
***Cedar City Field Office Resource Management
Plan/Environmental Impact Statement:
Analysis of the Management Situation***

Appendix C

Rangeland Health Standards and Guidelines

APPENDIX C. RANGELAND HEALTH STANDARDS AND GUIDELINES

Fundamentals of Rangeland Health

The Fundamentals of Rangeland Health stated in 43 CFR 4180 are:

- a. Watersheds are in, or are making significant progress toward, properly functioning physical condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage and the release of water that are in balance with climate and landform and maintain or improve water quality, water quantity and timing and duration of flow.
- b. Ecological processes, including the hydrologic cycle, nutrient cycle and energy flow, are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.
- c. Water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established Bureau of Land Management objectives such as meeting wildlife needs.
- d. Habitats are, or are making significant progress toward being, restored or maintained for Federal threatened and endangered species, Federal Proposed or candidate threatened and endangered species and other special status species.

The fundamentals of rangeland health combine the basic precepts of physical function and biological health with elements of law relating to water quality, and plant and animal populations and communities. They provide direction in the development and implementation of the Standards and Guidelines for Healthy Rangelands.

Standards and Guidelines for Healthy Rangelands (1997)

Standard 1. Upland soils exhibit permeability and infiltration rates that sustain or improve site productivity, considering the soil type, climate, and landform.

As indicated by:

- a) Sufficient cover and litter to protect the soil surface from excessive water and wind erosion, promote infiltration, detain surface flow, and retard soil moisture loss by evaporation.
- b) The absence of indicators of excessive erosion such as rills, soil pedestals, and actively eroding gullies.
- c) The appropriate amount, type, and distribution of vegetation reflecting the presence of (1) the Desired Plant Community [DPC], where identified in a land use plan, or (2) where the DPC is not identified, a community that equally sustains the desired level of productivity and properly functioning ecological conditions.

Standard 2. Riparian and wetland areas are in properly functioning condition. Stream channel morphology and functions are appropriate to soil type, climate and landform.

As indicated by:

- a) Streambank vegetation consisting of, or showing a trend toward, species with root masses capable of withstanding high streamflow events. Vegetative cover adequate to protect stream banks and dissipate streamflow energy associated with high-water flows, protect against accelerated erosion, capture sediment, and provide for groundwater recharge.
- b) Vegetation reflecting: Desired Plant Community, maintenance of riparian and wetland soil moisture characteristics, diverse age structure and composition, high vigor, large woody debris when site potential allows, and providing food, cover and other habitat needs for dependent animal species.
- c) Revegetating point bars; lateral stream movement associated with natural sinuosity; channel width, depth, pool frequency and roughness appropriate to landscape position.
- d) Active floodplain.

Standard 3. Desired species, including native, threatened, endangered, and special-status species, are maintained at a level appropriate for the site and species involved.

As indicated by:

- a) Frequency, diversity, density, age classes, and productivity of desired native species necessary to ensure reproductive capability and survival.
- b) Habitats connected at a level to enhance species survival.
- c) Native species reoccupy habitat niches and voids caused by disturbances unless management objectives call for introduction or maintenance of nonnative species.
- d) Appropriate amount, type, and distribution of vegetation reflecting the presence of (1) the Desired Plant Community [DPC], where identified in a land use plan conforming to these Standards, or (2) where the DPC is identified a community that equally sustains the desired level of productivity and properly functioning ecological processes.

Standard 4. BLM would apply and comply with water quality standards established by the State of Utah (R.317-2) and the Federal Clean Water and Safe Drinking Water Acts. Activities on BLM Lands would support the designated beneficial uses described in the Utah Water Quality Standards (R.317-2) for surface and groundwater. ¹

As indicated by:

- a) Measurement of nutrient loads, total dissolved solids, chemical constituents, fecal coliform, water temperature and other water quality parameters.
- b) Macro-invertebrate communities that indicate water quality meets aquatic objectives.

- c) BLM would continue to coordinate monitoring water quality activities with other Federal, State and technical agencies.

Guidelines for Grazing Management (1997)

1. Fundamentals of Rangeland Health

The Fundamentals of Rangeland Health stated in 43 CFR 4180 are:

- e. Watersheds are in, or are making significant progress toward, properly functioning physical condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage and the release of water that are in balance with climate and landform and maintain or improve water quality, water quantity and timing and duration of flow.
- f. Ecological processes, including the hydrologic cycle, nutrient cycle and energy flow, are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.
- g. Water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established Bureau of Land Management objectives such as meeting wildlife needs.
- h. Habitats are, or are making significant progress toward being, restored or maintained for Federal threatened and endangered species, Federal Proposed or candidate threatened and endangered species and other special status species.

The fundamentals of rangeland health combine the basic precepts of physical function and biological health with elements of law relating to water quality, and plant and animal populations and communities. They provide direction in the development and implementation of the Standards and Guidelines for Healthy Rangelands.

Standards and Guidelines for Healthy Rangelands (1997)

Standard 1. Upland soils exhibit permeability and infiltration rates that sustain or improve site productivity, considering the soil type, climate, and landform.

As indicated by:

- a) Sufficient cover and litter to protect the soil surface from excessive water and wind erosion, promote infiltration, detain surface flow, and retard soil moisture loss by evaporation.
- b) The absence of indicators of excessive erosion such as rills, soil pedestals, and actively eroding gullies.
- c) The appropriate amount, type, and distribution of vegetation reflecting the presence of (1) the Desired Plant Community [DPC], where identified in a land use plan, or (2) where the DPC is not identified, a community that equally sustains the desired level of productivity and properly functioning ecological conditions.

Standard 2. Riparian and wetland areas are in properly functioning condition. Stream channel morphology and functions are appropriate to soil type, climate and landform.

As indicated by:

- a) Streambank vegetation consisting of, or showing a trend toward, species with root masses capable of withstanding high streamflow events. Vegetative cover adequate to protect stream banks and dissipate streamflow energy associated with high-water flows, protect against accelerated erosion, capture sediment, and provide for groundwater recharge.
- b) Vegetation reflecting: Desired Plant Community, maintenance of riparian and wetland soil moisture characteristics, diverse age structure and composition, high vigor, large woody debris when site potential allows, and providing food, cover and other habitat needs for dependent animal species.
- c) Revegetating point bars; lateral stream movement associated with natural sinuosity; channel width, depth, pool frequency and roughness appropriate to landscape position.
- d) Active floodplain.

Standard 3. Desired species, including native, threatened, endangered, and special-status species, are maintained at a level appropriate for the site and species involved.

As indicated by:

- a) Frequency, diversity, density, age classes, and productivity of desired native species necessary to ensure reproductive capability and survival.
- b) Habitats connected at a level to enhance species survival.
- c) Native species reoccupy habitat niches and voids caused by disturbances unless management objectives call for introduction or maintenance of nonnative species.
- d) Appropriate amount, type, and distribution of vegetation reflecting the presence of (1) the Desired Plant Community [DPC], where identified in a land use plan conforming to these Standards, or (2) where the DPC is identified a community that equally sustains the desired level of productivity and properly functioning ecological processes.

Standard 4. BLM would apply and comply with water quality standards established by the State of Utah (R.317-2) and the Federal Clean Water and Safe Drinking Water Acts. Activities on BLM Lands would support the designated beneficial uses described in the Utah Water Quality Standards (R.317-2) for surface and groundwater. ¹

As indicated by:

- a) Measurement of nutrient loads, total dissolved solids, chemical constituents, fecal coliform, water temperature and other water quality parameters.
- b) Macro-invertebrate communities that indicate water quality meets aquatic objectives. BLM would continue to coordinate monitoring water quality activities with other Federal, State and technical agencies.

Guidelines for Grazing Management (1997)

1. Grazing management practices would be implemented that:

- (a) Maintain sufficient residual vegetation and litter on both upland and riparian sites to protect the soil from wind and water erosion and support ecological functions;
- (b) Promote attainment or maintenance of proper functioning condition riparian/wetland areas, appropriate stream channel morphology, desired soil permeability and infiltration, and appropriate soil conditions and kinds and amounts of plants and animals to support the hydrologic cycle, nutrient cycle and energy flow;
- (c) Meet the physiological requirements of desired plants and facilitate reproduction and maintenance of desired plants to the extent natural conditions allow;
- (d) Maintain viable and diverse populations of plants and animals appropriate for the site;
- (e) Provide or improve, within the limits of site potentials, habitat for Threatened or Endangered Species;
- (f) Avoid grazing management conflicts with other species that have the potential of becoming protected or special status species;
- (g) Encourage innovation, experimentation and the ultimate development of alternatives to improve rangeland management practices;
- (h) Give priority to rangeland improvement projects and land treatments that offer the best opportunity for achieving the Standards.

2. Any spring or seep developments would be designed and constructed to protect ecological process and functions and improve livestock, wild horse and wildlife distribution.

3. New rangeland projects for grazing would be constructed in a manner consistent with the Standards. Considering economic circumstances and site limitations, existing rangeland projects and facilities that conflict with the achievement or maintenance of the Standards would be relocated and/or modified.

4. Livestock salt blocks and other nutritional supplements would be located away from riparian/wetland areas or other permanently located, or other natural water sources. It is recommended that the locations of these supplements be moved every year.

5. The use and perpetuation of native species would be emphasized. However, when restoring or rehabilitating disturbed or degraded rangelands non-intrusive, nonnative plant species are appropriate for use where native species (a) are not available, (b) are not economically feasible, cannot achieve ecological objectives as well as nonnative species, and/or (d) cannot compete with already established native species.

6. When rangeland manipulations are necessary, the best management practices, including biological processes, fire and intensive grazing, would be utilized prior to the use of chemical or mechanical manipulations.

7. When establishing grazing practices and rangeland improvements, the quality of the outdoor recreation experience is to be considered. Aesthetic and scenic values, water, campsites and opportunities for solitude are among those considerations.

8. Feeding of hay and other harvested forage (which does not refer to miscellaneous salt, protein and other supplements) for the purpose of substituting for inadequate natural forage

would not be conducted on BLM lands other than in (a) emergency situations where no other resource exists and animal survival is in jeopardy, or (b) situations where the Authorized Officer determines such a practice would assist in meeting a Standard or attaining a management objective.

9. In order to eliminate, minimize or limit the spread of noxious weeds, (a) only hay cubes, hay pellets or certified weed-free hay would be fed on BLM lands, and (b) reasonable adjustments in grazing methods, methods of transport and animal husbandry practices would be applied.

10. To avoid contamination of water sources and inadvertent damage to non-target species, aerial application of pesticides would not be allowed within 100 feet of a riparian/wetland area unless the product is registered for such use by the EPA.

11. On rangelands where a standard is not being met, and conditions are moving toward meeting the standard, grazing may be allowed to continue. On lands where a standard is not being met, conditions are not improving toward meeting the standard or other management objectives, and livestock grazing is deemed responsible, administrative action with regard to livestock would be taken by the Authorized Officer pursuant to CFR 4180.2(c).

12. Where it can be determined that more than one kind of grazing animal is responsible for failure to achieve a Standard, and adjustments in management are required, those adjustments would be made to each kind of animal, based on interagency cooperation as needed, in proportion to their degree of responsibility.

13. Rangelands that have been burned, seeded or otherwise treated to alter vegetative composition would be closed to livestock grazing as follows: (1) burned rangelands, whether by wildfire or prescribed burning, would not be grazed for a minimum of one complete growing season following the burn; and (2) rangelands that have been seeded or otherwise chemically or mechanically treated would not be grazed for a minimum of two complete growing seasons.

14. Conversions in kind of livestock (such as from sheep to cattle) would be analyzed in light of Rangeland Health Standards. Where such conversions are not adverse to achieving a Standard, or they are not in conflict with BLM land use plans, the conversion would be allowed. Grazing management practices would be implemented that:

- (a) Maintain sufficient residual vegetation and litter on both upland and riparian sites to protect the soil from wind and water erosion and support ecological functions;
- (b) Promote attainment or maintenance of proper functioning condition riparian/wetland areas, appropriate stream channel morphology, desired soil permeability and infiltration, and appropriate soil conditions and kinds and amounts of plants and animals to support the hydrologic cycle, nutrient cycle and energy flow;
- (c) Meet the physiological requirements of desired plants and facilitate reproduction and maintenance of desired plants to the extent natural conditions allow;
- (d) Maintain viable and diverse populations of plants and animals appropriate for the site;
- (e) Provide or improve, within the limits of site potentials, habitat for Threatened or Endangered Species;

- (f) Avoid grazing management conflicts with other species that have the potential of becoming protected or special status species;
 - (g) Encourage innovation, experimentation and the ultimate development of alternatives to improve rangeland management practices;
 - (h) Give priority to rangeland improvement projects and land treatments that offer the best opportunity for achieving the Standards.
2. Any spring or seep developments would be designed and constructed to protect ecological process and functions and improve livestock, wild horse and wildlife distribution.
 3. New rangeland projects for grazing would be constructed in a manner consistent with the Standards. Considering economic circumstances and site limitations, existing rangeland projects and facilities that conflict with the achievement or maintenance of the Standards would be relocated and/or modified.
 4. Livestock salt blocks and other nutritional supplements would be located away from riparian/wetland areas or other permanently located, or other natural water sources. It is recommended that the locations of these supplements be moved every year.
 5. The use and perpetuation of native species would be emphasized. However, when restoring or rehabilitating disturbed or degraded rangelands non-intrusive, nonnative plant species are appropriate for use where native species (a) are not available, (b) are not economically feasible, cannot achieve ecological objectives as well as nonnative species, and/or (d) cannot compete with already established native species.
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 7. When establishing grazing practices and rangeland improvements, the quality of the outdoor recreation experience is to be considered. Aesthetic and scenic values, water, campsites and opportunities for solitude are among those considerations.
 8. Feeding of hay and other harvested forage (which does not refer to miscellaneous salt, protein and other supplements) for the purpose of substituting for inadequate natural forage would not be conducted on BLM lands other than in (a) emergency situations where no other resource exists and animal survival is in jeopardy, or (b) situations where the Authorized Officer determines such a practice would assist in meeting a Standard or attaining a management objective.
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