

Areas managed for roaded natural recreation would receive specific vegetative treatments designed to improve or maintain existing visual conditions for viewing from a motor vehicle. These treatments would generally include standard timber harvest procedures, but with extended rotations to produce the desired sizes and numbers of trees (50 percent of the stand will be 24 inches in diameter or greater before final harvest could occur). Tree vigor increases early in the rotation and then declines slightly in latter years – ponderosa pine stands retain 90 percent of their full growth potential at 140 years, whereas mixed-conifer stands would probably fall below that level in the same time period

## 2. Forage

The Forest is not a continuous landscape of trees, forested areas are interspersed with meadows, openings around springs and along streams, and dry, juniper/ bunchgrass and sagebrush-covered hillsides. These nonforest areas comprise about 20 percent of the Malheur National Forest.

Rangelands provide habitat and food for many species of wildlife, both game and nongame, and currently support a summer population of about 6,600 elk on the Forest. They also provide scenic diversity and are the most productive grazing land for livestock, which is important to the social and economic welfare of local communities.

Forested areas at all elevations furnish summer range for cattle and big game. The forage yields from these areas depend on density of the tree canopy. Low-elevation areas are used as winter range by Rocky Mountain elk, mule deer, and wild horses (see discussion of wildlife).

The most extensive and valuable forested community for livestock grazing is ponderosa pine. In prime condition, it is an open forest which produces considerable green forage with good protein content during the hot season. Because of this, the ponderosa pine/bunchgrass type is more valuable than low-elevation bunchgrass range late in the grazing season. Livestock grazing has been heavy for many years in ponderosa pine forests and on the interspersed openings, meadows, and streamside zones which cattle favor.

### a. Land Classification

The Forest produces forage from a land base of 1,459,422 acres. Of these, 1,351,255 acres are available for cattle grazing. Forest lands not available for cattle grazing include:

- a. Original Strawberry Mountain Wilderness, 33,000 acres
- b. Long Creek and Canyon City Municipal Watershed, 610 acres
- c. Administrative Sites, 607 acres
- d. Roads, 26,721 acres
- e. Water (outside Wilderness), 112 acres
- f. Not included in grazing allotments, 35,445 acres
- g. Rockland, 11,672 acres

### b. Livestock Use of Forage

Suitable rangelands on the Forest need uniform grazing distribution to maintain long-term productivity. Proper stocking rates, effective grazing systems, water development, fencing, vegetation treatment, and permittee cooperation are important parts of an overall management plan which improves livestock distribution.

Currently about 25,000 cow/calf pairs graze on the Forest during late spring, summer, and early fall. Most of the cattle operations using the Malheur National Forest are commercial cow and calf operations. The average grazing permit is 150 cow/calf pairs. Grazing permits supply summer forage for those livestock operations. Approximately two-thirds of a brood cow's yearly diet is from grazed forage. During the winter months, cattle are fed hay produced on irrigated lands. Further discussion about the livestock industry can be found in the "Social and Economic Setting" portion of this chapter.

Livestock forage use is managed by grazing permits. Permits provide individuals, organizations, or other entities with permission to place livestock on National Forest System land under management of the permittee. This use is further administered by development and use of allotment management plans or coordinated resource management plans. These plans govern activities on a site-specific basis and will be updated to implement management practices contained in the approved Forest Plan.

Cattle prefer to graze low-lying areas such as draws, streamside zones, and meadows, but make only limited use of slopes greater than 35 percent. They also graze near perennial streams because of easy access to water and shade. The majority of these areas are in satisfactory condition.

Areas in unsatisfactory condition occur on all grazing allotments on the Forest. They are small areas usually associated with water and other features that cattle prefer. These areas comprise 3 to 5 percent of the Forest and are difficult to manage because of their strong appeal to livestock. Opportunities to correct unsatisfactory conditions include development of upland water sources, seeding of forage species, better herd management to distribute cattle throughout an allotment, and better use of forage resources.

The capability to increase herbaceous vegetation and thereby improve range condition exists. Additional range improvements needed to achieve these goals would require increases in Forest and permittee financing. Grazing potential on the Forest using intensive range management practices is 194,000 AUMs annually over the next 10 years. This potential could increase to 274,000 AUMs by the end of a 50-year planning horizon.

Actual use of National Forest forage by livestock is currently 109,000 animal-unit months (fiscal year 1985 use data), permitted use for that same year was 117,000 animal-unit months. Nationally, the demand for red meat has decreased for the past several years. A downward trend in national demand for red meat (i.e., beef) is reflected in a number of ranches which have been for sale in the area over the past several years. Similarly, permittees electing to take nonuse rather than utilize the available forage on their allotments also indicates some decrease in the demand for meat. But the demand for grazing permits remains strong and could increase over time because the permit adds value to the base ranch property.

*c Wild and  
Free-Roaming Horses*

In Oregon, early explorers described vast herds of wild horses ranging from the Ochoco Mountains to the Snake River. These horses were commonly rounded up by individuals and often provided a continuing supply for domestic use. These herds were also subject to much misuse and exploitation.

Congress, responding to national concerns, enacted Public Law 92-195 which recognized the wild, free-roaming horses and burros as "living symbols of the historic and pioneer spirit of the west," and directed that, "they be protected from capture, branding, harassment, or death." The law also directed that these animals be maintained by managing native habitats where the herds were located.

A Wild Horse Management Plan for the Murderers Creek-South Fork John Day River herd, later known as the Murderers Creek Wild Horse Territory, was developed, approved, and implemented by the USDA Forest Service and USDI Bureau of Land Management in 1975. The plan's goal was to provide protection, management, and control of wild, free-roaming horses in a herd averaging 100 animals to maintain a balance with other resources.

*d Relationship Between  
Forest Management and  
Forage*

Timber management activities affect plants other than trees. These understory effects include the production, composition, and vigor of herbaceous forage and brush species. Intensive timber management activities are designed to reduce tree canopy and basal area per acre to optimize tree growth. Pinegrass, elk sedge, and most forage species

will increase in amount and vigor due to increased amounts of sunlight reaching the forest floor. These understory species may compete with tree seedlings (either planted or natural) for nutrients and water. Timber management activities may reduce ground vegetation during attempts to establish a new tree stand

Ponderosa pine/pinegrass communities typically produce 500 to 600 pounds of forage per acre with 50 percent tree cover. As pine is replaced by fir, tree cover increases significantly; when combined pine/fir cover reaches 80 percent, forage production is reduced to 50 to 100 pounds per acre and heartleaf arnica (*Arnica cordifolia*) becomes abundant.

Natural fire, and the use of fire as a silvicultural tool, affects understory vegetation. Pinegrass and elk sedge evolved with natural fire and can withstand burning better than plants which did not. Some plants in the plant community, such as a shrub called snowbrush ceanothus, need fire to trigger germination. Because of fire control, many stands of snowbrush ceanothus have not regenerated.

Bitterbrush and certain other shrubs may be killed by fire and are not generally capable of sprouting unless soil moisture was high when an area burned. Their seeds are not stimulated by a fire's heat.

On forested areas which receive timber management treatment, the soil is disturbed during tree harvest and slash disposal. Those areas are suitable for seeding of nonnative forage species like orchard grass and intermediate wheatgrass. In harvest areas, there will be a mix of natural and introduced grasses. Grazing animals also remove vegetation which competes with regenerating tree stands. Certain range management activities like fencing and upland water developments result in improved cattle distribution and forage utilization.

Wildlife management activities vary from old-growth retention to site-specific improvement projects. Site-specific improvement projects have only short-term, localized effects on forage.

Old-growth stands currently found in wilderness, roadless areas, and visual corridors will continue a natural succession cycle until a fire or insect epidemic sets them back to an earlier, successional stage.

Wilderness visitors using pack stock also affect vegetation by trampling, damaging fragile alpine meadows, and tying stock to trees.

Vegetation resources generally do not affect mineral-related activities. Minerals development may clear away the vegetation, and trees from the claim area can be used to support development. Reclamation activities could improve forage.

Currently, 26,721 acres of the Forest are dedicated to road use. Roads provide access for timber sales, range improvement seedings, or other vegetation management activities which affect vegetation. These effects are described under each resource. Roads provide a seedbed for some noxious weeds and may contribute to their rate of spread. Road surfaces eliminate land from vegetation production.

### 3. Wildlife

The diversity of vegetation types, landforms, and plant successional stages on the Forest provides a variety of wildlife habitats. These habitats support over 365 species, including 22 fish, 9 amphibians, 14 reptiles, 235 birds, and 85 mammals (Thomas, 1979).

Some of these habitats are considered special or unique. Table III-8 (Guenther and Kucera, 1978) lists these habitats and the type of use they receive.