roads and trails include: vegetation management projects (such as timber sales, wildlife habitat enhancements, and prescribed fire,) roads created for mining and oil and gas development, developed and dispersed recreation, as well as routes associated with special use permits allowing motorized access along utility corridors, irrigation canals, water wells, and range improvements. Unauthorized motorized use would continue to be a problem that adversely affects

soil productivity and water quality. Problems are expected to occur adjacent to designated roads and motorized trails, especially on the open rangelands and ridge tops.

Reasonably foreseeable future projects that could either temporarily or permanently add to the miles of route include: Oil and gas development and exploration, timber salvage, vegetation management, recreation trail re-routing, and prescribed fire.

Soil Resource Cumulative Effects

Cumulative effects boundaries are analyzed within the Forest boundary excluding the High Uintas Wilderness which receives no motorized use. Any route or trail that is not decommissioned can contribute sedimentation to streams and other water bodies impairing water quality. Erosion and compaction from routes and trails diminishes soil productivity.

Cumulative Effects to Alpine

Activities that have taken place in alpine areas include mining, vegetation management, dispersed recreation, utility access and grazing. Motorized routes are associated with all of these uses and even if the activity itself does not occur in the alpine areas, the road can bisect the alpine landscape. Hiking trails also exist in these areas Forest-wide and can be responsible for degraded water quality and soil productivity especially when poorly placed. Motorized routes and trails in all action alternatives except for alternative D would increase miles of route in alpine areas of the Roosevelt-Duchesne District. Since dispersed camping would be excluded from most alpine areas, and in those areas where it would be allowed the camping area would be reduced from 300 to 150 feet soil productivity would be improved for the dispersed camping activity. However, since the current condition in alpine areas is a tendency to create unauthorized motorized routes off existing travel routes, additional miles of route would create more opportunities for unauthorized use.

Cumulative effects from past and present activity and increased miles of route associated with Alternatives B, C and E would degrade soil productivity in alpine areas. Alternative D would decrease miles of route in alpine areas and not add to cumulative effects.

Cumulative Effects to Limestone Plateau Association

Activities that occur on the Limestone Plateau Association (LPA) of the Roosevelt-Duchesne Districts include mining, vegetation, management, grazing, hiking, and dispersed recreation. Much of this area is open and easy to access from existing routes and unauthorized use exists here as it does in alpine areas. Increased miles of motorized route in Alternatives B, C and E would degrade soil productivity in the LPA by providing more motorized route through areas where unauthorized access is probable. Alternative D decreases the number of miles of route in this area and would improve soil productivity.

Cumulative effects from past and present activity and increased miles of route associated with Alternatives B, C, and E would degrade soil productivity in the LPA. Alternative D would decrease miles of route in the Limestone Plateau Association and not add to cumulative effects.

Cumulative Effects to Wet Meadows and Riparian Corridors

Wet meadow areas and riparian corridors are widely dispersed throughout the forest and as a result they are more prone to be in areas where management activities take place. Activities such as: vegetation management, oil and gas development, mining, hiking, grazing, utility corridors, dispersed and developed camping, and irrigation canals utilize soil resources for both motorized and foot routes and trails to access the area of use. Wet meadow areas exist in the hatched travel area of the current travel plan on the Vernal Ranger District, with approximately ten miles of motorized route going through wet meadows and riparian corridors. The hatched travel area would not be in any of the action alternatives therefore overall miles of route are less in all of the action alternatives inside the

hatched travel area. Approximately three miles of new construction would take place on the Flaming Gorge Ranger District in Alternatives B, C and E with possible passage through wet meadow and riparian corridor areas causing degradation to soil productivity. Dispersed camping would be decreased from 300 feet to 150 feet which should improve soil productivity.

Cumulative effects from past and present activity and action alternatives would be minimal for wet meadow and riparian corridor areas as overall there would be fewer routes and decreased dispersed camping areas. In the reasonably foreseeable future however, proposed oil and gas development would increase motorized routes and add well pads that could potentially affect wet meadow and riparian corridors as the area where this activity would take place is Sowers Canyon with a perennial stream on the South Unit of the Roosevelt-Duchesne Ranger District.

Overall there would be a reduction of miles of motorized routes traversing through wet meadows and riparian corridors in all action alternatives from the current condition.

Water Resource Cumulative Effects

Cumulative effects to water resources were analyzed within the Forest boundary. Cumulative effects were also analyzed outside of the Forest boundary when assessing potential effects to state-listed municipal watersheds and 303(d)/305(b) listed watersheds located within and adjacent to the Ashley National Forest.

Non-Travel Plan related cumulative effects

Past, present, and reasonably foreseeable management activities on the forest (detailed in section 3.12 of EIS) pose potential cumulative effects to water resources in varying ways.

Roads and trails associated with the transportation network (forest, state, and federal) recreation, oil and gas development, alternative energy developments, utility corridors, vegetation management projects (including timber harvest, wildlife habitat management and fuels reduction), grazing improvements, drinking water developments, and mining operations on the Forest can affect the hydrologic regime by collecting and altering surface water flow, impeding infiltration, accelerating delivery of storm water sediment and other pollutants to stream channels. These affects can in turn alter stream bank stability and water quality.

Grazing by (livestock, horse and pack stock, and wildlife) can potentially affect water resources through physical alteration of stream banks, vegetation use of streamside meadow and riparian zones and the impairment of water quality.

Prescribed fire and wildfire can affect water resources by increasing water and sediment yield to streams as well as increases in pH, nitrates, phosphorus, and other nutrients associated with sediment delivery. Affects to a watershed can vary depending on the amount and severity of a burn, residual organic material left in the soil, the riparian vegetation remaining after a burn, slope, inherent soil conditions and the potential for vegetative recovery. In the case of wildfire these affects can be far more acute and widespread with impacts lasting up to decades (Robichaud, 2000).

Timber management can alter the water yield and timing of annual peak runoff within snowmelt-dominated watersheds. Depending on the amount of a watershed managed changes in flows can affect stream channel stability.

Recreation activities in close proximity to water can have localized effects to bank stability and increased sediment inputs to streams. Dispersed camping can pose an additional risk to water quality through delivery of fecal-colliform and other contaminants to streams. Fishing and other aquatic activities can additionally contribute to the spread of invasive aquatic species.

Noxious weed management can pose a localized effect to water quality by risk of herbicide inputs to streams and water bodies. Noxious weeds if uncontrolled can result in widespread watershed degradation by decreasing bank stability and increasing sediment inputs from decreasing

Reservoirs, canals and other water diversions can displace wetland habitat, interrupt seasonal cycles of high and low stream flows, dewater channels, while augmenting flows to other channels leading to channel erosion, sedimentation, and bank instability.

Cumulative Effects: by Water Resource Measures

The measures used in this Travel Plan analysis (“Miles of Unpaved Motorized Route in Municipal Watersheds: Surface Water Source Protection Zones 1-2,” “Miles of Unpaved Motorized Route Within 300’ of Perennial Streams,” “Miles of Unpaved Motorized Route Encroaching on Perennial Streams,” “Miles of Unpaved Motorized Route Crossing Meadow and Riparian Willow Habitat,” and “Unpaved Motorized Route Crossings of Perennial Streams”) indicate for all proposed Alternatives B-E an overall (Forestwide) reduction in routes and their effects compared to the current condition (Alternative A.) This is largely attributable to the reductions in undesignated routes currently under use in the Vernal Ranger district.

The measures “Miles of Unpaved Motorized Route Within 300’ of Lakes >1 acre” and “Miles of Unpaved Motorized Route in 303(d) and 305(b) Listed Watersheds” indicate an overall increase in route-related cumulative effects over the current condition for proposed Alternatives B, C and E. In the case of the lakes measure this is attributable to adoption of additional routes around the Flaming Gorge Reservoir.

For the “Miles of Unpaved Motorized Route Within Transient Groundwater Source Protection Zones 1-3” measure there was little discernible difference between the proposed alternatives over the existing condition. For this measure there was no discernible contribution to cumulative effects.

Water Resource Cumulative Effects Conclusions: by Alternative

Alternative B

By five of the eight measures this alternative reflects the potential for an overall decrease in route-related cumulative effects to water resources. This reduction is most pronounced in the Vernal District.

In the Flaming Gorge District there would be an increase in routes within 300’ of lakes, due to adoption of currently unauthorized routes near the Flaming Gorge Reservoir. On the South Unit of the Duchesne district there would be a 5 mile increase in motorized routes within 303(d) and 305 (b) listed watersheds due to adoption of currently unauthorized routes. Within these same watersheds however the miles of unpaved motorized routes within 300’ of perennial streams would remain unchanged.

Forest-wide approximately 1.6 miles of new construction of motorized trail would be associated with this alternative.

Potential effects from these routes could add to cumulative effects in the localized areas mentioned, while Forest-wide a reduction in travel route related cumulative effects to water resources would occur.

Alternative C

By five of the eight measures this alternative reflects an overall decrease in route-related cumulative effects to water resources when viewed Forest-wide. This reduction mainly associated with the reduction of currently undesignated motorized routes within the Vernal District.

On the Flaming Gorge District, adoption of currently unauthorized motorized routes would result in additional localized effects to water resources based on measures for buffers within 300' of lakes, perennial streams, and surface water source protection zones of municipal watersheds.

On the Roosevelt and Duchesne Districts Alternative C would result in additional localized effects based on measures for buffers within 300' of perennial streams, and unpaved motorized route crossings of perennial streams.

Forest-wide approximately 2.7 miles of new construction of motorized trail would be associated with this alternative.

When compared to the current condition, potential effects from Alternative C could add to cumulative effects in the localized areas mentioned, while Forest-wide a reduction in travel route related effects to water resources would occur. This reduction is the least of the proposed alternatives.

Alternative D

By seven of the eight measures this alternative reflects the potential for an overall decrease in route-related cumulative effects to water resources on the Forest. The remaining measure (the 300 foot buffer to lakes greater than an acre) would represent no additional cumulative effect to the current condition.

No new construction of motorized routes would be associated with this alternative. Both Forest-wide and locally this alternative would represent the greatest reduction in travel route effects to water resources.

3.2.8 Forest Plan Consistency

While all the action alternatives would meet Forest Plan Standards and Guidelines for soil resources, Alternative D, which has the fewest miles of designated routes, would meet the Forest Service goal of maintaining or increasing soil productivity (NFMA) because it is the only alternative that consistently has the lowest number of miles therefore the potential to increase soil productivity. Alternative A would maintain soil productivity, and Alternatives B, C and E, which include approximately three miles of new road construction, would decrease soil productivity in areas where this activity takes place.

Alternative D would also meet the Forest Plan goal of improving and conserving basic soil resources protecting the watershed from erosion by decreasing the number of miles of hardened surface that channel flow and sediment into water ways and wet meadows. The overall cost of protecting resources would be less where there are fewer routes to provide access to sensitive areas.