

## **CHAPTER II**

# **ANALYSIS of the MANAGEMENT SITUATION**

## II. ANALYSIS OF THE MANAGEMENT SITUATION SUMMARY

This chapter describes the present condition of each Forest resource. Future demand for Forest resources, the Forest's ability to meet that demand, and the expected future condition of the resources are summarized. Information in this chapter was drawn primarily from the Analysis of the Management Situation (AMS). <sup>1/</sup> —

### A. FOREST SETTING

#### 1. SOCIOECONOMIC SETTING

The primary zones of influence of the Forest are the communities and counties in northeastern Utah and southwestern Wyoming within and adjacent to the Forest. The counties most influenced by Forest policies and decisions are Duchesne, Uintah, and Daggett in Utah and Sweetwater in Wyoming. The total population of the four-county area is 75,515 (1980 census).

There are some significant influences coming from the Wasatch Front and adjacent counties in Utah, as well as visitors from Colorado. However, these influences often do not comprise the same factors found in the primary zone of influence. Sweetwater County, Wyoming, is influenced the most in the communities of Green River and Rock Springs.

The Uintah Basin has experienced an average of 66% growth in population during the ten-year period from 1970 to 1980. Much of this growth has been tied directly to energy development with the projected growth dependent on developments in the energy related field. <sup>2/</sup>

The economic indicators for the area within the zone of influence of the Forest are shown below in Table II-1.

<sup>1/</sup> This document is available for review at the Forest Supervisor's Office and District Ranger Offices.

<sup>2/</sup> Information contained in the Social Economical Overview for the primary zone of influence was based on 1980 labor data and projected growth was tied to energy development. Since 1980, changes that have occurred on a national level have brought changes in the energy related sectors to the local level. Since 1982, a reduction in the energy sector has resulted in a 12.0% unemployment rate as of April 1986 for the Uintah Basin (Uintah and Duchesne Counties) with Uintah County having an 10.9% unemployment rate. There is currently an over abundance of homes on the market as a result of the projected growth rate and influx of people into the area. The projections of 1980 have not been realized due to changes in the energy sector. Projections to the year 2000 are difficult to make at this time as future growth will be a result of national direction in energy related fields.

TABLE II-1

ECONOMIC INDICATORS PAST TRENDS AND BASELINE PROJECTIONS (1978 dollars inflated to 1/1/1982)							
	Past Trends			Baseline			
	1960	1970	1977	1980	1985	1990	1995
Population (M Persons)	37.8	39.0	64.9	75.4	+512	+512	+909
Income (MM\$)	70.2	214.0	1122.1	1166.3	+2.631	+2.631	+4.626
Employment (M Persons)	6.8	18.0	27.3	32.6	+134	+134	+229
Agriculture	2464	2134	2300	2800	+11	+11	+10
Logging and Sawmills	N/A	N/A	100	100	+15	+15	+15
Manufacturing	236	485	N/A	763	---	---	---
Tourism and Retail Trade	1034	2772	2862	6114	+55	+55	+113
Government (Federal, State and Local)	1171	3305	632	4552	---	---	---

The overall socio/economic impacts are insignificant for Ashley National Forest activities when the whole economy is considered. Under current or proposed management, it does not appear that the stability of lifestyles would be significantly impacted. This is also true for attitudes, beliefs, and values within the Primary Zone of Influence. It is not evident that activities or resource outputs would disrupt the community cohesion within this area. Under proposed management there would be a slight increase in receipts to local governments. Generally, the local economics and social structure within the Primary Zone of Influence are more influenced by energy developments than by National Forest activities, except for the possibility of recreation.

For more details on this topic see Chapter III and Appendix B of the FEIS, the "Social Assessment" of the AMS, available in the Supervisor's Office in Vernal, Utah.

This land and resource management plan provides for a full range of management prerogatives for the national forest lands involved. This includes some lands which are the subject of ongoing litigation concerning the boundaries of the Uintah Indian Reservation. A recent decision of the United States Court of Appeals for the Tenth Circuit in State of Utah v. Ute Indian Tribe, 773 F.2D 1087, ruled that the 1905 designation of approximately one million acres of national forest did not diminish the boundaries of the Uintah Indian Reservation. The State of Utah is appealing the decision of the Court of Appeals to the United States Supreme Court which may hear the case. Although the outcome of this case may affect the jurisdiction of the state over persons in the national forest, the Department of Agriculture does not construe the

decision as affecting federal administration of the lands and resources pursuant to the laws and regulations governing the national forests. Accordingly, this plan is not affected by the status of the boundaries of the Uintah Indian Reservation.

## 2. PHYSICAL AND BIOLOGICAL SETTING

The Forest encompasses lands located in southwestern Wyoming and eastern Utah. These lands fall within three geographical areas: the Wyoming Basin, the Uinta Mountains and the Tavaputs Plateau. The land characteristics range from high desert country to high mountain areas. The elevation varies from a low of 6,000 feet to a high of 13,528 feet above sea level at the summit of Kings Peak.

The annual precipitation varies from approximately 16 inches in the high desert country to 35 inches or more in the higher elevations. The precipitation is a result of winter snowfalls and summer rains. Moisture evaporation is high because of low humidity, high temperatures, and winds.

Topographical diversity and intensive land management has served to protect the visual quality on the Forest. The existing vegetation patterns and the geological formations further add to the aesthetic value. The Forest boundaries include places such as the Sheep Creek Geological Area, the High Uintas Wilderness Area, and the Flaming Gorge National Recreation Area.

The Forest has other visual assets, such as steep canyons and high mountain peaks, glaciated basins, and large open meadow areas, as well as a diversity of vegetation and wildlife arrangements. The Uinta Mountain portion of the Forest offers a scenic backdrop for the communities of both the south and north slopes of the Uinta Mountains.

The biological life zones vary from the high desert to the high mountains. Grasses and shrubs of the desert fade into pinyon-juniper and ponderosa pine forests at the mid mountain elevations which in turn give way to grasses and shrubs of high mountain elevation. Aspen is found at the mid elevations of the Forest, giving way to mixed aspen-conifer, followed by conifer forests. These conifer forests are comprised primarily of lodgepole pine, with mixing of fir and spruce. At the higher elevations, Krumholtz fir gives way to grasses and forbs above timberline.

The wildlife big game species include elk, bear, cougar, moose, mule deer, and antelope. Rocky Mountain sheep have recently been introduced on the Forest. The condition and amount of available winter range adjacent to the Forest are critical factors governing the deer and elk populations as the majority of winter range occurs on lands adjacent to the Forest. The available habitat with suitable browse for winter range has decreased in past years. The summer range for deer and elk is much less critical for most of the Forest. However, summer range is a limiting factor on the South Unit of the Tavaputs Plateau because of the lack of water in the summer months.

### 3. RECREATION

The Forest is popular for outdoor recreation because of high quality recreation opportunities. Popular uses range from camping in the summer to snowmobiling in the winter. There is a great deal of fishing on the Forest, as well as many opportunities for hunting.

Significant attractions and impacts influencing the recreation situation on this Forest can be placed in two categories. First, it includes national recreation attractions such as Flaming Gorge National Recreation Area, High Uintas Wilderness, and the adjacent Dinosaur National Monument. Second, this Forest is situated in the middle of major mineral and energy related development areas of the Uintah Basin and southwestern Wyoming.

Areas with existing or proposed classifications, such as the Sheep Creek Geological Area, and Little Hole and Fish Creek National Recreation Trails, add to the recreation attractions of this Forest. The proposed Scenic River classification for the Green River could also increase public interest beyond the regional attraction that now exists.

#### a. Developed Recreation

Recreation use has increased substantially over the last 10 years. Most use of developed facilities is during the summer months and the fall hunting season with facilities adjacent to plowed highways receiving some use in winter. Flaming Gorge NRA potential capacity as inventoried for developed sites is 1,776 MRVDs and would be reached sometime after 2030. The remainder of the Forest capacity for developed sites is 484.2 MRVDs and would be reached sometime after the year 2000. The number of major developed facilities is shown in Table II-2.

TABLE II-2  
DEVELOPED FACILITIES ON THE ASHLEY NATIONAL FOREST

Ranger District	Developed Sites		Capacity PAOT Total
	Public	Private	
D-1 Flaming Gorge	68	8	14,490
D-2 Vernal	9	2	905
D-3 Roosevelt	11	4	1,233
D-4 Duchesne	7	1	830
Total	95	15	17,458
	Site	Number	
	Resorts	5	
	Marinas	3	
	Concessions	8	
	Summer Homes	58	

b. Dispersed Recreation

Dispersed recreation is the use outside of developed sites. These areas receive intense use on weekends and holidays with such activities as fuelwood cutting and water activities being popular. Different types of users, such as snowmobilers and cross-country skiers, sometimes compete for use of a given recreation area.

Predicted demand for all types of dispersed recreation and developed recreation is displayed in Table II-5. The potential capacity for dispersed areas at the NRA is 1,196 MRVDs and would be reached sometime after 2030. Dispersed areas capacity for the remainder of the Forest is 640.8 and would be reached sometime after the year 2000.

A more detailed summary of recreation can be found in Chapter III of the FEIS and in the AMS document. In recent years, construction and rehabilitation of recreation facilities has declined because Forest Service budgets have been reduced and human resource programs have been reduced or eliminated. It does not appear that there will be an opportunity for new construction of developed recreation facilities in the near future.

Current funding levels allow little more than minimum operation and maintenance.

Special situations that may have an impact on future recreation management are the deteriorating facilities caused by inadequate investment in facility maintenance, future funding levels, and the present insect epidemic causing losses to the lodgepole and ponderosa pine. With the completion of the Central Utah Project (CUP) reservoirs, this Forest will probably contain more acres of "Flat Water" than any other Forest in the region, which is a major attraction in the arid West.

Resource deterioration, such as soil and vegetation loss, will increase if present increases in use continue with current budgets. Increased use of dispersed recreation areas for overflow camping and greater crowding could increase user dissatisfaction.

c. Trails

The Forest has approximately 775 miles of trails. Most trail use is in the summer, but winter use is increasing.

The Forest trail system is in poor condition and continues to deteriorate due to lack of maintenance resulting from low budgets and improper location of some trails. Trails that have become unsafe should be closed to protect the public. Private landowners may close additional trails where rights-of-way have not been obtained. Conflicts between types of trail users will increase in number and intensity. It is estimated that the ability of our trail system to serve the public will decline while demand continues to increase.

d. Cultural Resources

Four hundred and forty cultural resource surveys covering approximately 16,660 acres have been conducted on the Ashley as of the end of calendar year 1984.

A total of 345 historic and prehistoric sites have been recorded by the Forest. Two hundred sixty-six are prehistoric and seventy-nine are historic sites.

Of the prehistoric sites; 220 are lithic scatters, 14 are caves/rockshelters, 4 are petroglyphs, 24 are camp sites, 2 are storage cists, and 2 are burials.

The seventy-nine historic sites are comprised of: 30 log cabins; 9 sawmill sites; 4 corrals; 4 trails; 5 CCC camps; 8 guard station/administrative sites; 14 miscellaneous historic buildings/structures; 2 carved dates/initials; and one each quarry area, historic campsite and bridge.

At the present time, the Forest has two sites listed on the National Forest Register. Both sites are located on the Flaming Gorge District. The first is the Oscar Swett Homestead located near the junction of State Highways 44 and 260 and the second is the Ute Fire Tower located on Forest Route 005.

Eleven sites located on the Ashley National Forest have been determined by the Forest Archaeologist as potentially eligible for inclusion on the National Register of Historical Places. Two of these sites are located on the Vernal Ranger District. One is an historic mill located near East Park Reservoir and the other is an historic flume located in Dry Fork. Seven of the sites are located on the Flaming Gorge Ranger District. One is a set of prehistoric petroglyphs located on the Henry's Fork River with the remaining six being prehistoric lithic scatters in the Man's Bench area.

The two other sites are the Carter Military Trail and associated features which crosses both Flaming Gorge and Vernal Ranger Districts, and an historic log cabin located at the south end of Lodgepole Lake on the Duchesne Ranger District.

Of the remaining sites identified on the Forest, 163 have been determined to be ineligible for inclusion on the National Register of Historic Places and 169 have not been evaluated to date as to their eligibility or non-eligibility for inclusion on the National Register.

e. Research Natural Areas

There are currently no existing Research Natural Area designations on the Forest. However, there are several potential areas that have been identified. These are displayed in Chapter III of the FEIS.

#### 4. WILDERNESS

The High Uintas Wilderness is located totally within the Ashley and Wasatch National Forests. The Utah Wilderness Act of 1984 designated this area as wilderness, making it a component of the National Wilderness Preservation System.

Prior to the Utah Wilderness Act of 1984 the Forest planning process had developed an inventory of lands that are essentially unroaded and undeveloped, meeting the minimum definition of wilderness, and qualified for wilderness evaluation according to NFMA regulation 219.7. The inventory contained 13 roadless areas totalling 715,405 acres Forest-wide. This inventory and description of each area is filed with the Forest planning records.

The Utah Wilderness Act of 1984 designated 273,426 acres on the Forest as the High Uintas Wilderness and 186,574 acres on the Wasatch for a total of 460,000 acres. It is estimated that this area, in addition to areas that existed prior to the Act, will meet the anticipated demand for wilderness during the first planning period. At the end of this planning period additional areas will be evaluated.

Continued management at current and historic levels is resulting in deteriorating facilities and a deteriorating resource. This level of management coupled with increased use is leading to a situation where unacceptable limits of deteriorating conditions will exist creating the need to change the way this resource is managed. If the choice is not to invest in management of the wilderness resource to a level that maintains our existing facilities and wilderness characteristics then in the near future we will be faced with making significant changes in the way wilderness has been traditionally managed.

Most of the use in the wilderness probably occurs on something less than 10% of the total area creating some heavy impacts on the social and physical parts of the environment. Because of this concentration of use in such a small portion of the area, capacities may be exceeded in certain areas. Distribution of use by management will be necessary to optimize use within the wilderness. Facilities to help with distribution of users are needed, such as trails and trailheads. Some of the heavy use areas and facilities are in need of rest, rehabilitation, or different management techniques to prevent unacceptable deterioration.

It is assumed that the wilderness use will continue to increase at a rate similar to the existing and projected population growth rate for Utah and Wyoming. It is highly probable that this growth rate is conservative because of impacts from energy related "boom town" situations. Also, it is assumed that the present ratio of use between developed sites, dispersed recreation outside of the wilderness, and dispersed use within the wilderness will remain about the same. The present mix of participation in various recreation activities should not change significantly. Table II-5 displays projected demand.



At present it appears that goals can be met based on present estimated use and capacity identified in the inventory for the Wilderness which will be at capacity about 1995. Some isolated places may reach capacity earlier because of heavy concentrations of people.

## 5. WILDLIFE AND FISH

The Forest has a wide diversity of fish and wildlife species, some with special habitat needs and contains several distinct habitats that are important to differing groups of wildlife species. Even with many overlaps between habitat and wildlife present, there are specific habitat requirements for most of the groups. Wildlife populations will be proportional to the quantity and quality of the habitat. The indicator species will be monitored because they are sensitive to management activities or are of special concern.

An estimated 437 species of fish, amphibians, reptiles, birds, and mammals inhabit the Forest (31 species of fish, 8 species of amphibians, 21 species of reptiles, 289 species of birds, and 88 species of mammals).

Twenty-four wildlife and fish species that may inhabit the Forest have been classified as sensitive, threatened, or endangered by Federal and State agencies (2 reptiles and amphibians, 4 fish, 12 birds, 6 mammals). A complete list of these species can be found in the AMS document at the Supervisor's Office in Vernal, Utah.

The amount of available habitat determines to a large degree the abundance of wildlife on the Forest. A reduction in fire frequency during the past 50-80 years due to increased fire suppression permitted many of the plant communities to reach maturity. This has resulted in widespread successional advances in conifer communities, including heavy fuel build-ups, loss of associated plants, and a reduction in carrying capacity for early successional stage wildlife, while increasing habitat for late successional stage wildlife (Table III-11, FEIS). Maintaining a variety of wildlife species above minimum viable population levels requires that habitat diversity include all stages of plant development within existing plant communities.

In addition to plant successional stages and distribution of plant communities, seasonal habitat located on lands adjacent to the Forest are important in maintaining wildlife abundance on Forest lands. Big game herd units associated with the Forest rely on adjacent lands for over 80 percent of the big game winter range.

The National Forest Management Act of 1976 provides direction for selecting management indicator species (MIS) for Forest planning. MIS are considered to be key species in relation to other wildlife. MIS are the species for which population and habitat objectives will be established; the species which will represent the wildlife and aquatic resources in estimating the effects of management alternatives; and the species whose habitat will be monitored following implementation of the Forest Land Management Plan.

Habitat improvement is needed not only to maintain forage quality, quantity, and distribution, but also for the maintenance of existing plant and wildlife diversity. This will require maintenance and enhancement of key plant communities, such as aspen, sagebrush, willow, and aquatic. The greatest opportunity for increased habitat improvement is in the aspen vegetation type. The maintenance and perpetuation of existing aspen acres will require an increase in treatment levels over the next several decades.

The wildlife resource is a multiproduct output, with food and recreation as the principal products. The demand for hunting and fishing opportunities has increased markedly and is expected to continue. Given the opportunity for users to participate at an acceptable cost, within a decade there may be a 30 percent increase in wildlife observation, with other uses changing in corresponding fashion. Table II-5 outlines the projected demands for the wildlife resource through 2030.

#### 6. RANGE

The Forest provides grazing for approximately 12,500 cattle and 29,000 sheep for a total of about 75,000 Animal Unit Months (AUMs) each year. The grazing takes place mostly during the summer months (June-September). Some exceptions are found on the South Unit of the Duchesne District and on the Flaming Gorge NRA. At the present time, there are 84 livestock grazing allotments and 5 recreational stock allotments administered by the Forest. Portions of the Flaming Gorge District (all of the NRA in Wyoming and Goslin Mountain Allotment in Utah) are administered by the Bureau of Land Management under cooperative agreements. Currently, Forest Service grazing permits are held by approximately 130 permittees.

At present about 84% of the 1,373,219 acres on the Forest are within range allotments. The amount of suitable acres varies with the designated class of livestock. Currently, there are 455,285 acres suitable for livestock grazing, using the current livestock mix. But 19,115 of those suitable acres are closed to livestock use for the protection of the Vernal Municipal Watershed. If the Forest allotments were converted to cattle only, the number of suitable acres would drop about 306,000 acres. On the other hand, if the Forest converted to sheep only, the number of suitable acres would rise to about 676,000 acres.

The allotments, for the most part, are managed at capacity and no major reductions or increases are currently planned. There are, however, a few allotments where additional improvements or more intensive management could result in some increased capacity. Conversely, on some few allotments there may have to be modifications in the season or reductions in livestock numbers to maintain or improve range conditions.

The range improvement program on the Forest is primarily intended to facilitate grazing, but, when possible, improvements are made to support a combination of benefits. The Forest has constructed many water developments and fences to improve livestock distribution and obtain proper utilization of the forage resource. The Forest has revegetated several thousands of acres of range that could not be restored through grazing systems alone. Many of these projects have benefitted other resources, such as wildlife and watershed. The Forest has been actively involved in the control of noxious farm weeds on Forest Service administered lands in cooperation with State and local weed control organizations.

Demand is assumed to be elastic; all of the AUM's produced on the Forest will be used.

## 7. TIMBER

The 1,373,219 acres of National Forest land within the boundaries of the Ashley include 836,851 acres that are classed as forest land. This includes pinyon-juniper stands for which no steady commercial market exists (some firewood is sold from these stands) and non-commercial softwood and hardwood stands which produce less than twenty cubic feet per acre per year. Table II-3 displays the forest land area by species groups and by age groups.

TABLE II-3  
FOREST LAND ON THE ASHLEY NATIONAL FOREST BY AGE CLASS

Type	Seedlings/ Poles-Acres (%)	Mature/ Old Growth-Acres (%)	Total
Douglas fir	5,371 (9)	51,540 (91)	56,911
Lodgepole, Engelmann spruce, Subalpine fir	106,759 (22)	380,084 (78)	486,843
Aspen	18,573 (23)	47,773 (72)	66,351
Ponderosa pine	10,712 (24)	34,203 (76)	44,915
Pinyon-Juniper *	---	96,681	96,681
Non-comm Softwoods *	---	79,865	79,865
Non-comm Hardwoods *	---	5,285	5,285
TOTALS	141,420	695,431	836,851

\* Age class estimates are not available

Land classification for the preferred alternative is as follows:

1.	Non-forest land (includes water)	= 536.4 M acres
2.	Forest land	= 836.8 M acres
3.	Withdrawn Forest land	= 147.4 M acres
4.	Forest land - not capable **	= 96.7 M acres
5.	Forest land - physically unsuitable	= 0 acres
6.	Forest land - inadequate information ***	= 61.9 M acres
7.	Tentatively Suitable	= 530.5 M acres
8.	Forest land-not appropriate for harvest ****	= 38.7 M acres
9.	Unsuitable Forest land (3+4+5+6+8)	= 345.0 M acres
10.	Total Suitable (2 minus 8)	= 491.8 M acres
11.	Total National Forest land	= 1,373.2 M acres

- \* Forest land included in the High Uintas Wilderness
- \*\* Pinyon-Juniper
- \*\*\* Forest land producing less than 20 cubic feet per acre per year
- \*\*\*\* Includes Research Natural Areas, Sheep Creek Geological Area, and other non-development prescriptions.

Lodgepole pine is highly susceptible to attack by mountain pine beetle and an epidemic situation exists in a large portion of these stands. In addition, the ponderosa pine stands are under attack, especially on the Flaming Gorge District, by mountain pine beetles. As a result, the existing composition of various age groups is being changed and the Forest capability to produce various products as planned is changing.

To complicate the situation, shifts in demands for various kinds of products has occurred. The interest in fuelwood on this Forest has grown at a rapid rate. Recently there has been some interest expressed in somewhat speculative new uses of wood products from this Forest. Current direction is to harvest the old growth beetle susceptible lodgepole pine first. Historically the Forest has had an annual sale program of approximately 14 MMBF. This annual cut will be increased to the potential yield of 21 MMBF upon demand.

The preferred alternative has an allowable sale quantity of 5.3 MMCF per year during decade one, 5.3 MMCF per year during decade two, then drops to 4.8 MMCF per year until the sixth decade. The long term sustained yield is 6.319 MMCF.

Growing stock inventory at the beginning of decade one is 615.53 MMCF and projected annual net growth during decade one is a net loss of 8.83 MMCF per year as a result of beetle-kill mortality. Future growing stock inventory (decade 5) is 260.20 MMCF and net annual growth is 1.526 MMCF.

Final harvest ages used in modeling ranged from 80 to 100 years for aspen and from 110 to 140 years for the other species groups. While the rotation ages for the conifers appear long, the increase

in cultural practices such as pre-commercial and commercial thinning would maintain healthy stands beyond the more commonly used 80 to 90 year rotations.

Species other than lodgepole pine are currently being sold at the rate of about 3 MMBF per year. Expansion of this discussion including more detail can be found in the AMS. Recently there has been new interest in expanding timber management activities in ponderosa pine to reduce its susceptibility to mountain pine beetle along with acceleration of all harvest activities if markets can be found.

The price of timber during the last 10 years has been very erratic. Increased costs of road construction, logging, and milling have caused most timber sales to be below cost.

Most sales have occurred on slopes of less than 40% and tractor logging has been the primary yarding method used.

Past practices included partial cutting in lodgepole pine on the Forest. Experience has shown that windthrow, poor natural regeneration, and heavy dwarf mistletoe re-infestation from remaining trees resulted from this practice. Even-age management is commonly used in the preferred alternative to overcome these problems. The use of uneven-age systems will be limited to specific areas on the basis of need, such as corridors along heavy traveled recreation routes, in the NRA, or in sites such as campgrounds.

Fuelwood has become a major attraction on this Forest and this activity represents better than half of the total volume of wood fiber that is removed from this Forest. Presently, compared with marketing of other wood products, fuelwood offers economically attractive situations and provides an opportunity to reduce fuel loading and improve the timber resource growth potential and utilization.

Demand for all timber resource outputs are assumed to be completely elastic. In other words, whatever can be produced will be sold at a constant price. All other resource outputs are considered to be totally elastic also except for the recreation resource. None of the resources except recreation had any constraints on production other than meeting minimum management requirements. Recreation output production was limited to projected use levels which were based on population growth rates in Utah and Wyoming. Failure to actually market these timber outputs or any of the other resources can create a major change in present net value and may necessitate a plan revision.

## 8. WATER

The Forest delivers approximately one million acre-feet of water annually to streamflow and contributes a large but unmeasured quantity of water to groundwater aquifers.

The high quality water produced on the Forest serves administrative needs and is used and enjoyed by the public on and off the Forest for domestic purposes, recreation, aesthetics, municipal and industrial

uses, irrigation, livestock watering, power production, and for fish and wildlife habitat.

Streamflow is transported from the Forest throughout the year by 687 miles of perennial streams which contribute to the Green River Basin and the Duchesne and Uinta Sub-basins, which is part of the Colorado River Basin System.

The municipal watershed of the Ashley Valley municipalities and other small towns in the Uintah Basin are located on the Forest. Special land management measures may be required to maintain continued supply of quality water in amounts needed for municipal and industrial use.

Direction for the management of the municipal watershed is contained in the Ashley National Forest Municipal Watershed Plan. The municipal watershed includes two main drainages: Ashley Creek drainage and Dry Fork drainage. Dependency of approximately 20,000 residents on this watershed for culinary water dictates a careful review of all management decisions.

Although the Forest has not been involved in direct practices of increasing water yield, the potential has been identified for increases through weather modification, snowpack manipulation, and vegetative manipulation. Current management is not directed toward increasing the quantity of water, although some increases in water yields occur as a result of management activities on the Forest. These increases are a result of ongoing management activities and have not been done for the purpose of increasing water yield.

Consumptive Needs: Downstream water uses include municipal and industrial uses, which require a fairly even flow rate year round, and agricultural uses, which require water between May 1 and October 1.

The current water use inventory for the Forest identifies 3,197 consumptive water uses amounting to a total volume of 4,213 acre-feet.

Nonconsumptive Needs (instream flow): Direction is to claim instream flows for recreation, fish habitats, wildlife, stockwatering, riparian, vegetation, aesthetics, and channel morphology. Stream reaches where instream flows are needed will be identified as a component of the water uses inventory in time for basin adjudications and quantified as required by the court. Water for instream uses is needed year round for fish habitats and waterfowl; May through November for other uses; and short duration high flows are needed for channel morphology.

Since 1900, 2 major pipelines, 45 dams, and 28 canals have been constructed on the Forest. There are approximately 500 lakes and reservoirs on the Forest, with an estimated storage capacity of 3,900,000 acre-feet (including Flaming Gorge Reservoir's 3,812,000 acre-feet of water). The approximate total surface area of lakes and reservoirs on the Forest is about 50,000 acres.

Water Quality: The necessary level of water quality can be met by compliance with Federal and State water quality standards. Numerous water quality investigations on the Forest during the past decade have

shown the water on and leaving the Forest to be adequate to meet or exceed identified beneficial use requirements, and to be within the State water quality standards.

The primary sources of water pollution on the Forest include grazing, construction associated with the Central Utah Project, logging, and road construction and maintenance. These activities can influence the bacterial, chemical, and physical (sediment) components of water quality.

Soil and Water Resource Improvements: A Soil and Water Resource Improvement Needs Inventory was carried out on the Forest to identify areas that are in need of soil and water restoration. There are approximately 1,000 acres identified in needed restoration projects.

Riparian Areas: The increasing demand for water for hydroelectric purposes on the Forest will tend to reduce the quantity of water available for instream flows and will cause a loss of riparian ecosystems.

Flood Prone Areas: The Forest has a high potential for rain-on-snow type floods because much of the Forest lies above 9,000 feet and because basin orientation tends to hold snow until the warm storm season arrives. This potential becomes highly significant in years when the predicted runoff is above average.

Diversions: The CUP, probably the largest federal water resources development ever authorized and funded by the United States Congress, has the primary purpose of diverting for Utah's use a portion of the annual water yield of the Colorado River drainage. Principal uses of the water will be irrigation, municipal and industrial supplies, and hydroelectric power production.

The amount of water to be diverted is limited by the Upper Colorado River Basin Compact of 1948, in which five states - Arizona, Colorado, New Mexico, Utah, and Wyoming - allocated among themselves the average annual water supply of the Upper Colorado River drainage. The actual projects required to physically divert the allocated water are authorized by the Colorado River Storage Project Act of 1956. Funding is secured by the Secretary of the Interior and construction is done by the U.S. Bureau of Reclamation.

Under the 1948 Compact, Utah may divert up to 1,322,000 acre-feet per year, or 23% of the average annual yield of the Upper Colorado River drainage. For planning and construction, the Bureau has divided the CUP into six separate units, three of which - the Bonneville, Upalco, and Uinta Units - directly impact the Forest. The Bonneville Unit will divert Uintah Basin water from the Green River drainage to the Wasatch Front.

Each of the CUP units could be constructed and operated independently of the other units, and the Bureau has to file separate environmental impact statements for each.

The Forest Service, in some situations, has limited control over impoundments, transmission facilities, wells, and man-made developments. All of these outservice projects require Forest Service input, but often time for planning and review of proposals is short.

#### Demand

The Forest currently produces about 948,500 acre-feet of water annually. The demand for water is presently less than or equal to supply for most downstream users. Studies of projected future demand in Utah indicate that before the year 2000 the demand for water will approach supply. For the Uintah Basin there is a projected demand of 968,200 acre-feet annually. Table II-4 shows the present and future water uses in the Uintah Basin.

TABLE II-4  
PRESENT AND FUTURE WATER USE IN THE UINTAH BASIN

Water Used (Consumptive Use)	Present (Acre-Feet)	(% of Total Use)	(Acre-Feet)	2000 (% of Total Use)	Increase (Acre-Feet)
Municipal	2,500	.3	17,700	1.8	15,200
Industrial	4,600	.6	72,800	7.6	68,200
Irrigation & Livestock	393,400	50.2	486,100	50.2	92,700
Wetlands & Evaporation	375,000	47.8	375,000	38.7	0
Public Lands	8,900	1.1	16,600	1.7	7,700
TOTAL	784,400	100.0	968,200	100.0	183,800

The demand for high quality water for all uses will increase both on and off the Forest.

Increased demands in the Colorado River Basin and on the Wasatch Front will heavily impact the Forest. The cost of water treatment, changes in water uses, and technological changes will initiate searching for additional sources of high quality water.

Upstream watershed tributary to the Colorado River will become increasingly important to helping to meet the growing demands within the Basin and the national obligation to provide water to Mexico. Such demands may require a more rapid implementation of watershed improvements or may change priorities for watershed improvements. The springs and drainages that produce water will be considered high value and pressures to eliminate all activities that might cause pollution will be high.



9. MINERALS

Minerals exploration and development activities are directly related to the interest generated by the public and industry. Management of this resource is responsive to these public interests along with industry's interest. Coordination with various other public agencies and between resources is required. For these reasons, the minerals resource poses programming and scheduling problems that are not common with management of other resources.

Availability: In accordance with the Federal Land Policy and Management Act of 1976, the Forest Service must consider that all National Forest System lands are available for mineral exploration and development unless they are withdrawn from mineral entry and leasing. The total area within the Forest boundary is 1,405,609 acres. Approximately 20,910 acres of this area is state and private land. This leaves 1,384,699 acres available subject to the constraints imposed by the following:

- Outstanding or Reserved Mineral Rights: There are 22,356 acres of acquired Federal lands within the Forest boundary where all mineral rights are outstanding or reserved. An additional 5,087 acres have the oil and gas rights only outstanding.
- Existing Withdrawals: 77 areas consisting of 42,145 acres have been formally withdrawn from all forms of appropriation under the public land laws. This includes appropriation of locatable and common variety minerals but does not include mineral leasing.
  - A breakdown of withdrawals includes:
    - Forest Service - 60 areas totaling 12,646 acres;
    - Bureau of Reclamation - 11 areas totaling 28,969 acres;
    - FERC - 2 areas totaling 35 acres;
    - and 4 public water reserves totaling 495 acres.
  - As directed by FLPMA, all withdrawals on the Forest must be reviewed for continuation or revocation prior to 1991.
- Special Legislation: Approximately 185,645 acres of the Forest were withdrawn under P.L. 90-540 when the Flaming Gorge NRA was established on October 1, 1968. Approximately 273,426 acres were withdrawn with the passage of the Utah Wilderness Act of 1984.
- Summary: The National Forest land with the above constraints totals 523,344 acres. This leaves 861,355 acres, which includes outstanding oil and gas rights, considered available for mineral appropriation and entry as follows:

Locatable Minerals	861,355 Acres
Leasable Minerals	1,083,830 Acres
Oil & Gas	1,083,830 Acres

Capability: Normally, the Forest Service does not determine which areas are "capable of minerals and energy production." This is largely a function of the private sector. Basically, this Forest has been classified as non-mineral in character based on geological reports. Known locatable minerals include copper, gold, silver, iron ore, iron oxide, and metallurgical limestone. Leasable minerals of energy include oil and gas, uranium, and tar sands. Non-energy minerals includes oil shale, coal, trona, and phosphate. Stone, sand, and gravel are located throughout the Forest.

Suitability: The area of the Forest considered available and capable of mineral/energy exploration is also considered suitable for mineral entry and leasing, but not necessarily suitable for development. Major development activity for mineral recovery (by location or lease) could have significant adverse effects on soil, water, air, scenics, vegetation, and wildlife.

Demand: Future technology, change in economic conditions, new discoveries, and changing needs will determine to a large extent where and which minerals are developed. As these things occur, special stipulations and operating procedures are included on leases and operating plans to coordinate with other resources as required. These stipulations and procedures may exclude surface occupancy, require special provisions, and/or may result in increased operating costs.

The Forest Service is not the "lead agency" for determining the technical, economic, budgeting, and to some extent the environmental feasibility of minerals and energy production. The Forest Service is "reactive" to industry and "responsive" to USDI (Bureau of Land Management) requests.

## 10. SUPPORT ELEMENTS

### a. Lands

Landownership Adjustments and Control. Gross acreage of the NRA is 201,114 which includes 10,212 acres of State and private land and 190,902 acres of Forest lands. A breakdown of alienated lands includes 1,333 acres of State and 8,879 acres in private ownership.

A large percentage of the land in the South Slope Planning Unit is National Forest. Private inholdings total 3,627 acres in 18 small scattered tracts. There are no State lands within the planning unit. Most of the private lands are located in the major drainage bottoms and were patented through homestead entry for agricultural uses. Ranching remains the primary use, but resort and recreational residence development increases annually.

Landline location work along the Indian Reservation boundary and private tracts is an acute problem. This work has lagged for several years due to insufficient finances. There are known or suspected trespasses in several different localities.

There are 6,380 acres of privately owned land within the Vernal planning unit. There is no State land. Chevron Resources is actively mining phosphate from private lands just outside the Forest boundary. These lands are contiguous with lands they own within the southeast portion of the planning unit. Four small tracts are patented mining claims, but there is little mining activity on them.

The remaining private land is ranch land in Dry Fork and rangeland in Davenport and Lambson Draws. This land is grazed in conjunction with adjoining National Forest System lands.

b. Special Uses

Withdrawals: The FLPMA directed that all withdrawals be reviewed for continuation or revocation prior to 1992. These areas include: 20 administrative sites (1,433 acres), 43 recreation areas (11,213 acres) 16 reclamation projects related to the CUP (28,969 acres), reservoir withdrawal for Colorado River storage projects (128,669 acres) and Federal Power Commission, and 10 power site classification projects (73,332 acres).

Flaming Gorge: Special uses in the area vary from simple structures, such as corrals and gravel pits, to major gas and power transmission lines and resorts. These lands uses are authorized by permit, lease, easement, license, or memorandum of understanding.

Many existing permits and leases were issued prior to establishment of the NRA. Some are not in accordance with the objectives of the NRA and detract from its value.

The two classes of special use permits for commercial activities within the NRA are: those authorizing concessionaires to provide services to the recreating public, and those authorizing utilization and development of nonrecreational resources. This second class covers transmission lines for power, water, and gas; gravel pits; roads; and mineral exploration. Requests for these types of special use permits are increasing.

Wild and Scenic Rivers: The Green River has have been recommended for inclusion in the National Wild and Scenic River System: The Green River Study was completed in 1978, with the Draft Environmental Statement completed in June 1979, and Final Environmental Statement in 1980; the Green River from Flaming Gorge Dam to the southern boundary of Dinosaur National Monument is eligible and has been recommended as a component of the NW&SRS.

Land Available for Disposal: In the three land management plans completed on the Forest, no specific lands were identified for disposal. In 1963 and 1966 the Forest and Region completed two major land exchanges with the State of Utah, wherein two isolated sections of the Forest (Phil Pico - 3,200 and Tabby Mountain - 27,522 acres) were exchanged for certain State section lands

located within the Ashley, Wasatch, Dixie, Fishlake, and Sawtooth National Forests. This eliminated most of the isolated State sections within the Forest.

Special use permits for concessionaires now authorize three marinas, the Dutch John Airport, and two others providing automotive service, food service, raft rentals, and lodging.

#### South Slope (Roosevelt and Duchesne Districts)

Land uses on the South Slope Planning Unit are many and varied. These include 58 special use permits, 17 memorandums of understanding, and 10 right-of-way easements. These uses are dispersed throughout the planning unit, but are most numerous in the more developed canyon bottoms.

Power site withdrawals and Federal Power Commission withdrawals cover 55,030 acres. These withdrawals were filed during the period 1926 to 1933 on Whiterocks River, Uinta River, Yellowstone River, Swift Creek, Lake Fork, Rock Creek, and Granddaddy Basin. While these power site withdrawals do not withdraw the land from mineral entry, they do give priority of use to power sites.

Special use permits include three resorts, eight recreation residences, seven utility lines, two electronic sites, fifteen water transmission lines (both domestic and agricultural), one mining camp, eight pastures, seven range facilities, and eight outfitter guides. Seventeen memorandums of understanding are granted to other governmental agencies for gauging stations, water diversion, hydro-meteorologic sites, utility lines, roads, and water transmission lines. Right-of-way easements are primarily for roads, but other uses include canals, reservoirs, and water diversion structures.

The major withdrawals within the planning unit are for phosphate, Bureau of Reclamation, and the Federal Power Commission. The phosphate withdrawals cover about 28,00 acres located along the southern border of the planning unit. Reclamation withdrawals cover 26,084 acres. These withdrawals are for the Moon Lake Project and the CUP and are located mainly in the canyon bottoms.

#### Vernal

One hundred and four special use permits are in effect on the Vernal Planning Unit. These permits cover a variety of uses and activities such water impoundments and transmissions, power transmission, two summer home tracts, electronic sites, fences, corrals, pipelines, roads, herder cabins, mineral leases, etc. Water impoundment and transmission, a necessity for this arid country, poses some of the more serious special use problems.

High voltage power lines from Flaming Gorge cross the eastern end of the planning unit. Also, there are two designated communications sites on the planning unit--one on Grizzly Ridge and one on Marsh Peak.

c. Soils

The Forest has a variety of geographical areas, landscapes, climate, and vegetation. Soils vary accordingly from the high desert areas to the alpine zones above the timberline. A variety of processes have been involved in forming the soils on the Forest. The diversity of all of these soil-forming factors has produced a mixture of soil patterns with highly productive soils that are interspersed with soils that have low potential for productivity.

Soil Productivity: Soil productivity varies with differences in elevation, precipitation, aspect, texture, depth, internal drainage, content of rock fragments, parent material, slope, and vegetative cover. The Forest has a wide range of landforms affected by a wide range of environmental parameters. Elevation ranges from 4500 feet in the Wyoming Basin to 13,000 feet at the high mountain tops. Soils and soil productivity vary accordingly.

The higher elevation lands in the Bollies (elevations above 10,600 feet) are generally of a lower productivity than lands adjacent to this unit. However, productivity is more likely to be affected on this unit by the cold temperatures, high winds, and very short growing season, than by the inherent fertility of the soils.

Those lower elevation lands receive low precipitation. In the Tavaputs Plateau, natural erosion rates are high and much weathering of the limestone and shale goes into solution with the result of little soil formation. Lack of moisture appears to be the primary cause of low productivity in both Wyoming and the South Unit.

To maintain or improve inherent soil productivity by management practices, monitoring and the establishment of a data base is needed.

Soils Requiring Special Attention

The Forest has a unique situation with some soils having a seasonally or permanently high water table. These soils contain some of the more productive timber stands on the Forest. Although these soils are quite common in depression areas, they are also very prevalent on ridges and slopes up to 10% on the Flaming Gorge and Vernal Ranger Districts. These soils need to be recognized as a special situation in road construction, timber sale layout, and any other management practice that involves disturbance to the area.

d. Facilities:

The Forest has numerous facilities including roads, bridges, administrative sites, and buildings. They require considerable time and money for operation and maintenance. There have been large investments in these facilities to facilitate the development, protection, and use of Forest resources. A detailed description of the facilities on this Forest can be found in the AMS.

Administrative Sites and Buildings: Currently the Forest has 147 buildings of which 37 are between 20 and 30 years old; 3 are between 30 and 40 years old; 19 are between 40 and 50 years old; and 17 are 50 years old and older. Currently the Forest has 40 road bridges and 7 trail bridges.

Continuation of past management will perpetuate the deterioration of some buildings. Some buildings have been identified as surplus and will be removed or destroyed. Other buildings will probably be surplus to the needs of the Forest at a later date.

Continuing direction is that when a Forest Service building or administrative site is proposed for remodeling, removal, or destruction the Forest Archaeologist is contacted to make sure that the site has been surveyed and recorded, that there is no conflict with Federal laws and regulations, and that all plans comply with 36 CFR 800 and FSM 2360.

Roads: The Forest has approximately 1,817 miles of inventoried road system. The existing road jurisdiction includes about 1,451 miles of Forest Service roads, 160 miles of private, 135 miles of local service roads, and 70 miles of State Highways.

The overall existing road density is approximately 1.11 miles of road per square mile of land, excluding the High Uintas Wilderness.

The Forest is also accessed by a trail system of about 776 miles of inventoried trail. The trail system is discussed under the recreation sections of this report.

Flaming Gorge Reservoir provides a relatively large water way that is also considered as a means of transportation for various recreation activities.

Construction of new roads on the Forest Development System has totaled about 55 miles from 1971-1981, for a yearly addition of 5.5 miles per year. Slightly more than 94 miles of road have been rebuilt for an average of 9.4 miles per year. The number of miles of road maintained on the Forest has averaged about 1,160 miles a year from 1974 to 1982.

Using this data, the mileage maintained was 2% at level 1, 23% at level 2, 28% at level 3, 35% at level 4, and 12% at level 5. Levels used here relate to a standard of maintenance, with level 5 being the highest.

Utility and Transportation Corridors: Three land management plans have been completed for planning units on the Forest. There were no corridor rights-of-way formally identified in any of these plans. Presently, requests for corridor rights-of-way are processed on a case-by-case basis following the NEPA process. New rights-of-way are authorized based on a demonstrated need and only after assurance that the use is properly coordinated with other resources and within land capabilities.

As part of the Forest planning process, existing and potential utility corridors have been studied and direction resulting from this analysis can be found in the various chapters of the EIS and in Appendix H.

The existing transportation system provides the primary access to all areas of the Forest. There has not been major interest expressed on the need for any new primary access roads on the Forest except for the road that would parallel the Green River on the north side below Flaming Gorge. Daggett County has proposed this location but the Forest Service and Bureau of Land Management (BLM) have opposed it because of the conflict that would be created with the recommendation for inclusion of the Green River in the National Wild and Scenic River System (NW&SRS).

e. Protection

Fire: The current fire management policy requires appropriate suppression response on all wildfires. The kind, amount, and timing of suppression action is based upon fire management direction under current and expected burning conditions. From 1970 through 1979 there was an average of 50 fires per year. About 41% of these fires were human caused, and an average of 680 acres burned each year.

Ultimately, a large portion of the Forest will be covered by modified suppression plans. Until such time as the plans are approved there will be no prescribed natural fires.

The Forest has a cooperative agreement with other agencies in the Uintah Basin for wildfire control. These agencies include the Bureau of Indian Affairs, the Bureau of Land Management, the National Park Service, and the State of Utah Division of Forestry and Fire Control.

The number of fires and acreages burned are expected to increase in the future because of increasing timber regeneration, fuelwood cutting, and increasing fuel loading. The North and South Slopes of the Uinta Mountains have potential for large and costly fires

because of the dense, continuous stands of lodgepole pine that are subject to mountain pine beetles that kill the trees and increase the fuel load.

Air Quality: There are no Class I or non-attainment air quality areas in the vicinity of the Uintah Basin. The portion of Dinosaur National Monument in Colorado, which does not border the Forest, is classified as a Class I area by the State of Colorado. The portion in Utah does not carry the same classification. The only non-attainment areas in Utah are along the Wasatch Front.

Ambient air flows from the south could adversely affect Class I areas in Wyoming. However, winds commonly flow west to east, so affects would be unlikely.

The air quality on the Forest is generally excellent. At times during the dry summer months vehicular traffic produces dust which temporarily lessens the air quality. The amount of smoke impact from occasional grass, brush and/or conifer fires is slight since most fires are small and burn a short period of time. From March through October, stable atmospheric conditions build only during the evening and at night; in the daytime, surface heating normally causes the air to become unstable thus dispersing pollutants through a thick layer of the atmosphere and consequently decreasing pollution concentrations to insignificant levels.

The Forest falls entirely in Air Quality Basin III (above 6500 feet). Controlled burns are never conducted when the Clearing Index is 500 or below. When the Clearing Index is between 500 and 600, grass, brush, and scattered slash can be burned. Slash piles and fuels which produce a large amount of smoke can be burned when the clearing Index is 600 or above. Most of the burning in the Forest is done at 8,000 feet or above, with the heavy slash region at about 8,500 feet. Rarely is the Clearing Index 600 or below at that elevation. Wildfires which occur during the summer months do not create a large amount of pollution due to the elevation. Clearing Indices are usually above 600 at the fire elevation. However, nighttime atmospheric conditions and the broad flat basins create ideal conditions for inversions to occur. During the early morning hours, radiation from the sun destroys these nightly inversions and creates adequate convection to disperse the smoke pollution. Wildfires large enough to create a large amount of smoke normally occur in July when the only rain shower activity is created by scattered afternoon cumulus buildups which dissipate after dark. Heavy air, trapping pollutants from smoke, does not create a serious pollution problem.

Insect and Disease: Forest pests have a direct and significant impact on Forest resources affecting recreation sites, and causing tree mortality and volume loss in timber stands. The principal insects and diseases affecting the Forest are mountain pine beetle, ips beetles, commandra rust, and dwarf mistletoe.



Mountain pine beetles have caused extensive mortality in lodgepole and ponderosa pine stands for several decades. Epidemic levels of the beetle, recorded since the 1940's, have continued to cycle through the Forest, removing most of the larger diameter trees in infested stands. The most recent outbreak began in the early 1970's in the Greendale Junction area, and caused extensive mortality around the Flaming Gorge NRA. The heaviest mortality occurred in 1982 with an estimated 3.5 million trees killed by the beetle. Mortality decreased in 1983 to 1.3 million trees but is expected to continue until most of the larger diameter trees in infested stands are killed.

The mountain pine beetle will continue to have a serious impact on lodgepole and ponderosa pine stands causing heavy mortality in overstocked stands of mature trees. Beetle populations increased rapidly in 1981 on the Forest and continued to increase for the next several years. Populations will remain at epidemic levels in a stand until 70 percent of the volume and all of the larger diameter trees have been removed. Pine stands could be protected from mountain pine beetle epidemic by stand hazard rating to identify high-risk stands, monitoring beetle populations, and by thinning stands to reduce the potential for outbreaks. Mountain pine beetles will not be eliminated from pine stands by silvicultural practice. However, in commercial stands, losses can be minimized by reducing the susceptibility to beetle attacks. High value trees in developed and administrative sites can be treated with protective sprays.

The Forest has been exposed to rangeland insect infestations, but the problems have never been extensive enough to cause great alarm. Localized areas have had sufficient buildup to warrant control programs. These treatments, along with natural low population cycles, have confined impacts to relatively small areas.

Those insects that have had high enough populations to cause concern are: grasshoppers, black grass bugs, and Mormon crickets. Another range pest that has become somewhat visible on occasion is the tent caterpillar. It has occasionally been seen in sufficient numbers in bitterbrush stands to attract the attention of range specialists. Natural control and resistance have removed any further concern.

Forest range specialists have worked closely with representatives of the Animal and Plant Health Inspection Service (APHIS) in identifying, monitoring, treating, and follow up work with range insects.

Law Enforcement: The Forest Service is responsible for enforcing Federal laws and regulations on the National Forest. This responsibility cannot be delegated to other agencies or local law enforcement entities.

The Forest Service may cooperate with state and local agencies in enforcing certain state laws on National Forest System lands. The Sisk Act provides statutory authority to reimburse local and state law enforcement agencies for the protection of persons using National Forest System lands and property.

Most employees assigned to recreation and fire prevention receive minimum law enforcement training. This training is not adequate to handle many of the law violations they encounter. Budgeting for law enforcement is also not adequate to carry out an effective law enforcement program.

Public use of the Forest is expected to increase substantially in the years ahead. The increased use will result in increased law violations.

## **B. SUPPLY CONDITIONS**

This subsection includes a summary display of the maximum physical and biological production potentials for significant individual goods and services (maximum resource level benchmarks or maximum production potential) identified in the Analysis of the Management Situation (AMS). Also included are displays of the production levels which are attainable under current management direction (Current Management Direction Potential).

The "No Action", or current management direction, displays the entire set of outputs for the RPA time periods (five decades). The Maximum Benchmarks display only those outputs designed to show the Maximum Production Potential for significant goods and services.

TABLE II-5 Current Outputs, Projected Demand, Supply Potential

Activity - Category	Units	Estimated use for 1985	1986- 1990	1991- 2000	2001- 2010	2011- 2020	2021- 2030
Developed Recreation Use	MRVDS <sup>1/</sup>						
Demand Trends		845	974	1109	1326	1596	1851
Supply Potential(Max-AltI)			803	925	1092	1274	1444
Regional Objective			605	650	780	910	1040
Current Program			779	881	1045	1210	1374
Preferred Alternative (J)			809	940	1119	1300	1476
Dispersed Recreation Use	MRVDS <sup>1/</sup>						
Demand Trends		666	767	873	1044	1257	1458
Supply Potential(Max-AltI)			712	820	968	1130	1281
Regional Objective			595	630	683	737	790
Current Program			691	781	927	1074	1219
Preferred Alternative (J)			717	834	993	1153	1308
Wilderness Use	MRVDS <sup>1/</sup>						
Demand Trends		230.0	265.	301.6	360.8	434.3	503.6
Max. Supply Potential			301	360	360	360	360
Wilderness Regional Objective			---	----	----	-----	-----
Benchmark Current Program			301	360	360	360	360
Preferred Alternative (J)			301	360	360	360	360
Livestock	MAUMS						
Demand Trends		75	115	164	153	171	149
Supply Potential			115	164	153	171	149
Regional Objective			93	96	96	97	98
Current Program			77	80	82	83	84
Preferred Alternative (J)			81	84	91	99	108
Commercial Timber Sales Offered	MMCF						
Demand Trends			Demand for Timber is elastic.				
Max. Timber Benchmark			12.4	9.3	7.0	5.2	3.9
Regional Objective			5.3	5.8	5.8	5.8	5.8
Current Program			3.8	3.8	3.8	3.8	3.8
Preferred Alternative (J)			5.3	5.3	4.8	4.8	4.8
Water Yield	M Ac Ft						
Demand Trends			Demand for Water is elastic.				
Max. Water Benchmark			970	999	1024	1038	1035
Regional Objective			1079.0	1079.0	1079.0	1079.0	1079.0
Current Program			960	972	982	989	993
Preferred Alternative (J)			959	972	985	996	1002

<sup>1/</sup> The supply figures displayed above are slightly less than demand projections, but with improved management it is expected that demand could be met through decade 5. Also, even though projected demand is running ahead of reported use in decade 1, it is expected that demand and actual use should equalize during the planning horizon. Data presented past the 1st decade are projections based upon trends.

### **C. DEMAND CONDITIONS**

Both Supply and demand conditions are displayed for each of the RPA planning periods in Table II-5.

See Section A for a narrative on each of the resources.

### **D. NEED TO ESTABLISH OR CHANGE DIRECTION**

A comparison of existing Forest practices, policies, and direction, Regional Plan (RPA) targets, and the supply assessment figures from Benchmark levels identifies several areas where change is not only needed but is inevitable.

Present timber harvest on the Forest is accomplished using ground lead equipment such as skidders and tractors. Flat ground (under 40% slope) suitable for this type of equipment cannot continue to provide total timber harvest volume, even at proposed reduced levels. Modernization of logging methods and practices will be needed by the end of the second decade.

Long term timber output levels will be partially dependent on cultural practices such as pre-commercial and commercial thinnings. The elimination of partial cutting practices on the lodgepole pine stands and harvest of this species with clearcut methods is needed to reduce the costs of timber sales, post sale treatments, and to ensure regeneration of the new stands. Special areas such as Flaming Gorge NRA will require management practices that meet the intent of legislation for the area, including the partial cut methods of harvesting, where needed.

Existing local sawmill capacity approximates the RPA target levels of 19 MMBF annually. Increased demand for additional volume is already occurring for products such as fuelwood. The increased demands for wood products can be expected to result in increased competition and eventually to a shortage of the wood fiber.

The mountain pine beetle epidemic has hit most of the lodgepole pine and ponderosa pine stands on the east half of the Forest. Public comments and management concern about the changes in visual quality, loss of wood fiber, need for regeneration of a new stand, and the potential for large fires from the increased fuel loading will be reduced as the dead needles fall and the background landscape reverts from red to gray. However, fire protection needs will remain at high levels for many years into the future as dead trees fall and create "jackpots" of ready fuels. Prescribed burns will be used to reduce fuels and to help prepare the sites for new regeneration.

The RPA targets for range utilization will not be met unless the current trend away from sheep grazing and toward cattle use is reversed. There is an opportunity to make forage available on transitory range, on vacant allotments, and on under utilized allotments. Use of some of these practices, such as transitory range, would require substantially increased expenditures by permittees for herding and/or fencing.

Continued development of the Forest, such as road construction, will change the existing mix of ROS classes which comprise the character and attraction of the Forest for the general public. The Proposed Action (Alternative J) will tend to delay the major changes and to prolong the existing character. However, the Forest is changing with or without man's direction. The mountain pine beetle epidemic is a prime example of the dynamic nature of an ecosystem where changes occur as a natural event and sometimes at a very rapid pace.

Recreation demand projections indicate a need for increased developed site capacity beginning approximately 1990-1995. The Proposed Action recognizes this need and will program development of additional sites beginning in the first decade. In addition to the need for developed site capacity increases, the Forest Plan proposes to increase the construction and maintenance of trails both inside the High Uintas Wilderness and also in the unroaded areas outside the Wilderness. The inclusion of 80,000 plus acres in a dispersed recreation (undeveloped) management area (g) will provide an area where semi-primitive activities can take place outside the classified Wilderness. This will broaden the spectrum of recreation activities provided by the Ashley Forest and will also tend to retain the existing character of the Forest.

Currently, general Forest Service direction for CRM has been mainly in the area of project clearance, ie. doing a cultural resource survey of a proposed project, recording and inventorying any sites found, evaluating sites for inclusion on the National Register of Historic Places, protection of any sites found. CRM work on the Ashley National Forest has been reflective of these general Forest Service policies. As Forest Service CRM policies change in the future more towards site management, rehabilitation, reconstruction, and interpretation, CRM policy and direction on the Ashley National Forest will also need to change. There is also a need for continued Forest coordination with both the Utah and Wyoming SHPO.

The Forest will proceed with the analysis of candidate Research Natural Areas (RNA's) in cooperation with the Nature Conservancy. Establishment reports will be prepared and submitted to the Washington Office for consideration for those RNA's listed in the FEIS.

A moderate investment in wildlife habitat improvements is planned to provide a continuing program that will ensure needed habitat diversity and availability for existing fish and wildlife species. Continued coordination with State and Federal wildlife agencies is included as an integral part of the future direction for the Forest.

## **E. RESEARCH NEEDS**

During the development of the Forest Plan the following research needs have been identified:

1. The determination of habitat types, baseline land productivity, and how land management activities influence this productivity.
2. Determine the interrelationships of different management activities with soil characteristics that cause compaction and the effect on vegetative productivity.
3. Determine the factors limiting vegetative productivity in high meadows.
4. Determine the limits of acceptable change in heavily used recreation areas in the High Uintas Wilderness.
5. Set up needed control areas through the designation and continued evaluation of Research Natural Areas.

It is anticipated that more research needs will become apparent during monitoring and evaluation of the Forest plan.