**TABLE 4-8** Rangeland Health Evaluation Matrix

| Indicator | Healthy | At Risk | Unhealthy |
|---|---|---|---|
| | *Phase 1: Soil stability and watershed function* | | |
| A-horizon | Present and distribution unfragmented | Present but fragmented distribution developing | Absent, or present only in association prominent plants or with other obstructions |
| Pedestaling | No pedestaling of plants or rocks | Pedestals present, but on mature plants only; no roots exposed | Most plants and rocks pedestaled; roots exposed |
| Rills and gullies | Absent, or with blunted and muted features | Small, embryonic, and not connected into a dendritic pattern | Well defined, actively expanding, dendritic pattern established |
| Scouring or sheet erosion | No visible scouring or sheet erosion | Patches of bare soil or scours developing | Bare areas and scours well developed and contiguous |
| Sedimentation or dunes | No visible soil deposition | Soil accumulating around plants or small obstructions | Soil accumulating in large barren deposits or dunes or behind large obstructions |
| | *Phase 2: Distribution of nutrient cycling and energy flow* | | |
| Distribution of plants | Plants well distributed across site | Plant distribution becoming fragmented | Plants clumped, often in association with prominent individuals; large bare areas between clumps |
| Litter distribution and incorporation | Uniform across site | Becoming associated with prominent plants or other obstructions | Litter largely absent |
| Root distribution | Community structure results in rooting throughout the available soil profile | Community structure results in absence of roots from portions of the available soil profile | Community structure results in rooting in only one portion of the available soil profile |
| Distribution of photosynthesis | Photosynthetic activity occurs throughout the period suitable for plant growth | Most photosynthetic activity occurs during one portion of the period suitable for plant growth | Little or no photosynthetic activity on location during most of the period suitable for plant growth |
| | *Phase 3: Recovery mechanisms* | | |
| Age-class distribution | Distribution reflects all species | Seedlings and young plants missing | Primarily old or deteriorating plants present |
| Plant vigor | Plants display normal growth form | Plants developing abnormal growth form | Most plants in abnormal growth form |
| Germination microsite | Microsites present and distributed across the site | Developing crusts, soil movement, or other factors degrading microsites; developing crusts are fragile | Soil movement or crusting sufficient to inhibit most germination and seedling establishment |

**TABLE 4-7** Relationship between Health Criteria and Thresholds

| Phase | Healthy | At Risk | Unhealthy |
|---|---|---|---|
| 1. Soil stability and watershed function | No evidence of soil movement | Soil is moving, but remains on site | Soil is moving off site |
| 2. Distribution of nutrients and energy | Plant and litter distribution unfragmented | Fragmented distribution developing | Fragmented distribution developed; with large barren areas between fragments |
| | Photosynthetic activity occurs throughout the period suitable for plant growth | Photosynthetic activity restricted during one or more seasons | Photosynthetic activity restricted to one season only |
| | Rooting throughout the available soil profile | Roots absent from portions of the available soil profile | Rooting in only one portion of the available soil profile |
| 3. Recovery mechanisms | Diverse age-class distribution | Seedlings and young plants are missing | Decadent plants predominate |
| | Plants are vigorous | Plant vigor is reduced | Plant vigor is poor |
| | Germination microsites are present and well distributed | Developing crusts or soil movement degrade microsites | Soil movement or crusting inhibit most germination |