

Attachment 1

Project-Specific Design Criteria and Monitoring

Design Criteria and Mitigation

Forest Plan Standards and Guidelines, Regional Watershed Conservation Practices (WCPs, Forest Service Handbook 2509.25), and other management requirements apply to the selected alternative activities. These requirements are listed in Attachment 2 and repeated here only if clarification is required. Site-specific design criteria applicable to activities planned under Alternative 3 include the following.

Revegetation of Disturbed Soil

1. Native vegetation will be retained to the maximum extent possible during proposed activities. Disturbed soil will be revegetated in a manner that optimizes plant establishment on the site. Revegetation may include topsoil replacement, planting, seeding, fertilization, and placement of weed-free mulch as necessary. Revegetation will be initiated as soon as possible, generally not to exceed 6 months, after termination of ground-disturbing activities. All disturbed soils will be revegetated with native species when available using seed mixtures that are free of noxious weeds. On areas needing the immediate establishment of vegetation, non-native, non-aggressive annuals, non-aggressive perennials, or sterile perennials may be used until native perennials become established.
2. Timber sale roads will be seeded after construction but before timber harvest if any part of the gap between construction and harvest will occur between April and October. This may be accomplished under the road contract. If necessary, seeding will again occur after use of the road is complete. Seeding may be delayed until after completion of harvest if the gap between construction and harvest will be of short duration and/or hydrology, soils, engineering, and noxious weed specialists determine after field review that a delay is acceptable.
3. Slash pile sites will be ripped and reseeded with an approved seed mix as soon as possible following pile disposal (burning, chipping, etc.).

Rare Species

4. To conserve the sole known occurrence of Baker's mariposa lily in Wyoming and South Dakota, logs will be hauled from stands 012108-50 and 012108-78 only to NFSR 805.3 via NFSR 805.3A. Only the first 1.2 miles of 805.3A as measured from its intersection with 805.3 will be reconstructed. No reconstruction will take place on the remainder of 805.3A. No fireline construction will take place in this habitat, displayed in the Moskee Project Analysis File (Section J001). Stands 012108-34 and 012108-38 will be accessed only from NFSR 805.3 and/or the first 0.2 miles of NFSR 805.3B from its intersection with 805.3. NFSRs 805.3B, 805.3E, and 805.3D will not be used, and logs will not be forwarded to these roads.
5. To reduce the potential for negative effects on habitat suitable for sensitive plant species, features that may be located adjacent to stands proposed for treatment (e.g., log landings, skid trails, fire control lines) will not be placed in suitable habitat. Stands proposed for treatment that are adjacent to suitable habitat are listed below and displayed in Section J001 of the Moskee Project Analysis File. Bold type indicates commercial timber harvest is proposed.

011703-13, **16, 29, 44, 58**, 60, 87, 90, 98, **132, 140**, 145

011704-**9, 11, 29, 32, 45**, 69

011801-29, **30, 70, 90, 91**

011806-50, **54, 55, 59, 68**, 85

011901-**17**, 24

011903-13, 14, 43

011904-9, 19, 77

011906-27, **83**, 122
012007-1
012108-29, **34, 38, 50, 78, 91**, 98

Road work proposed in or adjacent to suitable sensitive plant habitat will be coordinated with a botanist. Road work proposed in this habitat includes reconstruction of NFSR 808.1J and a section of 808.1A, and decommissioning of U720040. Road work proposed adjacent to suitable habitat includes construction of road N-8, reconstruction of NFSRs 808.1A, 808.2B, and 820.1, and decommissioning of roads U710085, U740078, and U740119. Maps of affected areas are in Section J001 of the Analysis File..

6. The documented land snail colony (site 143, Frest and Johannes 2002) will be protected. Proposed vegetation treatments will remain 150 feet from the colony or on the other side of NFSR 875, whichever is less. The fence around the site will be protected during all proposed activities. Disturbance of any newly discovered colonies of land snails will be avoided. The district wildlife biologist will determine a buffer area around newly discovered colonies based on site-specific conditions.
7. Any new goshawk nests found during project implementation will be protected in accordance with Forest Plan direction. Any other raptor nests found during project layout or implementation will be evaluated by a wildlife biologist on a site-specific basis to determine if special requirements are warranted to protect site integrity.

Protection of Pine Regeneration

8. In stands or portions of stands treated with overstory removal harvest, existing pine regeneration will be protected during all phases of harvest operations. Timber in these stands will be felled and skidded with mechanical equipment. In addition, contract provisions regarding protection of pine regeneration will be included in the timber sale contract. Skid trails within these stands will be at least 100 feet apart and their location approved by the sale administrator prior to commencement of logging.

Heritage Resources

9. Known heritage sites will be protected. No activities will take place within 100 feet of these sites. Heritage sites will be avoided during all proposed activities. Leaders of proposed projects will review heritage maps and implement mitigation measures for sites listed in the heritage resources file.
10. If previously unknown heritage resources are discovered during project activities, project staff will stop ground-disturbing actions and notify the district archeologist before activities are resumed.
11. Heritage resource inventory will be completed in proposed burn units prior to implementation per USFS Agreement No. 01-MU-11020000-015 (Programmatic Agreement Among the Advisory Council on Historic Preservation, the Colorado, Wyoming, South Dakota, Nebraska, and Kansas SHPOs, and the USDA Forest Service Rocky Mountain Region Regarding Implementation of the Prescribed Fire Program).

Improvements

12. All Forest Service-authorized improvements, such as maintained fences, property corners, and water developments, will be shown as protected improvements on timber sale area maps and protected during all management activities.
13. Electrical lines along NFSR 805.1 may have aboveground junction boxes requiring protection. Activities in this area will be coordinated with Powder River Energy Corporation.

Noxious Weeds

14. Noxious weed control activities will take place prior to ground-disturbing activities, when funded, to reduce weed spread and establishment.
15. Review of the area for noxious weed infestations will continue during proposed activities. If new noxious weed infestations that could be spread by proposed activities are found during implementation, actions to minimize spread will be taken.
16. Prescribed burn plans will address control of known noxious weed infestations within burn blocks.
17. District staff responsible for the noxious weed program will, in coordination with the project engineer, inspect gravel pits for noxious weed infestation before transport and use of gravel and other material. Infestations will be treated to prevent spread.
18. District staff responsible for the noxious weed program will inspect stockpiled gravel annually for weed infestation in coordination with the project engineer.
19. Contracts and permits issued as part of this project will include measures to limit spread of noxious weeds. Heavy equipment used for timber harvest will be washed before entering the timber sale area if the area it previously operated in is unknown or documented to be infested with noxious weeds. Where data are unavailable, noxious weed infestations will be identified by district staff and designated on sale area maps for any timber sales associated with this project.
20. See also Noxious Weed Prevention Practices in Attachment 2.

Recreation and Public Safety

21. Appropriate signing or other cautionary measures will be implemented in conjunction with all management activities to ensure public safety. Implementation of these measures will be the responsibility of the person initiating the action (e.g., logging contractor, prescribed fire manager).
22. To prevent the loss of winter recreation activities and provide for safety of winter visitors, wheeled vehicles will be prohibited from using designated snowmobile trails from December 15 to March 31. Designated snowmobile trails are those that will be identified for the 2007-2008 snowmobile season.
23. If winter log hauling takes place, snowmobiles will be restricted to designated trails. Cautionary signs will be installed where snowmobile trails cross routes used by wheeled vehicles.

Range

24. Managers of vegetation treatment projects will consult with district range managers to ensure alteration of natural barriers does not allow livestock to circumvent fences.
25. All pasture gates will be identified on timber sale area maps and kept closed during the grazing season (generally June through October).
26. If log hauling or movement of heavy equipment related to the proposed timber harvest causes damage to cattleguards, the timber purchaser will be responsible for repair.
27. Landings and slash piles will be located outside grasslands, meadows, and riparian areas to protect vegetation and reduce loss of available forage unless approved by the district range manager, botanist, and hydrologist.
28. Road work will be coordinated with grazing permit holders.

Snags

29. Snags will be cut only for safety reasons, including when necessary to provide safe passage on roads, skid trails, fire control lines, and at log landings.
30. Where possible, any snags cut as safety hazards will be left on site rather than salvaged or skidded to landings. Timber sale contract provisions will be used to protect snags.
31. To ensure provision of down woody material, 50 or more linear feet per acre of logs averaging at least 10 inches in diameter will be left on site following all commercial treatments.

Soil and Water

32. Heavy equipment will not enter the water influence zone along perennial or intermittent streams (100 feet on either side of the stream) (Standard 1301 and WCP management measure 3) except to conduct road work at designated locations. Proposed commercial and/or non-commercial treatments may overlap water influence zones at locations identified in the project file. If harvest units are laid out within water influence zones at these sites, logs will be removed using the method that results in the least ground disturbance, depending on site-specific conditions. Prescribed fire may occur in water influence zones but should not include direct ignition.
33. Heavy equipment use on areas where Vanocker soils present a severe erosion hazard, such as below rock outcrops in soil map unit 155 and on ridges and sideslopes in map unit 201, will be avoided consistent with WCPH Management Measure 9, Design Criteria (e). Affected stands include 011701-35, 011703-102, 011703-191, 011801-30, 011801-70, 011801-91, 011803-1, 011803-27, 011804-39, 011805-3, 011901-09, 011901-14, 011901-23, 012007-5, 012007-6, and 012108-78. These stands are displayed in the Analysis File, Section J012.
34. Cable logging systems that lift one end of the log will be used on sustained slopes steeper than 40 percent and on moderately to severely burned slopes greater than 30 percent consistent with WCPH Management Measure 9, Design Criteria (g).
35. Roads, landings, skid trails, and other concentrated use sites will be restricted to designated sites consistent with WCPH Management Measure 12/Design Criteria (a).
36. Heavy equipment used for land treatments will be operated only when soil moisture is below the plastic limit or soil is protected by packed snow or frozen soil consistent with WCPH Management Measure 13/ Design Criteria (b).
37. On soil map units with limited organic material, shelterwood seedcut and group selection harvest within Paunsaugunt soil areas of the specified map units will be conducted using conventional harvest systems that retain the slash. Affected areas are shown in Section J002 of the Moskee Project Analysis File. Soils are shown on Map 4 in EA Appendix 1. If whole-tree harvesting is used, fine slash (less than three inches in diameter) will be returned to the site in quantities identified in Forest Plan Standard 1102/Guideline(a).
38. Prescribed burns will be conducted to minimize the residence time on the soil while meeting burn objectives in accordance with WCPH Management Measure 13/Design Criteria (c).

39. Portions of stands 011902-56 and 011902-57 where revegetation following past burns is incomplete will be avoided during timber harvest.
40. No timber harvest will take place within 100 feet of the spring and pond in stand 011808-40.
41. On other areas to be harvested meeting the slope stability survey criteria, in contiguous areas or concentrations of areas exceeding one acre, at least 25 to 33 percent of the canopy cover will be retained. These areas are mapped in Section J004 of the Moskee Project Analysis File.
42. See Watershed Conservation Practices in Attachment 2.

Travel Management

43. While proposed projects are taking place, all gates that will normally be closed during big game hunting seasons will be kept closed during these seasons and one week before the seasons except to allow administrative traffic. Gates will be closed again immediately after the administrative traffic passes.
44. Timber sale units will be laid out to facilitate existing road restrictions (for example, trees around gates and other barriers will be left uncut to maintain obstructions and discourage driving around the gate or barrier).
45. All newly constructed roads will be closed following construction until needed for timber sale or related activities and stored on completion of use.

Scenery

46. Layout and marking of timber sale units will comply with forest-wide marking guides in effect at the time of implementation.

Dust Control

47. Dust control, if necessary, may be done with water, magnesium chloride, calcium chloride, or equivalent.

Monitoring

The Forest Service will monitor implementation of the selected alternative. The timber sale administrator or other contract administrators will complete some of the project implementation monitoring as part of standard contract administration duties. Other resource specialists will be involved in monitoring of specific measures relating to their particular resource area. Monitoring items are listed below.

- The district archeologist will monitor known heritage sites eligible or potentially eligible to the National Register of Historic Places before and after project implementation.
- Prescribed fire managers will establish photo points in prescribed burn units to compare pre- and post-treatment conditions and document fire behavior during implementation.
- Fuels staff will evaluate effectiveness of fuel treatments in reducing fuel loading.
- Project managers will monitor revegetation of disturbed and burned areas to determine need for additional measures and noxious weed control.
- Wildlife staff will monitor the Frest snail colony to determine effectiveness of protective measures and need for any further measures.
- Wildlife staff will monitor known and suspected goshawk nests annually for nesting activity.
- If funds are available, engineering and hydrology/soils specialists will monitor effectiveness

of erosion control measures (seeding, water bars, etc.) one and three years following installation.

- If funds are available, hydrology/soils staff will monitor soil compaction at a sample of timber sale landings and harvest units.
- Timber sale administrators and hydrology/soils specialists will monitor application and effectiveness of Best Management Practices.
- The district planning team will monitor project implementation following completion of activities.