

## RESOURCE COMMITMENTS

### UNAVOIDABLE ADVERSE EFFECTS

Application of forestwide, management area and geographic area standards and guidelines and the resource protection measures described throughout Chapter Three would limit the extent and duration of adverse environmental effects. Nevertheless, some residual adverse effects would occur under any alternative. Each section of Chapter Three of this *FEIS* has described such effects and should be consulted for more details than those summarized here.

### AIR QUALITY

Road construction, road reconstruction, timber harvest, prescribed burning, some recreational activities and other activities can cause temporary and localized reductions in air quality due to dust, exhaust fumes, and smoke. Smoke from wildfires temporarily reduces air quality and visibility. Firewood gathered on Forest System lands and burned for heat contributes gases and particulate matter to the atmosphere.

### SOILS

Wherever vegetation cover and soils are disturbed, there is some short-term erosion. Activities involving vehicles or heavy equipment cause soil compaction.

### WATER QUALITY

When vegetation cover is removed, or soils are disturbed or compacted, there is a short-term increase in sedimentation (movement of soil particles into water). Natural precipitation and flood events can cause sedimentation. Natural occurrences of chemical compounds in surface water reduce water quality. Mining operations have the potential to contaminate surface and ground water. Many historical mining operations are leaking chemical compounds that reduce water quality.

### HAZARDOUS MATERIALS

The use of motor vehicles and the transport of hazardous materials on the roads and highways carry the potential for accidental spills.

### HERITAGE RESOURCES

Both human activities and natural events have the potential to disturb or destroy heritage resources.

## **VEGETATION**

Removal of vegetation cover and soil disturbance or compaction results in loss of vegetative productivity. Depending on the duration of the project, the loss may be short- or long-term.

## **FIRE**

The potential for adverse effects from wildfire, including property destruction, will continue. Logging and thinning may increase fuel hazards in the short term if slash is left scattered on the ground. However, the potential for a catastrophic wildfire is probably greater in unmanaged forest stands than in managed stands because crown fires are more likely.

## **INSECTS AND DISEASES**

Endemic levels of forest insects and diseases will continue. Epidemic levels of insect infestation will occur occasionally, but are more likely in unmanaged stands. The incidence of root diseases is most likely to increase where tree stands are entered for the harvesting of timber at frequent intervals.

## **WILDLIFE**

Activities, such as timber harvest and road construction, cause short-term disturbance and displacement of some wildlife species. Continual activity, such as traffic on a highway or hiking on a trail, may cause long-term displacement from localized areas. Individual animals are accidentally killed by human activities. Fish habitat is degraded by poor water quality, sediment, or contaminants.

## **RECREATION OPPORTUNITIES**

Activities such as timber harvest and road construction temporarily disrupt recreational uses. Some kinds of developments (such as hiking trails) or activities (such as motorized recreation use) may displace incompatible recreation uses over the long term.

## **VISUAL RESOURCES**

Visual quality may be reduced by activities that remove vegetative cover, disturb soils, alter the natural landscape, involve the presence of heavy equipment, and produce dust. The effects of timber harvest or road construction are short-term. The effects of other activities, such as mining operations, may persist for many years.

## **INCOME AND EMPLOYMENT**

Reductions in recreation use, timber harvest, oil and gas leasing and livestock grazing may cause corresponding reductions in local industry employment and income.

## SHORT-TERM USES VERSUS LONG-TERM PRODUCTIVITY

Short-term uses are those expected to occur for the planning period (10 years), including recreation use, timber harvest, and prescribed burning. Long-term productivity refers to the capability of the land to provide resource outputs for a period of time beyond the planning period.

Minimum management requirements, established by regulation (36 CFR 219.27), provide for the maintenance of long-term productivity of the land. Minimum management requirement, as reflected in forestwide management area and geographic area standards and guidelines, will be met under all alternatives. They assure that long-term productivity of the land is not impaired by short-term uses.

Monitoring, as described in the revised *Forest Plan*, applies to all alternatives. One purpose of monitoring is to assure that long-term productivity of the land is maintained or improved. If monitoring shows that the standards and guidelines are inadequate to protect long-term productivity of the land then the *Plan* will be amended.

Although all alternatives are designed to maintain long-term productivity, there are differences among the alternatives in the long-term availability or condition of resources. There also may be differences among alternatives in long-term expenditures necessary to maintain desired conditions. The differences are described in this chapter.

## IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Irreversible and irretreivable commitments of resources are defined in *Forest Service Handbook* 1909.15, Environmental Policy and Procedures (9/21/92).

Irreversible commitments of resources mean the consumption or destruction of nonrenewable resources, such as minerals or heritage resources, or the degradation of resources, such as soil productivity, which can be renewed only over long periods of time.

Irretreivable commitments of resources are opportunities foregone; they represent tradeoffs in the use and management of Forest resources. Irretreivable commitments of resources include expenditure of funds, loss of production, or restrictions on resource use. When one alternative produces less of a natural resource (such as timber volume) or offers fewer opportunities for use (such as motorized recreation) than another alternative, the difference represents an irretreivable commitment of resources.

With one exception, described below, decisions made in a forest plan do not represent actual irreversible and irretreivable commitments of resources. This is because the forest plan says only what kinds and levels of activities are appropriate in different parts of the Forest; it does not make project decisions. The decision to irreversibly or irretreivably commit resources occurs (1)

at the time the Forest Service makes a project decision, such as approving a new trail or a timber sale; (2) at the time Congress acts on a recommendation to establish a new Wilderness or to include a stream in the Wild and Scenic River System; or (3) at the time the Regional Forester designates a Research Natural Area or a Special Interest Area.

The only exception pertains to oil and gas leasing. Through this *Forest Plan* revision process, a decision will be made to conditionally authorize the Bureau of Land Management to lease certain Forest System lands for oil and gas exploration and production (36 CFR 228.102(e)). Although surface disturbance cannot occur on leased land without further analysis and decision-making, issuance of a lease confers certain authorizations on the lessee and, therefore, represents a commitment of resources.

The following irreversible commitments are associated with decisions being made through the *Forest Plan* revision. They would occur to some degree as the result of any alternative:

- consumption of fossil fuels, such as oil and gas
- extraction and use of minerals
- destruction of or damage to heritage resources

Examples of irretrievable resource commitments associated with *Forest Plan* revision decisions are as follows:

1. Commodity outputs and uses (such as motorized recreation) would be curtailed or eliminated in areas recommended for and subsequently designated as Wilderness, Wild and Scenic Rivers, Research Natural Areas or Special Interest Areas.
2. Opportunities for nonmotorized recreation, solitude, and primitive or wilderness experiences would be foregone where those uses were not allocated to, or recommended for, and subsequently designated for these purposes.
3. The opportunity for oil and gas exploration and development would be foregone on lands identified as closed to leasing.
4. Commodity outputs would be reduced or foregone on areas allocated to specific uses or purposes, such as developed recreation sites, backcountry recreation areas, or winter sports sites.
5. Non-commodity values, including aesthetics, may be reduced or foregone on areas allocated to intensive commodity uses.
6. To the degree that an alternative preserves or encourages the development of mature and late-successional habitat, opportunities to develop early-successional habitat are reduced.

Acreages and outputs involved in the trade-offs of irretrievable resource commitments are described by alternative in this chapter.

## **ENERGY REQUIREMENTS**

Energy is consumed in the administration and use of natural resources from the National Forest. The main activities that consume energy are timber harvest, range use, recreation use, road construction or reconstruction, and administrative activities of the Forest Service. Energy consumption is expected to vary slightly by alternative. Those alternatives with higher levels of timber harvesting and road construction or reconstruction (A, C and I) are expected to result in the higher levels of energy use. Alternatives that have the lower levels of these activities are expected to result in slightly lower levels of energy use.

Several opportunities exist on the Forests and Grassland under all alternatives to provide for energy conservation or conversion from less plentiful fuels to more plentiful fuels. For example, car pooling and combining trips saves fuel and wear and tear on the Forest fleet. The use of electronic communication devices for sharing information rather than scheduling meetings at one location saves energy spent on travel. Improving the energy efficiency of government buildings can conserve energy. More energy efficient equipment for activities like timber harvesting, road construction or reconstruction or road maintenance can be required. More energy efficient management methods can also be explored and implemented.

