PURPOSE AND NEED

Improve aquatic, riparian, and overall watershed conditions by addressing impacts from roads and recreation

The Watershed Condition Framework (USDA Forest Service 2012) identified the Meadow Creek –Ranch Creek Headwaters sub-watershed as Functioning at Risk. The indicators that were used as part of this determination were aquatic habitat quality, aquatic biota, water quality, water quantity, and road/trail densities. All of the above indicators with the exception of aquatic habitat were determined to be in poor condition, with aquatic habitat being in fair condition.

Inventories of camping activities along the Meadow Creek drainage found that the use has resulted in streamside vegetation removal, bank degradation, and potential water quality issues. These uses have also resulted in the reduction in overall aquatic habitat complexity (quantity and quality). Dispersed camping in sensitive meadow and wetland habitats has resulted in degraded conditions in those locations, negatively impacting the overall function and health of those systems.

Overall, user created routes associated with dispersed camp sites in the Meadow Creek area are located in unsustainable locations, such as through wetlands, meadows, and riparian areas. Like the campsites, the roads are negatively impacting the function and health of those systems

Develop a manageable and sustainable transportation system that considers recreation access, past investments, resource concerns, and funding availability for maintenance.

The road density of the area of interest for this project is 3.5 miles/square mile. There are approximately 82 miles of road within 23.3 square miles. According to the Watershed Condition Framework Technical Guide, road densities over 2.4 mile/square mile are considered undesirable for wildlife and wildlife habitat, as well as hydrologic and watershed conditions (USDA Forest Service 2011). The proximity of roads to aquatic habitats results in increased sediment delivery to those systems as roads can be hydrologically connected to stream systems. Increased surface erosion, gullying, and mass movements are possible with roads without maintenance or decommissioning. Roads can result in habitat fragmentation for both aquatic and terrestrial wildlife. Closing roads or addressing issues along the roads can result in improved habitat quality and habitat effectiveness. Important spruce-fir habitats are being impacted by the road network as well, and addressing roads in these areas could improve snowshoe hare and lynx habitat. The desired transportation system in this area would be one maintained to minimize environmental damage.

The current system of roads in the Meadow Creek project area boundary consist of non-public roads that were not intended for use after timber sales, unauthorized user-created routes, and roads that are in unsustainable locations. The Forest Service has a need to identify the most ecological, economical, and socially sustainable road system in terms of access for recreation, resource protection, and other land management activities. This can be accomplished through utilizing and improving the existing investment in infrastructure and eliminating unsustainable routes. This will help us manage a sustainable road system that serves all users within budget constraints.

In an effort to identify roads needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands and to identify the roads on lands under Forest Service jurisdiction that are no longer needed to meet forest resource management objectives within Meadow Creek Recreation Enhancement and Watershed Improvement Project Area, a project level Travel Analysis was prepared and follows the same criteria and process that was developed for the ARP to satisfy the travel analysis requirements of Subpart A of the 2005 Travel Management Rule.

The information from the 2015 Sulphur Ranger District Travel Analysis Report has been utilized to develop the proposed action for the Meadow Creek Recreation Enhancement and Watershed Improvement Project EA. The IDT chose not to re-evaluate the criteria already prepared for the larger District Travel Analysis Report, but refined recommendations based on field data and resource input.

Create a manageable and quality recreation experience that mitigates impacts to aquatic and riparian habitats, provides for sanitation, improves trail condition and experience, and concentrates designated camping use in easily manageable and enforceable pods while still maintaining the primitive camping experience outside of the managed pods.

The Meadow Creek area is within the Arapaho National Recreation and is valued for its less developed more primitive recreational experience as compared to the rest of the National Recreation Area. Dispersed camping is a popular activity in the area, but it is currently unmanaged and undesignated. Many of the existing high use sites are impacting aquatic and riparian resources. Sanitation issues have been documented in those sites adjacent to Meadow Creek. Forest Plan direction states that uses should not be allowed within 100 feet of the water influence/riparian zone if those uses do not contribute to the improvement of stream health or condition. Unmanaged camping within 100 feet of the stream has resulted in negative impacts to the stream system.

Additionally, unmanaged camping has resulted in the creation of approximately 8 miles of short spur roads to access camp sites. In many cases, these roads are located in sensitive wetland and/or meadow habitats, and the use of these roads has resulted in degraded conditions in those areas. The degraded condition of wetland and meadow habitats affects not only overall watershed condition, but also wildlife, such as moose, which utilize those areas.

Currently, there are three pods being managed in the Meadow Creek area as fee areas. The original pods were created in response to assumed use in those areas. There was no inventory done of the actual use. Some existing bathrooms are located in poor locations and they aren't sufficient to support the use. The "designated" campsites were established in both high use and low use areas.

There are approximately 11 miles of trail within the project area, and in some locations the trails are on old road beds. This could result in an undesirable trail experience for some users, especially for Continental Divide National Scenic Trail thru hikers.

PROPOSED ACTION

The Forest Service is proposing to address the existing issues and resource concerns at Meadow Creek by implementing various activities that enhance recreation and improve watershed condition and

wildlife habitat while balancing future vegetation and transportation needs. The project area encompasses 14,915 acres. The proposed action is broken into the following categories:

- Proposed Travel Management Actions
- Proposed Recreation Actions
- Proposed Restoration Actions

PROPOSED ACTION ALTERNATIVE DESCRIPTION

The following tables describes, in text, the proposed actions associated with the larger proposed action. The map displays the proposed action in full.

All activities associated with this project would employ best management practices and other design criteria designed to protect National Forest resources. These measures are included as part of the proposed action.

PROPOSED TRAVEL MANAGEMENT ACTIONS

The objective of transportation management in the Meadow Creek project area would be to reduce impacts to water quality and aquatic habitats associated with unneeded roads, reduce road density to improve wildlife habitat utilization, and reduce overall road maintenance costs by balancing future vegetation management, fire access, past investments, and those roads needed for recreation accessibility.

A Travel Analysis (TA) Report for the Meadow Creek Recreation Enhancement and Watershed Improvement Project on the Sulphur Ranger District, Arapaho and Roosevelt National Forests and Pawnee National Grassland (ARP) was completed in 2018.

The TA Report documents a route-by-route analysis of all National Forest System roads in the Meadow Creek Recreation Enhancement and Watershed Improvement Project on the Sulphur Ranger District and provides recommendations that will aid in identifying the minimum road system needed for public access and forest management.

The TA Report identifies roads needed for safe and efficient travel and for administration, utilization, and protection of National Forest System lands. The report also identifies the roads on lands under Forest Service jurisdiction that are no longer needed to meet forest resource management objectives within the Meadow Creek Recreation Enhancement and Watershed Improvement Project Area.

The following summary of proposed travel management actions are based on the detailed route by route analysis documented in the travel analysis report.

Proposed Travel Actions	Description of Work
Proposed Road Decommissioning	Road decommissioning projects are proposed to improve watershed conditions and wildlife habitat. Approximately 37 miles of roads are proposed for decommissioning within the project area.

	The methods needed for road decommissioning projects would vary based on site-specific conditions. Road decommissioning methods include the use of heavy equipment to de-compact soils, restore natural contours, create surface roughness, remove culverts and stabilize stream crossings. Following heavy equipment operations, other restoration activities such as erosion control, soil amendment and revegetating with native plant communities may also be needed. As shown on the project's proposed action map and in the travel analysis report, roads proposed for decommissioning are divided into the following categories for this analysis: • Decommissioning National Forest System Roads (NFSRs) not on Motor Vehicle Use Map (MVUM) – 6.9 miles. • Decommission NFSRs on MVUM – 1.5 miles. • Decommission unauthorized routes (generally user created routes) – 29 miles. Anticipated Project Implementation - Approximately 5-10 miles of roads could be decommissioned per year depending on availability of funds.
Roads Proposed for Conversion to Administrative Use Only	These roads either access private property, Denver Water infrastructure, or are needed for timber/fire access. Administrative use roads are utilized very rarely, minimizing impacts on watershed and wildlife resources. Non-motorized use by the public is anticipated and is acceptable. Approximately 11 miles of roads are proposed for conversion to administrative use within the project area. As shown on the project's proposed action map and in the travel analysis report, roads proposed for conversion to administrative use are divided into the following categories for this analysis: • Convert closed NFSR to NFSR with Admin Access – 1.66 miles. These roads are needed to access private inholdings and other administrative needs. Maintain these existing roads, if needed. • Convert NFSR on MVUM to NFSR with Admin Access – 3.70 miles. Install 3 new gates. Remove and re-locate 2 gates. Maintain these existing roads, if needed. • Convert unauthorized route to NFSR with Admin Access – 5.82 Miles. Maintain these existing roads, if needed. Anticipated Project Implementation – the only physical work associated with this proposal is relocation of 2 existing gates and installation of 3 gates. This work would occur over one season.
Road to Trail Conversion/Road to Trail Width Narrowing	These projects are proposed to improve trail condition and trail user experience. The proposed action is to narrow sections of the Continental Divide National Scenic Trail that are currently old roads. Approximately 0.9 miles of roads are proposed for trail conversion or narrowing to trail width (between 24 to 36 inches). In addition to improving trail condition, there is also a proposal for 2 new trailheads.

	As shown on the project's proposed action map and in the travel and travel analysis report, roads proposed for conversion 2 trails are divided into the following categories for this analysis: • Convert NFSR not on MVUM to trail – 0.41 miles • Convert NFSR on MVUM to trail – 0.23 miles • Convert unauthorized route to trail – 0.24 miles Anticipated Project Implementation - Work will occur over multiple seasons and will be implemented concurrently with other travel management and/or restoration work.
Incorporate Roads into FS Road System for Recreational and Administrative Use.	These actions would incorporate those routes into the USFS road system so they would accounted for in our roads database and managed as Forest Service roads. As shown on the project's proposed action map and in the travel and travel analysis report, roads proposed to be added to the system are divided into the following categories for this analysis: • Convert unauthorized route to NFSR on MVUM – 0.98 miles. Maintain existing roads, if needed. • Convert closed NFSRs to NFSRs on MVUM – 0.37 miles. Remove existing gate and re-install on 2W851.3, admin. Access to SNOTEL site. Maintain existing road if needed. Opening this existing spur road will provide for recreational use and administrative access for a SNOTEL site. Anticipated Project Implementation - Work will occur over multiple seasons and will be implemented concurrently with other travel management and/or restoration work.

PROPOSED RECREATION ACTIONS

The proposed action provides the following camping opportunities in the area:

- 9 drive-in one tent campsites
- 15 drive-in two tent campsites
- 23 walk-in campsites
- 10 RV campsites
- 4 boat in camping sites in Meadow Pod B
- Dispersed camping adjacent to the 129 road, including a number of walk-in options, south of Meadow Creek Reservoir

Other facilities in the area include parking lots, trailheads, picnic area, toilets, a fishing access area and a non-motorized boat launch area. Area roads and trails are available for off highway vehicle use, mountain biking and hiking.

The proposed action map displays all the proposed recreation actions for the Meadow Creek area. The actions are summarized in the table below. The goal of the recreation actions being proposed is to concentrate use in specific "pods" and address resource impacts resulting from recreation in the area.

Proposed Recreation Action	Description
Camping Closure along Meadow Creek from Forest Boundary to Indian Peaks Wilderness Boundary	All camping will be closed within 100 feet of Meadow Creek from the Forest Boundary to the Wilderness Boundary to protect riparian and aquatic resources. Anticipated Project Implementation - Once sites are designated in each fee pod, issue closure order and begin restoration of dispersed camp sites along Meadow Creek
Establish Designated Camping "Pods"	Designated camping opportunities within four designated pods **(Junco Pods A and B and Meadow Pods A and B)** are described below. Detailed maps of these areas are included as insets on the proposed action map. Each pod includes a variety of camping opportunities. Each site type has a specific design associated with it. **Junco Pod A:** • 4 Walk-in sites with tent pads • 4 double tent sites • 1 RV/Trailer (back in)site • 1 RV/Trailer self-contained site • 2 single tent sites • Picnic Area • Add a new gate on the 857.2 road • Remove existing restroom and install a new upgraded double vault restroom **Junco Pod B**: Limited to self-contained RV/Trailer sites. This pod is the furthest from restroom facilities. • 4 RV/Trailer ONLY sites • Additional single RV/Trailer sites could be added if use monitoring indicates there is a need
	Meadow Pod A: • 16 walk-in sites • 3 double tent sites • 3 single tent sites • Expand existing parking area • Use adaptive monitoring to determine if an additional parking area for 4-6 vehicles is is needed on the west side. If needed, add parking area. • Parking Area • Fishing Access • Toilet • Non-motorized Boat Launch • Picnic Area

	Meadow Pod B: Boat in sites that utilize the parking and non-motorized boat launch in Meadow Pod A. • 4 boat in sites • Up to 6 additional sites may be created if use monitoring indicates there is a need
Additional Designated Campsites (outside of pods)	To provide additional camping opportunities in this popular area, additional designated sites are proposed in 2 selected areas. Designated sites proposed for the 861.1 and 860.6 road areas, past Junco Pod B: • 3 walk-in sites • 5 double tent sites • 2 single tent sites • Add gate and buck&rail fence for seasonal closures of wet areas Designated sites proposed 129 Road/857.2 road area directly north of Meadow Creek Reservoir. • 3 double tent sites • 2 single tent sites • Add a parking area for 5-6 vehicles • Either retain and replace existing toilet or remove it. Action will be determined through adaptive management monitoring.
Undesignated/Dispersed Camping Areas	Undesignated (dispersed) camping, including a number of walk in options, is proposed for areas adjacent to the 129 road, directly south of Meadow Creek Reservoir.
Trailhead and Trailhead Parking Construction	Two trailheads and trailhead parking areas are being proposed as part of this project. The trails will connect to the High Lonesome Trail and the Caribou Trail system.
<u>Miscellaneous Actions:</u> **Non-motorized boat launch access** **Picnic Area Development** **Parking Lot Expansion**	Picnic areas are proposed for Meadow Pod A and Junco Pod A. Non-motorized boat access in Meadow Pod A is proposed to provide access to boat-in sites and day use on the reservoir. Parking lot expansions are proposed for the Meadow A and Junco A pods to accommodate parking for the boat in sites, picnic area, and trailhead access. Improving and signing the boat launch location and installing picnic tables, grills, etc. would occur as pods are constructed.

PROPOSED RESTORATION ACTIONS

Restoration actions are proposed for areas disturbed by dispersed camping, user created routes and/or other past uses. These restoration opportunities are concentrated within and adjacent to Meadow Creek but exist throughout the project area. Proposed restoration actions include a variety of common uplands and in-channel restoration techniques, further described in the table (below).

The primary purposes of restoration actions within or directly adjacent to stream channels are to improve the proper functioning condition of the channel and riparian zone adjacent to the channel, reduce erosion/sedimentation, improve water quality and improve in-stream habitat.

The primary purposes for "uplands" restoration actions are to reduce erosion/sedimentation, maintain or improve soil hydrologic function and ability to support native vegetation and to restore vegetative cover and natural appearance.

Proposed Restoration Action	Description of Work
Restoration of disturbed sites along Meadow Creek and throughout the project area.	Restore (to natural conditions) approximately 100 dispersed camping sites adjacent to riparian or wetland areas in the Meadow Creek drainage. Restore other disturbed sites throughout the project area. Typical uplands restoration methods that could be applied to disturbed camping areas and/or social routes include: De-compacting to a specified depth, re-contouring, creating surface roughness, implementing erosion control measures, and re-vegetating with native grasses, shrubs and/or forbs, and creating barricades or barriers to lower the risk for future ground disturbing impacts. Heavy equipment (small to medium sized excavator or backhoe) would generally be used for de-compaction and re-contouring. Site-specific measures would be determined by a USFS Restoration Representative. Once sites are designated in each fee pod, restoration of dispersed camp sites along Meadow Creek could begin.
Bank Stabilization Along Meadow Creek (manual and/or heavy equipment restoration techniques would be determined on a site specific basis)	Approximately 2 miles of stream could have bank stabilization work Bank damage or bank instability resulting from a variety of land use impacts can result in changes to water quality. Bank stabilization activities would tie closely with the instream habitat enhancement features by re-directing flow to prevent further bank erosion. In locations, where an absence of vegetation is observed or where instream structures are not needed, bank stabilization techniques would include, but not be limited to placing rock or planting vegetation. The techniques would vary depending on site and degree of erosion. <u>Manual Bank Stabilization</u> would include the installation of structures to stabilize banks and promote re-vegetation (e.g. live willow staking, willow fascine bundles, "bio-logs" and seeding). Some combination of these techniques would be used on areas with limited impacts and limited access for equipment. <u>Bank Stabilization using Heavy Equipment</u> would include the installation of structures to stabilize banks and promote riparian vegetation recovery. This method would involve the use of heavy equipment to complete these activities. Heavy equipment, such as excavators, backhoes, etc., would be in the stream channel, on banks, disturbed campsite areas and/or roads.

	Anticipated Project Implementation - Work will occur over multiple seasons and will be implemented concurrently with other travel management and/or restoration work.