

MONTPELIER CREEK WATERSHED ROADS ANALYSIS

The following roads analysis was conducted to assess the existing road system and potential concerns for building new roads in the Montpelier Creek Watershed. All projects involving road construction, reconstruction, or road closures with a decision date after January 24, 2002, require a roads analysis.

Roads analysis is an integrated ecological, social, and economic approach to transportation planning, which addresses both existing and potential future roads (USFS 1999). This roads analysis follows the process outlined in the document “**Roads Analysis: Informing Decisions About Managing the National Forest Transportation System**”, (USFS 1999). This is not a NEPA document, but rather a site-specific analysis that defines the existing and desired conditions of the road system, and opportunities are identified to move towards the desired condition. This analysis provides a framework to identify road related concerns and management opportunities that can be incorporated into subsequent projects being evaluated through the NEPA process. If necessary, a Forest Plan amendment will be considered.

Step 1. Setting up the Analysis

-Statement of the objectives of the analysis.

*To analyze the present and projected road system needed in the Montpelier Creek Watershed. The scope for this analysis was determined by the product it supports – a watershed assessment. **Three key roads, Home Canyon, Crow Creek, and State Highway 89, exist in the watershed. These three roads are included in the Forest-wide roads analysis completed in support of the Revised Forest Plan (2003). This analysis will attempt to add to, not repeat the information included in that analysis. A complete list of roads within the watershed is included as a table at the end of this analysis.***

-List of interdisciplinary team members and participants.

Dennis Duehren, Team Leader, Ann Keysor, Wildlife Biologist, Casey Foos, Soil Scientist, Jim Capurso, Fisheries Biologist, and Jim Laprevote, Hydrologist.

Step 2. Describing the Situation

Refer to the map in the watershed analysis, chapter 1.

The majority of the watershed is within one of three roadless areas; Meade Peak, Hell Hole, and Telephone Draw. Two primary roads in the watershed separate these roadless areas; Crow Creek Road, and State Highway 89. Home Canyon Road is a significant incursion into the Meade Peak Roadless Area. Motorized trail exist in all three roadless areas.

Step 3. Identifying Issues

-Summary of key road-related issues, including their origin and basis. The issues will be presented by general category (environmental, sociocultural, and economic).

Issues were identified by forest specialists and line officer. The issues include;

- *Impacts to riparian areas.*
- *Access for management activities.*
- *Recreation impacts and need for access.*
- *Road density.*

-Description of the status of current data, including sources, availability, and methods of obtaining information.

The forest's resource database and various specialist databases are the most current information available for the Roads Analysis Area.

Step 4, Assessing Benefits, Problems, and Risks.

-A synthesis of the benefits, problems, and risks of the current road system.

Each of the 71 questions was addressed in detail by the ID team and they are listed below in the document.

-An assessment of the risks and benefits of entering any unroaded area.

Covered in the 71 questions, listed below.

-An assessment of the ability of the road system to meet objectives.

Again, the 71 questions address the ability of the road system to meet objectives.

THE FOLLOWING ARE THE QUESTIONS THAT WERE ADRESSED BY THE INTERDISCIPLINARY TEAM AS PART OF STEP 4.

Ecosystem Functions and Processes (EF)

EF (1): What ecological attributes, particularly those unique to the region, would be affected by roading of currently unroaded areas?

1. Roads have the potential of affecting Bonneville cutthroat trout populations and habitat.
2. Roads in previously unroaded areas would likely accelerate access for a variety of Forest management activities, including timber harvest, and will change the amount, pattern, and composition of forest cover. This may lead to a change in terrestrial wildlife and ecological processes.
3. Roads in unroaded areas could contribute to the spread of invasive species.

EF(2): To what degree do the presence, type, and location of roads increase the introduction and spread of exotic plant and animal species, insects, diseases, and parasites? What are the potential effects of such introductions to plant and animal species and ecosystem function in the area?

1. Roads serve as a corridor for the spread of exotic plants. Highway 89 serves as a busy interstate highway increasing the potential for introducing invasive species.
2. Montpelier Creek, Whiskey Creek, and the lower end of Home Canyon Creek contain Bonneville Cutthroat Trout. Some rainbow and brook trout exist in Montpelier Creek below the reservoir in the stream and in a small rearing pond. The reservoir itself has species of trout, perch, and salmon.
3. There are no known exotic insect, diseases, or parasites in the area.
4. The potential effects of new introductions (weeds) is a reduction in quality forage for wild and domestic animals and possible reduction in soil protection.

EF(3): To what degree do the presence, type, and location of roads contribute to the control of insects, diseases, and parasites?

1. Roads offer good opportunity to contribute to the control of disease, and insects in Home Canyon; eg: access to treat them. Other forested areas of the watershed are not accessible with the existing road system.

EF(4): How does the road system affect ecological disturbance regimes in the area?

1. Ecological disturbances include fire, insects, weather, and disease. The road system does not affect these regimes except for providing access for fire suppression and salvage opportunities. Ecological disturbances include natural rates of erosion. The road system potentially alters the hydrologic function by changing the surface flows, subsurface flows, and discharge points and rates. Home Canyon Road, Crow Creek Road in Snowslide Canyon, and Highway 89 have resulted in some channelization of the accompanying stream. Montpelier reservoir alters the timing of water movement in the system and sediment delivery downstream.

EF(5): What are the adverse effects of noise caused by developing, using, and maintaining roads?

1. The adverse effect is limited to a short-term disturbance for individuals seeking peace and quiet. The 2-year reconstruction of Highway 89 represents a significant road-related noise event.
2. Wildlife may be temporarily disturbed and displaced by noise from road development, use, and maintenance.

Aquatic, Riparian Zone, and Water Quality (AQ)

AQ(1): How and where does the road system modify the surface and subsurface hydrology of the area?

1. Roads intercept ground and surface water, channeling it into ditches and through culverts, altering natural flows. Home Canyon, Snowslide Canyon, and Highway 89 contain segments that were built in the floodplain, causing both a

- channelization of the stream and reducing the acres of floodplain available for flood water energy dispersion. Flood water energy is rarely an issue for Montpelier Creek because of the reservoir. Home Canyon only experiences flooding occasionally.
2. Compacted surfaces of roads decrease infiltration into ground, increasing surface runoff.

AQ(2): How and where does the road system generate surface erosion?

1. Most of the roads in the analysis area produce sediment to some degree. Some deliver sediment directly into the stream channel. This would include areas in Home Canyon, Snowslide Canyon, and some places along highway 89 where the fill slope is very close to the stream.

AQ(3): How and where does the system affect mass wasting?

1. No known mass wasting related to the road system.

AQ(4): How and where do road-stream crossings influence local stream channels and water quality?

1. All road crossings of streams have affected stream channels and water quality to some degree. All crossings in the watershed are culverts, only one, under highway 89 is an open-bottom style. Crossings are a source of sediment delivery. Culverts represent a possible constriction which increases water velocities, possible fish barriers, and points where debris can collect and dam run-off until failure occurs.

AQ(5): How and where does the road system create potential for pollutants, such as chemical spills, oils, de-icing salts, or herbicides to enter surface waters?

1. Highway 89 has the most potential because of the volume of traffic. De-icing salts and sand likely reach Montpelier Creek. The remaining roads are not often traveled by vehicles with large loads of pollutants. There is some potential for introducing pollutants at the Montpelier Canyon Campground but this campground sees very limited use. There is some potential with the Elbow camping area below the reservoir to introduce pollutants to the creek, where camping occurs virtually on top of the stream. This should be reduced dramatically following wetlands mitigation installed in the summer of 2002. Barrier rock was placed to limit where campers and vehicles could park.

AQ(6): How and where is the road system hydrologically connected to the stream system? How do the connections affect water quality and quantity (such as delivery of sediments, thermal increases, elevated peak flows)?

1. Any road that has drainage is hydrologically connected to streams. Roads are directly connected to their streams at crossing points and can allow sediment delivery to the channels at these points. Highway 89 is hydrologically connected at the point it crosses (with culverts) side drainages to Montpelier Creek. These may act to deliver sand and de-icing salts to the creek. The canyons are too narrow and tree vegetation is mostly unaffected by the roads, therefore thermal protection and natural accumulations of debris is maintained. Roads do not affect peak flows.

AQ(7): What downstream beneficial uses of water exist in the area? What changes in uses and demand are expected over time? How are they affected or put at risk by road-derived pollutants?

1. Beneficial uses include cold water biota and agricultural uses (irrigation). Use levels are expected to remain at current levels on Forest roads. Highway 89 will likely see increased traffic. Cold water biota may be affected by sedimentation and de-icing salts.

AQ(8): How and where does the road system affect wetlands.

1. Parts of Highway 89, Home Canyon Road, and Crow Creek Road in Snowslide Canyon are built through wetlands. Impacts include the loss of wetland acres and isolation of areas of previous floodplain.

AQ(9): How does the road system alter physical channel dynamics, including isolation of flood plains; constraints on channel migration; and the movement of large wood, fine organic matter, and sediment?

1. See AQ(6) and AQ(8). In addition, Highway 89 effectively limits channel migration in several places.

AQ(10): How and where does the road system restrict the migration and movement of aquatic organisms? What aquatic species are affected and to what extent

1. Near the bottom of Home Canyon, the road fills a narrow gorge referred to as “the narrows”. A large culvert is set above the stream level so that nearly all of the summer flow goes through the large rock substrate below the culvert. Bonneville cutthroat trout were surveyed below this point. No fish exist above this culvert but the live water only goes up canyon for a couple of 100 yards where it originates from several springs. There is live water further up Home Canyon that originate from other springs but these surface flows sub underground and only during spring run-off do they periodically connect.
2. There are two possible barriers on Montpelier Creek. One is a gauging station just below the Montpelier Creek Campground, the other is the remains of a small reservoir on the Forest boundary. In both cases the water flows over a broad cement angled wall with little opportunity to jump from pool to pool.

3. No other road related barriers were identified. The Montpelier Reservoir and the dewatering of Montpelier Creek before reaching the Bear River are two other significant barriers to fish movement and genetic connectivity.

AQ(11): How does the road system affect shading, litterfall, and riparian plant communities?

1. Little to no effect on shading and litterfall as explained in AQ(6). There is some loss of riparian plants where the roads encroach on riparian areas.

AQ(12): How and where does the road system contribute to fishing, poaching, or direct habitat loss for at-risk aquatic species?

1. Highway 89 provides direct access to Montpelier Creek.

AQ(13): How and where does the road system facilitate the introduction of non-native aquatic species?

1. Highway 89 provides direct access to Emigration Creek and F&G has stocked non-natives. Non-native fish have been planted in the reservoir and can migrate up stream.

AQ(14): To what extent does the road system overlap with areas of exceptionally high aquatic diversity or productivity, or areas containing rare or unique aquatic species or species of interest?

1. Highway 89 and the first 0.5 miles of Home Canyon are immediately adjacent to Bonneville Cutthroat Trout streams.

Terrestrial Wildlife (TW)

TW(1): What are the direct effects of the road system on terrestrial species habitat?

1. Highway 89 is wide and busy enough to cause fragmentation of terrestrial habitat for many species. The remaining roads in the area are narrower and use is less frequent, causing fragmentation of habitat for far fewer species (only those that perceive the opening as a barrier to movement). Riparian corridors are fragmented for some species by road crossings.

TW(2): How does the road system facilitate human activities that affect habitat?

1. The road system allows people to access the National Forest for a variety of habitat altering activities. Logging in Home Canyon has altered forested habitat and grazing and prescribed burns have altered rangeland habitat. Firewood gathering removes standing snags and down woody debris. Camping can alter

vegetation and provide short term disturbances. Roads provide access to motorized trails, the use of which affects the habitat along a corridor.

TW(3): How does the road system affect legal and illegal human activities (including trapping, hunting, poaching, harassment, road kill, or illegal kill levels)? What are the effects on wildlife species?

1. The road system provides access corridors for legal and illegal hunting. Road kill is low except along highway 89, along which, following the new construction, road kill is likely to increase. Poaching levels are unknown. Big game populations meet or exceed F&G objectives. The area is within a F&G hunt unit that has seen an increase in elk hunting tags and lengths of season.

TW(4): How does the road system directly affect unique communities of special features in the area?

1. There are no unique communities of special features in the area.

Economics (EC)

EC(1): How does the road system affect the agency's direct costs and revenues? What, if any, changes in the road system will increase net revenue to the agency by reducing cost, increasing revenue, or both?

1. The agencies direct costs include; annual road maintenance. Highway 89 is a State highway – no Forest Service money is involved with it's maintenance.
2. The agency derives direct revenue from grazing, timber harvest, special use permits, Montpelier Canyon Campground, firewood permits, and Christmas tree permits.
3. Improvements to alignment and surfaces would reduce costs of maintenance and potentially increase harvest opportunities, which contribute revenue.

EC(2): How does the road system affect priced and non-priced consequences included in economic efficiency analysis used to assess net benefits to society?

1. Priced consequences are documented in EC(1). Non-priced consequences are those which have no fair-market-value but have a value nonetheless. These relative values and the consequences are documented in many of the other questions concerning water quality, wildlife habitat, societal values, etc.

EC(3): How does the road system affect the distribution of benefits and costs among affected people?

1. The road system is open and free to everyone (benefits). The cost of the system is borne through a combination of state and federal taxes. Many people who do not directly benefit from the road system, contribute to the cost of it.

Timber management (TM)

TM(1): How does road spacing and location affect logging system feasibility?

1. Home Canyon is the only area of the watershed with forested stands and a timber management prescription in the Revised Forest Plan. The current network of roads is sufficient for long term management purposes, only short temporary roads would be necessary for further harvest activities. All of the suitable ground is suitable for tractor yarding. Some old roads that are open now are not necessary for future harvest but are used by hunters and firewood gatherers.

TM(2): How does the road system affect managing the suitable timber base and other lands?

1. See TM(1) above. Other forested lands, not in the suitable base, are less effectively accessed by the existing roads and primarily in the Meade Peak Roadless Area.

TM(3): How does the road system affect access to timber stands needing silvicultural treatment?

1. The majority of conifer stands (>90%) are mature to old (>120 years old) and are in need of some silvicultural treatment. Access is adequately described in TM(1) and TM(2).

Minerals management (MM)

MM(1): How does the road system affect access to locatable, leasable, and salable minerals?

1. The only known mineral in the watershed is phosphate located on State lands at the Forest boundary.

Range management (RM)

RM(1): How does the road system affect access to range allotments?

1. Access is adequate for delivery and recovery of cattle and for administration. Horse's and ATV's are needed for distributing salt and maintenance of range structural improvements.

Water production (WP)

WP(1): How does the road system affect access, constructing, maintaining, monitoring , and operating water diversions, impoundments, and distribution canals or pipes?

1. Range developments in this watershed are often not accessed directly by the road system. The spring development and water delivery to the homes at the bottom of Home Canyon is directly accessed by the road system. The reservoir and the storage tank at the Forest boundary are also directly accessed by the road system.

WP(2): How does road development and use affect the water quality in municipal watersheds?

1. Not local municipal watershed. Montpelier derives it's water from wells.

WP(3): How does the road system affect access to hydroelectric power generation?

1. N/A for this roads analysis.

Special forest products (SP)

SP(1): How does the road system affect access for collecting special forest products?

1. Access is provided except along highway 89. Firewood and Christmas trees are not allowed to be gathered along the highway corridor (safety reasons). Berry picking is popular throughout the area.

Special-Use Permits (SU)

SU(1): How does the road system affect managing special-use permit sites (concessionaires, communications sites, utility corridors, and so on)?

1. See WP(1).

General Public Transportation (GT)

GT(1): How does the road system connect to public roads and provide primary access to communities?

1. Highway 89 is a State highway between Bear Lake County and Wyoming. The Forest Service road system connects directly to Highway 89. Crow Creek Road connects to county roads in Wyoming.

GT(2): How does the road system connect large blocks of land in other ownership to public roads (ad hoc communities, subdivisions, inholdings and so on)?

1. There is one State of Idaho section of land in Home Canyon that is accessed by the Home Canyon Road, another State section is poorly accessed by the Giveout Ridge Road. There are two private in holdings, both accessed by the Crow Creek Road.

GT(3) How does the road system affect managing roads with shared ownership or with limited jurisdiction? (RS 2477, cost-share, Prescriptive rights, FLPMA easements, FRTA easements, DOT easements).

1. Crow Creek road is maintained by Bear Lake County.

GT(4): How does the road system address the safety of road users?

1. Most of the dirt roads are safe to travel on with high clearance vehicles in dry or frozen conditions, however short sight distances and a lack of turnouts exist. Some roads (Giveout Ridge Road) require four wheel drive vehicles regardless of weather conditions. Highway 89 and the Crow Creek Road up to the boat ramp on the reservoir are suitable for passenger cars. A gate at the bottom of Home Canyon is used to control access in the spring to prevent road damage.

Administrative uses (AU)

AU(1): How does the road system affect access needed for research, inventory, and monitoring?

1. Road access is available but there is no ongoing research, and limited inventory and monitoring except that which is necessary for administration of permitted activities.

AU(2): How does the road system affect investigation of enforcement activities.

1. The roads do not hinder, nor significantly enhance law enforcement investigations.

Protection (PT)

PT(1) How does the road system affect fuels management?

1. Highway 89 provides efficient access for fire suppression but Forest Plan visual quality objectives will limit fuels management opportunities. The remaining system provides adequate access for suppression or fuel management activities.

PT(2) How does the road system affect the capacity of the Forest Service and cooperators to suppress wildfires?

1. See PT(1).

PT(3) How does the road system affect risk to firefighters and to public safety?

1. Home Canyon is the only place in the watershed where the road system allows only one way in and out. There is little threat of the public or firefighters being trapped by wildfire because fuel types would not present an intense enough fire along the road.

PT(4) How does the road system contribute to airborne dust emissions resulting in reduced visibility and human health concerns?

1. The volume of dust does not represent a threat to visibility or health.

Unroaded Recreation (UR) & Roded Recreation (RR)

UR(1), RR(1) Is there now or will there be in the future excess supply or excess demand for unroaded or roded recreation opportunities?

1. There exists now and will be a future excess demand for both roded and unroaded recreation in the watershed. In general, the recreationists in this area use motorized vehicles to get as close as they can to their destination. Although there is a large part of the watershed in inventoried roadless areas, these are relatively narrow pieces between key roads and they all have motorized trails through them. The opportunity for solitude or a sense of remoteness is limited.

UR(2), RR(2) Is developing new roads into unroaded areas, decommissioning of existing roads, or changing the maintenance of existing roads causing substantial changes in the quantity, quality, or type of unroaded or roded recreation opportunities?

1. No new roads are being developed. No decommissioning of existing roads is currently proposed although the Revised Forest Plan has a motorized density standard that is not being met currently in the Home Canyon area. All forms of recreation opportunity are currently available. Improved road maintenance would increase access for individuals without high-clearance vehicles. Decommissioning of major drainage access would cause a substantial negative change to the perceived quality of the desired recreation experience. Decommissioning side roads or jeep trails would negatively impact some users, primarily hunters and firewood gatherers. Other activities, such as camping, berry picking, firewood gathering, etc. would not be impacted.

UR(3), RR(3) What are the effects of noise and other disturbances caused by developing, using, and maintaining roads on the quantity, quality, and type of unroaded and roded recreation opportunities?

1. Recreationists in the area expect to hear road related noises while in this area. Some noises may exceed the desired levels but the effect is short term.

UR(4), RR(4) Who participates in unroaded and roaded recreation in the area affected by construction, maintaining and decommissioning roads?

1. Hikers, hunters, berry pickers, cross-country skiers.

UR(5), RR(5) What are these participants' attachments to the area, how strong is their feelings, and are alternative opportunities and locations available?

1. Recreationists in this area are primarily locals with strong, life-long attachments to the area and the activities that they participate in. There are similar opportunities in the available but they are not as close and convenient.

Passive-Use Value (PV)

PV(1) Do areas planned for road entry, closure, or decommissioning have unique physical or biological characteristics, such as unique natural features and threatened or endangered species?

1. No new areas are planned for road entry.
2. Road closures and decommissioning will be directed by travel planning but there are no known unique characteristics.

PR(2) Do areas planned for road construction, closure, or decommissioning have unique cultural, traditional, symbolic, spiritual, or religious significance?

1. Strong 'cultural/traditional' significance for locals exist for the area, specifically Home Canyon and the Montpelier Reservoir. No Religious, spiritual, or symbolic significance is known.

PV(3) What , if any, groups of people (ethnic groups, subcultures, and so on) hold cultural, symbolic, spiritual, sacred, traditional, for religious values for unroaded areas planned for road entry or road closure?

1. None.

PV(4) Will road construction, closure, or decommissioning significantly affect passive-use value?

1. Decommissioning of major access roads would adversely affect passive-use value. No road construction is planned. See PR(2).

Social issues (SI)

SI(1) What are people's perceived needs and values for roads? How does road management affect people's dependence on, need for, and desire for roads?

1. See previous answers. People perceive the need to have the existing access. People don't give much thought to roads until their access is restricted. They need the roads in order to pursue their recreational and firewood gathering activities, which makes them dependant upon them and fosters the desire to keep them.

SI(2) What are people perceived needs and values for access? How does road management affect people's dependence on, need for, and desire for access?

1. Access is the permission or ability to enter an area or reach a destination. The people who use this area highly value the access that exists.

SI(3) How does the road system affect access to paleontological, archaeological, and historical sites?

1. There are limited sites that meet this description; none have been determined by the SHPO to be eligible for protection in the National Register of Historical Sites.

SI(4) How does the road system affect cultural and traditional uses (such as plant gathering, and access to traditional and cultural sites) and American Indian treaty rights.

1. The road system provides access for these types of activities.

SI(5) How are roads that are historic sites affected by road management?

1. All 'historic' roads are still accessible, although some have been converted to trails (Aegetter Hollow, Telephone Draw, Upper Telephone).

SI(6) How is community social and economic health affected by road management (for example, lifestyles, businesses, tourism industry, infrastructure maintenance)?

1. Current access needs to be maintained for community and economic health. Tourism in this area is primarily hunting and recreational visitation accessed from Highway 89 and from Star Valley.

SI(7) What is the perceived social and economic dependency of a community on an unroaded area versus the value of that unroaded area for its intrinsic existence and symbolic values?

1. See the Forest-wide roads analysis.

SI(8) How does road management affect wilderness attributes, including natural integrity, natural appearance, opportunities for solitude, and opportunities for primitive recreation?

1. See UR(1).

SI(9) What are the traditional uses of animal and plants species within the area of analysis?

1. Hunting, trapping, berry picking, Christmas Trees, sawlog timber, and firewood gathering.

SI(10) How does road management affect people's sense of place?

1. Changes in road management adversely affect people's sense of place.

Civil Rights and Environmental Justice (CR)

How does the road system, or its management, affect certain groups of people (minority, ethnic, cultural, racial, disabled, and low-income groups)?

1. No different effect to these groups versus any other group.

Step 5. Describing opportunities and Setting Priorities

-Descriptive ranking of the problems and risks posed by the current road system.

1. Impacts to all riparian areas, sediment delivery, removal of vegetation, fragmentation.
2. Poor road surface or alignment, ruts, exposed rock, poor drainage, steep grades, difficult to maintain.
3. Safety of forest visitors.
4. A few 'old' roads that are not needed to meet management goals.

-Assessment of the potential problems and opportunities of building roads in currently unroaded area.

This does not apply to this roads analysis area.

-List of opportunities, by priority, for addressing important problems and risks.

1. See recommendations section of the watershed analysis.

Step 6. Reporting

-Reports including map and text documentation of the roads analysis.

This report, along with analysis for the Emigration Timber Sale, constitutes the documentation of this roads analysis.

-Maps that show the data and information used in the analysis, and the opportunities identified during the analysis.

See attached.