

Appendix W. Land Health Standards

In managing and implementing all resource programs, BLM must consider the Land Health Standards described in *Arizona Standards for Rangeland Health and Guidelines for Grazing Administration* (Rangeland Management). The Land Health Standards were developed, pursuant to 43 CFR 4180, through a collaborative process involving BLM's staff and the Arizona Resource Advisory Council (RAC). The Land Health Standards were approved by the Secretary of the Interior in April 1997. These standards have been developed to determine the characteristics of healthy ecosystems on public lands and management actions to promote them. When approved, the Land Health Standards became BLM Arizona policy, guiding the planning for and management of BLM-administered lands. The Land Health Standards, therefore, have been incorporated into both the Sonoran Desert National Monument and Lower Sonoran RMPs. Listed below are the standards that describe the conditions needed to encourage proper functioning of ecological processes and that have been adopted as the Land Health Standards applicable program wide to BLM Arizona.

W.1. Standard One: Upland Sites

Upland soils exhibit infiltration, permeability, and erosion rates that are appropriate to soil type, climate, and landform (ecological site). Criteria for Meeting Standard One Soil conditions support the proper functioning of hydrologic, energy, and nutrient cycles. Many factors interact to maintain stable soils and healthy soil conditions, including suitable amounts of vegetation cover, litter, and soil porosity and organic matter. Under proper functioning conditions, rates of soil loss and infiltration are consistent with the site's potential. Ground cover in the form of plants, litter, or rock is present in pattern, kind, and amount sufficient to prevent accelerated erosion for the ecological site; or ground cover is increasing as determined by monitoring over an established period of time. Signs of accelerated erosion are minimal or diminishing for the ecological site as determined by monitoring over an established period of time. As indicated by such factors as:

- ground cover,
- litter,
- live vegetation (e.g., grass, shrubs, trees) amount and type,
- rock,
- signs of erosion,
- flow pattern,
- gullies, and
- rills and plant pedestaling.

Exceptions and exemptions (where applicable): None.

W.2. Standard Two: Riparian-Wetland Sites

Riparian-wetland areas are in properly functioning condition.

Criteria for Meeting Standard Two

Stream channel morphology and functions are appropriate for proper functioning condition for existing climate, landform, and channel reach characteristics. Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate the stream energy of high-water flows. Riparian-wetland functioning condition assessments are based on examination of hydrologic, vegetation, soil and erosion-deposition factors. BLM has developed a standard checklist to address these factors and make functional assessments. Riparian-wetland areas are functioning properly as shown by the results of applying the appropriate checklist. The checklist for riparian areas is in Technical Reference 1737-9, Process for Assessing Proper Functioning Condition (BLM 1993d). The checklist for wetlands is in Technical Reference 1737-11, Process for Assessing Proper Functioning Condition for Lentic Riparian-Wetland Areas (BLM 1994c). As indicated by such factors as the following:

- gradient,
- width/depth ratio,
- channel roughness and sinuosity of stream channel,
- bank stabilization,
- reduced erosion,
- captured sediment,
- ground water recharge, and
- dissipation of energy by vegetation.

Exceptions and exemptions (where applicable):

- Dirt tanks, wells, and other water facilities built or placed at a location to provide water for livestock or wildlife and not determined through local planning to provide for riparian or wetland habitat are exempt.
- Water impoundments permitted for construction, mining, or other similar activities are exempt.

W.3. Standard Three: Desired Future Conditions

Productive, diverse upland and riparian-wetland plant communities of native species exist and are maintained. Criteria for Meeting Standard Three Upland and riparian-wetland plant communities meet DPC objectives. Plant community objectives are determined with consideration for all multiple uses. Objectives also address native species and the requirements of the Taylor Grazing Act (TGA); FLPMA; Endangered Species Act (ESA); Clean Water Act (CWA); and suitable laws, regulations, and policies. DPC objectives will be developed to assure that soil conditions and ecosystem function described in Standards 1 and 2 are met. These objectives detail a site-specific plant community, which when obtained, will assure rangeland health; State water quality standards; and habitat for endangered, threatened, and sensitive species. Thus, DPC objectives will be used as an indicator of ecosystem function and rangeland health. As indicated by such factors as the following:

- composition,
- structure, and
- distribution.

Exceptions and exemptions (where applicable): Ecological sites or stream reaches on which a change in existing vegetation is physically, biologically, or economically impractical are exempt.