

Decision Memo

Dry Creek Equestrian Trails

USDA Forest Service
Lookout Mountain Ranger District
Ochoco National Forest
Crook County, Oregon

Background

The Dry Creek Equestrian Trails project is part of a larger suite of trail proposals submitted by the Ochoco Trails Strategy Group (OTSG). The Forest Service has been working with the OTSG over the last couple of years on the development of proposals for sustainable trail systems that meet current demand for recreation opportunities. OTSG is a collaborative group originally convened by the Prineville Chamber of Commerce. The group has representation from various who met from late 2017 through 2018 and held a public meeting about trail proposals in September 2018. Input from Forest Service specialists and the Oregon Department of Fish and Wildlife has helped focus the trail proposals and avoid areas of sensitive resource concerns, such as elk security habitat.

Decision

The Giddy Up Go Trail system currently provides about 8.5 miles of trail from the Dry Creek Horse Camp. I have decided to designate the 2.6 additional miles of non-motorized system trails on Maintenance Level 1 (closed) system roads in the vicinity of Dry Creek Horse Camp.

The closed roads would be left as two track, double riding trails for side by side riding. See Figure 1, page 6.

Ground disturbance will be limited to the installation of 4x4 posts at trail heads and to establish drainage dips and water bars. Signage on trees on the trail system will be utilized when possible. A backhoe and excavator will be used to place boulders and rip entrances to mitigate OHV use. Trees that are less the 10" diameter and encroaching on the trail tread prism will be cut with handsaw or chainsaw. Trail work will be completed by Forest Service recreation staff, volunteers and partners. Trails would be open to all uses but would be maintained for equestrian use by equestrian use/users.

The purpose of this project is to meet current demand for trails, establish official trail systems where the use is already occurring, and to improve visitor experience. Adding more official multi-use trails will alleviate the conflict between different user groups on the Ochoco NF.

Categorical Exclusion Criteria

Through past experience and review of similar projects, I have concluded that this project is not a major Federal action. It will have limited context and intensity (40 CFR1508.27), individually or cumulatively, to the biological, physical, social, or economic components of the human environment. It does not pose a violation of Federal, State, or local law requirements imposed for the protection of the environment.

Decisions may be categorically excluded from documentation in an environmental impact statement or environmental assessment when they are within one of the categories identified by the U.S. Department

of Agriculture in 7 CFR part 1b.3 or one of the categories identified by the Chief of the Forest Service in Forest Service Handbook (FSH) 1909.15 sections 31.12 or 32.2, and there are no extraordinary circumstances related to the decision that may result in a significant individual or cumulative environmental effect.

The specific category for this proposed action is found in 36 CFR 220.6(e)(1) and described in Forest Service Handbook (FSH) 1909.15, Chapter 30, Section 32.(2)(1) – *Construction or reconstruction of trails*. This category of action is applicable because the proposed action will improve and designate an official trail system utilizing existing closed roads.

Several resource conditions must be considered in determining whether extraordinary circumstances related to the proposed action warrant further analysis and documentation. During development of the proposed action, a team of resource specialists determined whether or not any of the resource conditions are present, and if so, the degree of the potential effects on the listed resource. The mere presence of one of these resource conditions does not preclude use of a categorical exclusion. Based on the information in Table 1, I have determined no extraordinary circumstances exist for this project that would warrant further analysis and documentation in an environmental assessment or environmental impact statement.

Table 1: Evaluation of Extraordinary Circumstances Related to the Project		
Extraordinary Circumstance to be Evaluated	Present in or adjacent to project area?	Degree of Potential Effect
Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species	Present	<p>Listed/Proposed T and E species - Terrestrial: The gray wolf (<i>Canis lupus</i>) was considered and the proposed action May Effect, not Likely to Adversely Affect the species. The gray wolf is known to utilize the project area as dispersal habitat, but is not known to occupy it, or the Ochoco National Forest, on a permanent basis. No Areas of Known Wolf Activity, den sites, or rendezvous sites are designated within or adjacent to the project area. The Deschutes/Ochoco Programmatic Biological Assessment for activities affecting gray wolves (USDA Forest Service 2020) outlines Project Design Criteria (PDC) for mitigation of various management activities. Trail construction, trail relocation, and trail reopening are not included activities under the PDC. Therefore, this project was evaluated on September 25th, 2020, under a level 1 informal consultation with USFWS to determine potential impacts to the gray wolf. Because of the scope, scale, and duration of proposed action, habitat and prey species for wolves will not be adversely impacted.</p> <p>The wolverine (<i>Gulo gulo</i>) was considered and the proposed action is Not Likely to Jeopardize the species. Wolverines have been documented within the project area in the past, but is</p>

Table 1: Evaluation of Extraordinary Circumstances Related to the Project

Extraordinary Circumstance to be Evaluated	Present in or adjacent to project area?	Degree of Potential Effect
		<p>not known or suspected to occur within the project area currently. Because of the scope, scale, and duration of the proposed action, habitat and prey species for wolverines will not be impacted adversely. Therefore, wolverines will Not Be Impacted by the project.</p> <p>Aquatic: No Effect Botanical: No Effect</p> <p>Designated/Proposed Critical habitat Terrestrial, Aquatic and Botanical: No Impact</p> <p>FS Sensitive species – Terrestrial: The following species were considered during analysis and the Proposed Action will have No Impact: white-headed woodpecker (<i>Picoides albolarvatus</i>) and Lewis's woodpecker (<i>Melanerpes lewis</i>). Species have been documented occurring near the project area but the project activities would not disturb individuals or impact potential nesting or foraging habitat. Aquatic: No Impact Botanical: No Impact</p>
Floodplains, wetlands, or municipal watersheds	Present	<p>No Municipal Watersheds</p> <p>The National Best Management Practice activities Must Be incorporated into the recreation planning and proposed action objectives of creation of approximately five miles of official system equestrian routes out of closed roads. Project design criteria and resource protection measures are included to protect sensitive riparian and spring areas, and mitigation measures are enacted to contain detrimental impacts to riparian areas and protect long-term stability and riparian vegetative productivity. If all of these measures are adhered to then the additional trail creation and designation will have No Impact on aquatic resources.</p>
Congressionally designated areas such as wilderness, wilderness study areas or national recreation areas	Not Present	No Effect

Table 1: Evaluation of Extraordinary Circumstances Related to the Project		
Extraordinary Circumstance to be Evaluated	Present in or adjacent to project area?	Degree of Potential Effect
Inventoried Roadless Areas or potential wilderness areas	Not Present	No Effect
Research Natural Areas	Not Present	No Effect
Archaeological sites, or historic properties or areas	Not Present	No cultural resources were identified during project surveys; therefore, the project meets the criteria in the SHPO Programmatic Agreement for No Historic Properties Affected determination. The Burns-Paiute Tribe, Klamath Tribes and the Confederated Tribes of the Warm Springs were invited to consult and provide input on the Proposed Action in March of 2020.

Findings Required by Other Laws and Regulations

The proposed project is expected to meet Forest-wide standards and guidelines and Management Area standards and guidelines as described in the Ochoco National Forest Land and Resource Management Plan as amended.

Management allocations for the project area include:

- General Forest
- Visual Retention Corridors

I find that this project complies with all laws, regulations and policies including the Inland Native Fish Strategy (INFISH), the Clean Water Act, and Executive Order 11988 (Floodplain Management).

Design Criteria

Design criteria/mitigation developed for this project to avoid/reduce the environmental effects of the project activities are included in Appendix B.

Scoping and Public Involvement

The proposed project has been listed on the Ochoco National Forest Schedule of Proposed Actions (SOPA) since May 21st, 2020 (<http://www.fs.usda.gov/projects/ochoco/landmanagement/projects>). A scoping letter was emailed and mailed to members of the public and organizations who have previously expressed an interest in similar projects on May 22nd, 2020. The scoping letter, project details, and a map were uploaded to the project website on May 21st, 2020.

Comments on the proposed project were accepted from May 22nd, 2020 to June 21st, 2020. Comments were received from 32 individuals and considered in the decision (see Appendix A). Names and addresses



of those who commented are considered part of the public record and are available for public inspection in the project file available at the Lookout Mountain Ranger District.

During internal scoping Lookout Mountain Ranger District resource specialists raised no issues and found no significant effects on the human environment in relation to implementing this proposed action. All supporting documentation is located in the project file available at the Lookout Mountain Ranger District.

Administrative Review Opportunities

This is a final decision not subject to administrative review. Effective March 5, 2014, the Forest Service will no longer offer notice, comment and appeal opportunities for categorically excluded projects pursuant to 36 CFR Part 215. The Forest Service will continue to offer public involvement opportunities for categorically excluded projects as provided for in the agency's NEPA Procedures, see 36 CFR 220.4(d) (SOPA) and 36 CFR 220.4(e) and 220.6(c) (scoping).

Implementation Date

Implementation is anticipated to begin Fall 2020.

Contact Information

For further information, please contact Jim Beaupre, Recreation Team Lead, Ochoco National Forest, at james.beaupre@usda.gov or 541-416-6695.

Approved by:

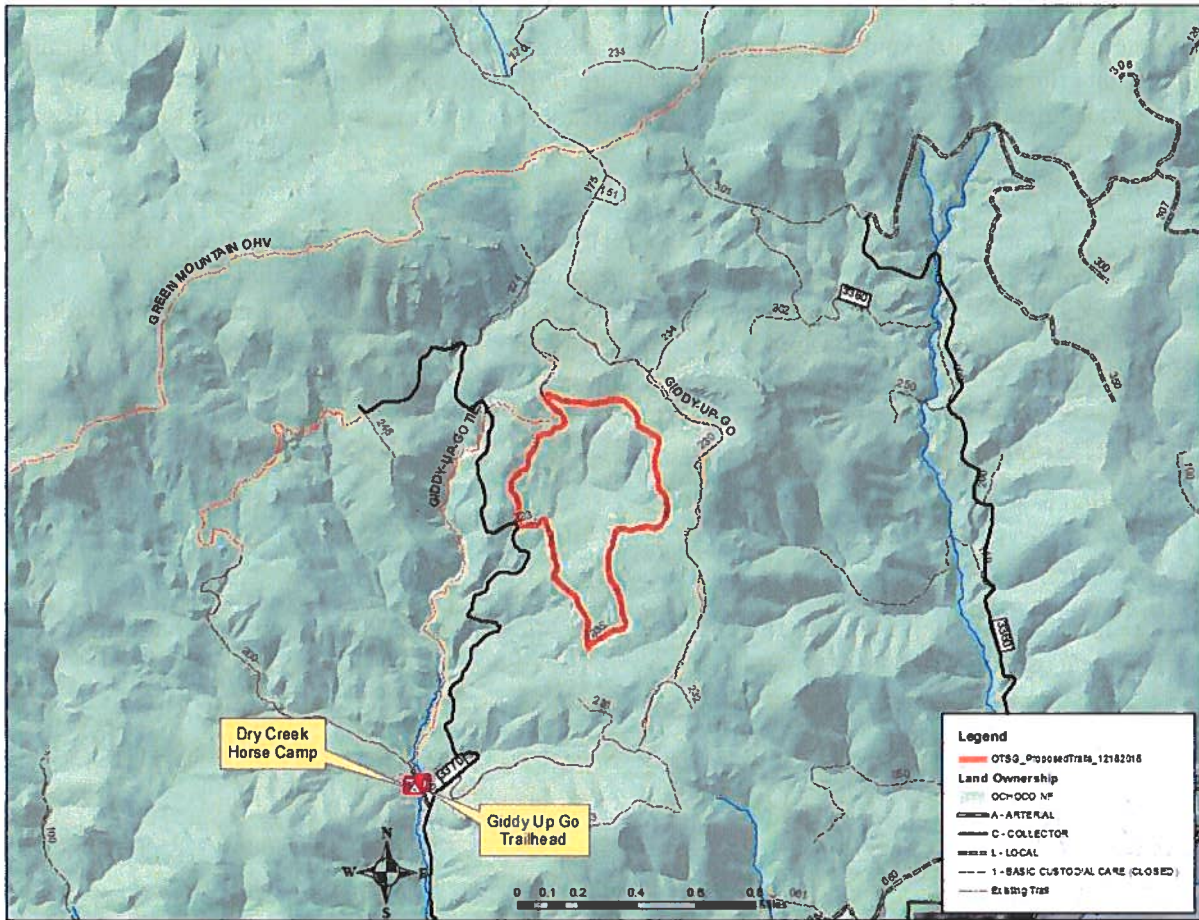
SLATER R. TURNER
District Ranger
Lookout Mountain Ranger District
Ochoco National Forest

Date

USDA NON-DISCRIMINATION POLICY STATEMENT

DR 4300.003 USDA Equal Opportunity Public Notification Policy (June 2, 2015) In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident. Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English. To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at http://www.ascr.usda.gov/complaint_filing_cust.html and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

Figure 1 – Dry Creek Project Area



Appendix A
Response to Public Comments

Comment	Response to Comment
<p>Concerned that expanding trails will cause fragmentation of “core habitat areas” where trail and road densities are relatively low.</p>	<p>The proposed Dry Creek Equestrian Trails project, which consists entirely of general forest (MA-F22), would have no impact on the quantity or layout of core habitat in the project area since trails would be established on existing roads. Although some unauthorized use of the proposed trails may currently occur, the proposed action would likely result in increased levels of non-motorized summer recreational use. Therefore, the impacts to wildlife from establishing the proposed equestrian trails would likely be seasonally increased levels of human presence in the area, leading to decreased connectivity between core habitat patches due to decreased wildlife use in the corridor space between patches.</p>

Appendix B

Design Criteria

Invasive Plant Prevention

- To meet Regional and Forest Plan Standards (USDA 2005), ensure any equipment used on site would be free of soil or plant material that could introduce or spread invasive plants. Cleaning may be necessary to reduce risk for introduction and spread of invasive plants. Inspection of equipment may be performed by FS personnel to ensure compliance.
- After ground disturbing activities are complete, any bare soil areas created outside of the trail corridor will be revegetated with locally sourced native seed.
- Project proponents will complete monitoring at regular intervals to ensure any new Early Detection Rapid Response invasive plant sites get treated post-ground disturbing activity.

Wildlife Resources

- Gray wolf: if a wolf or wolf dens are observed within the project area before or during implementation of the proposed action, PDC will apply and the Forest Service will coordinate with USFWS to ensure correct implementation.
- Raptors: No management activities will be implemented within 330 feet of a known raptor nest site (primary zone). Some modified treatments are permitted between 330–660 feet around a nest site (secondary zone). Operations within both zones will be implemented with a seasonal restriction between March 1 – August 1. These restrictions apply to raptor nests discovered before or during implementation of the proposed action. Restrictions may be waived for individual nests in a particular year, with approval from the District Ranger, if reproductive success surveys organized by the District Wildlife Biologist determine that the resident is non-nesting or that no young are present.

Fisheries Resources

The following BMPs will be required:

- Install and maintain suitable drainage measures to collect and disperse runoff and avoid or minimize erosion of trail surface and adjacent areas.
- Monitor trail condition at regular intervals to identify drainage and trail surface maintenance needs to avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources.
- Use a trail design that constricts equestrian users to a designated tread, where practicable, to minimize the tendency of stock to create braided or multiple trail treads.

Hydrology Resources:

Site Specific BMP Guidance

The below National Core BMPs are specific to the proposed action of creating approximately five miles of official system equestrian routes out of closed roads. The below BMP activities are provided as general guidance for this system conversion to mitigate any potential risks to resources. The BMP activities associated to the limited ground disturbance of installing 4x4 posts at trail entrances and establishing drainage dips and water bars and one stream crossing have been identified in bold below with the remainder of activities provided for general incorporation into the project. There is only one identified stream crossing which is on a closed road so attention must be given to ensure that this crossing structure is maintained in a functioning condition.

Rec-1. Recreation Planning

Forest Service Manual (FSM) 2310; FSM 2332; FSM 2333; FSM 2341; and Forest Service Handbook (FSH) 2309.18, chapter 10.

Use the applicable recreation planning process to develop measures to avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources during recreation activities. Recreation activities occur in a variety of settings and intensities on NFS lands, including at developed or undeveloped recreation sites or dispersed across broad areas. The objective of recreation planning is to provide for the current and future outdoor recreation demands while integrating recreation use with other resource concerns.

Develop site-specific BMP prescriptions for the following practices, as appropriate or when required, using State BMPs, Forest Service regional guidance, land management plan direction, BMP monitoring information, and professional judgment.

Project or Activity Planning

- Use applicable practices of BMP Plan-2 (Project Planning and Analysis) and BMP Plan-3 (Aquatic Management Zone [AMZ] Planning) when planning recreation projects.
- Select site locations for recreation facilities that avoid or minimize the potential for adverse effects to water quality and riparian resources.
- Design the capacity and layout of the recreation site to be consistent with land management plan desired conditions, goals, and objectives for soil, water quality, and riparian resources. Consider capacity and patterns of use at a site when determining measures to avoid, minimize, or mitigate adverse effects from recreational use to soil, water quality, and riparian resources.
- Use applicable practices of BMP Fac-2 (Facility Construction and Stormwater Control) to incorporate suitable erosion and stormwater controls in the project design.

Rec-4. Motorized and Nonmotorized Trails

FSM 2353, FSH 2309.18, FSM 7715.5, FSM 7723, and EM (Engineering Management) 7720-104.

Avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources by controlling soil erosion, erosion of trail surface materials, and water quality problems originating from construction, maintenance, and use of motorized and nonmotorized trails.

Trail construction, maintenance, and use by motorized vehicles and human or stock traffic can adversely affect water quality by increased sediment delivery and contamination from vehicle fluids and human and animal wastes to nearby waterbodies. Compaction of the trail surface limits water infiltration, which can lead to concentrated runoff on the trail surface. Concentrated runoff on trails lacking adequate drainage causes erosion of the trail surface and can transport sediment and other pollutants directly into

waterbodies if not filtered. Heavy tread, foot, or hoof traffic can loosen some trail surface materials, making them more susceptible to erosion.

Develop site-specific BMP prescriptions for the following practices, as appropriate or when required, using State BMPs, Forest Service regional guidance, land management plan direction, BMP monitoring information, and professional judgment.

- Locate or relocate trails to conform to the terrain, provide suitable drainage, provide adequate pollutant filtering between the trail and nearby waterbodies, and reduce potential adverse effects to soil, water quality, or riparian resources.
- Avoid sensitive areas, such as riparian areas, wetlands, stream crossings, inner gorges, and unstable areas to the extent practicable.
- Use suitable measures to mitigate trail impacts to the extent practicable where sensitive areas are unavoidable.
- **Use suitable measures to hydrologically disconnect trails from waterbodies to the extent practicable.**
- Design, construct, and maintain trail width, grades, curves, and switchbacks suitable to the terrain and designated use.
- Use applicable practices of BMP Fac-2 (Facility Construction and Stormwater Control) for control of erosion and stormwater when constructing trails.
- **Install and maintain suitable drainage measures to collect and disperse runoff and avoid or minimize erosion of trail surface and adjacent areas.**
- **Use and maintain surfacing materials suitable to the trail site and use to withstand traffic and minimize runoff and erosion.**
- Design stream crossings to use the most cost-efficient structure consistent with resource protection, facility needs, and types of use and safety obligations (see BMP Road-7 [Stream Crossings]).
- **Designate season of use to avoid periods when trail surfaces are particularly prone to unacceptable erosion, rutting, or compaction.**
- Designate type of nonmotorized uses (e.g., hiking, bicycling, and equestrian uses) suitable for the trail width, location, waterbody crossings, and trail surfaces to avoid or minimize adverse effects to soil, water quality, or riparian resources.
- **Monitor trail condition at regular intervals to identify drainage and trail surface maintenance needs to avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources.**
- Manage designated trails to mitigate adverse effects to soil, water quality, and riparian resources from over-use when closure and rehabilitation is not practicable or desired.
- Change designated season-of-use period as necessary.
- **Close and rehabilitate unauthorized trails that are causing adverse effects on soil, water quality, and riparian resources (see BMP Fac-10 [Facility Site Reclamation]).**

Equestrian Trails

- **Plan trails so that equestrian users will go slower in sensitive areas to protect trail tread.**

- Use a trail design that constricts equestrian users to a designated tread, where practicable, to minimize the tendency of stock to create braided or multiple trail treads.
- Provide reasonable access to stock water at suitable intervals along designated equestrian trails where practicable.

Rec-6. Pack and Riding Stock Use Areas

FSH 2309.18 22.43 and 23.12.

Avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources at pack and riding stock use areas by managing activities to maintain ground cover, maintain soil quality, control runoff, and provide needed sanitary facilities to minimize discharge of nonpoint source pollutants and maintain streambank and riparian area integrity.

Pack and riding stock can affect soil, water quality, and riparian resources while on trails and at campsites, watering areas, and loading areas. Access areas, in general, are used for loading and unloading, parking, and turning around vehicles and stock trailers. Potential impacts include loss of ground cover, soil compaction, rutting, or puddling, and increased erosion, streambank trampling, spread of weeds, and water contamination from animal waste.

Develop site-specific BMP prescriptions for the following practices, as appropriate or when required, using State BMPs, Forest Service regional guidance, land management plan direction, BMP monitoring information, and professional judgment.

- Use suitable public relations and information tools and enforcement measures to encourage the public to conduct activities on trails and at stock use areas in a manner that will avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources.
- Provide information on proper stock tethering, watering, and manure handling and disposal techniques.
- Use applicable practices of BMP Rec-2 (Developed Recreation Sites) when designing, constructing, and maintaining developed areas for pack and riding stock use.
- Install simple temporary holding facilities in both wilderness and non-wilderness areas.
- Evaluate soils and vegetation for vulnerability of damage or disruption from stock use when choosing holding facility sites.
- Locate corrals and tethering areas at a suitable distance from waterbodies to avoid or minimize adverse effects to soil, water quality, and riparian resources.
- Designate specific watering locations on streams, ponds, and lakes to avoid or minimize general use along streambanks or shorelines.
- Provide designated watering areas at developed stock use areas where practicable.
- Surface the areas around water hydrants, troughs, and stock tanks using suitable materials to mitigate trampling effects.
- Locate designated watering areas at a suitable distance from waterbodies to avoid or minimize adverse effects to soil, water quality, and riparian resources.
- Provide manure disposal bins at developed pack and riding stock use areas.
- Locate manure receptacles on level ground at a suitable distance to provide adequate pollutant filtering between the accumulated manure and nearby waterbodies.

- Provide positive drainage to prevent puddles from forming within and around the manure receptacle.
- Periodically remove or treat accumulated animal waste to avoid or minimize contaminating waterbodies.
- **Monitor pack and riding stock use areas at regular intervals to identify drainage and ground surface maintenance needs to avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources.**
- **Manage pack and riding stock use areas to mitigate adverse effects to soil, water quality, and riparian resources from over-use when closure and rehabilitation is not practicable or desired.**
- **Close and rehabilitate pack and riding stock use areas that are causing adverse effects on soil, water quality, and riparian resources (see BMP Fac-10 [Facility Site Reclamation]).**

Road-7. Stream Crossings

Manual or Handbook Reference: FSM 7722 and FSH 7709.56b.

Avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources when constructing, reconstructing, or maintaining temporary and permanent waterbody crossings. Forest and grassland management activities often occur in areas that require surface waters to be crossed. Depending on the activity type and duration, crossings may be needed permanently or temporarily. Permanent crossings, in general, are more durable and are designed by an engineer to meet applicable standards while also protecting water quality and riparian resources.

Examples of crossings include culverts, bridges, arched pipes, low-water crossings, vented fords, and permeable fills. Crossing materials and construction will vary based on the type of access required, duration of need, and volume of use expected. Crossings should be designed and installed to provide for flow of water, bedload, and large woody debris, desired aquatic organism passage, and to minimize disturbance to the surface and shallow groundwater resources.

Construction, reconstruction, and maintenance of a crossing usually requires heavy equipment to be in and near streams, lakes, and other aquatic habitats to install or remove culverts, fords, and bridges, and their associated fills, abutments, piles, and cribbing. Such disturbance near the waterbody can increase the potential for accelerated erosion and sedimentation by altering flow paths and destabilizing streambanks or shorelines, removing vegetation and ground cover, and exposing or compacting the soil. Use of heavy equipment has a potential for contaminating the surface water from vehicle fluids or introducing aquatic nuisance species.

Some crossings may require adherence to special conditions associated with CWA 401 certification or CWA 404 permits. State and local entities may also provide guidance and regulations such as a Forest Practices Act or a Stream Alteration Act.

Develop site-specific BMP prescriptions for the following practices, as appropriate or when required, using State BMPs, Forest Service regional guidance, land management plan direction, BMP monitoring information, and professional judgment.

All Crossings

- Plan and locate surface water crossings to limit the number and extent to those that are necessary to provide the level of access needed to meet resource management objectives as described in the RMOs.

- Use applicable practices of BMP AqEco-2 (Operations in Aquatic Ecosystems) when working in or near waterbodies.
- Use crossing structures suitable for the site conditions and the RMOs.
- Design and locate crossings to minimize disturbance to the waterbody.
- Use suitable measures to locate, construct, and decommission or stabilize bypass roads to avoid, minimize, or mitigate adverse effects to soil, water quality, and riparian resources.
- Use suitable surface drainage and roadway stabilization measures to disconnect the road from the waterbody to avoid or minimize water and sediment from being channeled into surface waters and to dissipate concentrated flows
- Use suitable measures to avoid, minimize, or mitigate damage to the waterbody and banks when transporting materials across the waterbody or AMZ during construction activities.

Low-Water Crossings

- Consider low-water crossings to cross ephemeral streams, streams with relatively low baseflow and shallow water depth or streams with highly variable flows or in areas prone to landslides or debris flows.
- Locate low-water crossings where streambanks are low with gentle slopes and channels are not deeply incised.
- Select and design low-water crossing structures to maintain the function and bedload movement of the natural stream channel.
- Locate unimproved fords in stable reaches with a firm rock or gravel base that has sufficient load-bearing strength for the expected vehicle traffic.
- Construct the low-water crossing to conform to the site, channel shape, and original streambed elevation and to minimize flow restriction, site disturbance, and channel blockage to the extent practicable.
- Use suitable measures to stabilize or harden the streambed and approaches, including the entire bankfull width and sufficient freeboard, where necessary to support the design vehicle traffic.
- Use vented fords with high vent area ratio to maintain stream function and aquatic organism passage.
- Consider using temporary crossings on roads that provide short-term or intermittent access to avoid, minimize, or mitigate erosion, damage to streambed or channel, and flooding.
- Design and install temporary crossings suitable for the expected users, loads, and timing of use.
- Design and install temporary crossing structures to pass a design storm determined based on local site conditions and requirements.
- Install and remove temporary crossing structures in a timely manner as needed to provide access during use periods and minimize risk of washout.
- Use suitable measures to stabilize temporary crossings that must remain in place during high runoff seasons.
- Monitor temporary crossings regularly while installed to evaluate condition.
- Remove temporary crossings and restore the waterbody profile and substrate when the need for the crossing no longer exists.

Standing Water and Wetland Crossings

- Disturb the least amount of area as practicable when crossing a standing waterbody.
- Provide for sufficient cross drainage to minimize changes to, and avoid restricting, natural surface and subsurface water flow of the wetland under the road to the extent practicable.
- Locate and design roads or road drainage to avoid dewatering or polluting wetlands.
- Avoid or minimize actions that would significantly alter the natural drainage for flow patterns on lands immediately adjacent to wetlands.
- **Use suitable measures to increase soil-bearing capacity and reduce rutting from expected traffic.**
- Construct fill roads only when necessary.
- Construct fill roads parallel to water flow and to be as low to natural ground level as practicable.
- **Construct roads with sufficient surface drainage for surface water flows.**