

## Soils

Further direction on Soil Quality Standards is in Rocky Mountain Region Supplement FSH 2509.18-Soil Management Handbook. (See Appendix B.) This direction applies to all allowed activities (livestock, recreation, special uses, etc.). This direction includes a 15 percent threshold on soil disturbance and a minimum percent effective ground cover for the first and the second year after disturbances.

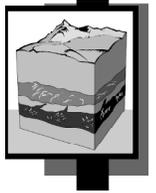
Some standards as indicated also appear in the Rocky Mountain Region Watershed Conservation Practices (WCP) Handbook, FSH 2509.22. This handbook contains design criteria associated with each standard, which provides additional guidance and clarification.

### Soil Productivity

1101. When doing projects, analyze the cumulative effects of disturbances on long-term soil productivity. **STANDARD**

1102. Maintain or improve long-term levels of organic matter and nutrients on all lands. **STANDARD** (Regional WCP Handbook Standard 14)

- a. On soils with topsoil thinner than 1 inch, topsoil organic matter less than 2 percent, or effective rooting depth less than 15 inches, retain 90 percent or more of the fine (less than 3 inches in diameter) logging slash in the stand after each clearcut and seed-tree harvest, and retain 50 percent or more of such slash in the stand after each shelterwood and group-selection harvest, considering existing and projected levels of fine slash. **GUIDELINE**
- b. For areas adjacent to roads and trails, retain slash described in (a) at levels that meet guideline 4112. **GUIDELINE**



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## Soil Disturbance

1103. Manage land treatments to limit the sum of severely burned and detrimentally compacted, eroded, and displaced land to no more than 15 percent of any land unit. “Land treatments” are human actions that disturb vegetation, ground cover or soil. “Land unit” is a mapped land-type polygon or a mapped soil unit. **STANDARD** (Regional WCP Handbook Standard 13)

1104. Minimize soil compaction by reducing off-road vehicle passes, by skidding on snow, frozen or dry soil conditions, or by off-ground logging systems.

### GUIDELINE

1105. Limit roads and other disturbed sites to the minimum feasible number, width, and total length consistent with the purpose of specific operations, local topography and climate. **STANDARD** (Regional WCP Handbook Standard 9)

1106. Stabilize and maintain roads and other disturbed sites during and after construction to control erosion. **STANDARD** (Regional WCP Handbook Standard 11)

1107. Where there is potential for toxic contamination of soil from ground disturbing activities (e.g., oil or gas drilling or mineral exploration), a contingency plan to prevent or rehabilitate soil contamination shall be developed. **STANDARD**

## Slope Stability

1108. Reduce resource damage and investment loss in areas that have a mass movement potential.

a. Perform an on-site slope-stability examination on slopes over 30 percent prior to design of roads or activities that remove most or all of the timber canopy for the following areas and soils:

1. Lakoa, Larkson, and Citadel soils found in the Bear Lodge Mountains;
2. Rockoa and Mathias soils on the Dakota Hogback; and
3. Citadel soil found in the northern and eastern Black Hills.

b. Perform an on-site slope-stability examination on slopes over 55 percent prior to design of roads or activities that remove most or all of the timber canopy on all other soil types. Limit intensive ground-disturbing activities on unstable slopes identified during slope-stability exams.

### GUIDELINE



## Rehabilitation and Revegetation

1109. Reclaim roads and other disturbed sites when use ends, as needed, to prevent resource damage. **STANDARD** (Regional WCP Handbook Standard 12)

1110. \*Initiate re-vegetation as soon as possible, not to exceed 6 months after termination of ground-disturbing activities. Re-vegetate all disturbed soils with native species in seed/plant mixtures that are noxious-weed free. On areas needing immediate establishment of vegetation, non-native, non-aggressive annuals (e.g., wheat, oats, rye) or sterile species may be used while native perennials are becoming established, or when native species are not available (e.g., during drought years or years when wildfires burn large acreages in the United States). Other aggressive non-native perennials (e.g., smooth brome, timothy) will not be used. Seed will be tested for noxious weeds. If mulches are used they are to be noxious-weed free. Weed-free alfalfa seed may be used only when native legume seed is not available and only when there is extensive disturbance associated with road construction or mine reclamation where topsoil is no longer available.

**STANDARD**

1111. Stabilize, scarify or recontour temporary roads, constructed skid trails and landings prior to seeding. **GUIDELINE**

## Surface Water Runoff

1112. Manage land treatments to maintain enough organic ground cover in each land unit to prevent harmful increased runoff. **STANDARD** (Regional WCP Handbook Standard 2)

1113. Construct roads and other disturbed sites to minimize sediment discharge into streams, lakes and wetlands. **STANDARD** (Regional WCP Handbook Standard 10)

1114. When construction of maintenance level 1 roads, temporary roads, skid trails and landings occur, install structures to divert runoff when needed. **STANDARD**

1115. When ground disturbing or vegetation management occur, use vegetative buffer strips or barriers to reduce sediment. Determine buffer width between stream and roads or trails using the equation in Appendix J. **GUIDELINE**

1116. Manage land treatments to conserve site moisture and to protect long-term stream health from damage by increased runoff. **STANDARD** (Regional WCP Handbook Standard 1)