

**Table 2-1.**

**Acres by Forest Type With a High Probability of Now Containing Old Growth Characteristics<sup>1</sup>**

Old Growth Forest Type Group and Number →	Total All Ages	Total Present Old Age Stands	Unsuitable For Timber Production	Suitable For Timber Production
1 northern hardwood forests	9,378	349	337	12
2. conifer northern – hardwood forests:				
2a. hemlock – northern hardwood subgroup	6,857	1,960	1,915	45
2b. white pine – northern hardwood subgroup	37,942	2,279	311	1,968
2c. spruce – northern hardwood subgroup	432	375	285	90
5. mixed mesophytic forests	51,095	3,425	2,244	1,181
10. hardwood wetland forests →	61	0 <sup>2</sup>	0	0
21. dry-mesic oak forests	677,958	87,889	59,605	28,284
22. dry & xeric oak woodlands & savannas	597	575	458	117
24. xeric pine & pine-oak forests & woodland	125,773	78,178	78,178	0
25. dry & dry-mesic oak-pine forests	122,501	4,441	3,024	1,417
28. eastern riverfront forests	216	206	186	20
37. rocky, thin-soiled excessively drained cedar woodlands →	11	0 <sup>2</sup>	0	0
<b>TOTALS</b>	<b>1,032,821</b>	<b>179,677</b>	<b>146,543</b>	<b>33,134</b>

<sup>1</sup>See Appendix H of the FEIS on criteria for determining old growth characteristics.

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<sup>2</sup>Type exists on Forest but no acres with old growth characteristics are represented in the present inventory.

2. No regeneration harvest practices will be scheduled in stands identified as "Total Present Old Age Stands" in Table 2-1 and located on lands classified as suitable for timber production in old growth forest type groups 1, 2a, 2b, 2c, 5, 10, 22, 24, 25, 28 and 37.

3. Prior to scheduling any silvicultural practices in stands identified as "Total Present Old Age Stands" in Table 2-1 and located on lands classified as suitable for timber production in old growth forest type group 21 (dry-mesic oak forests), the following actions will be accomplished:

a. Any stand where activities are proposed will be inventoried by the criteria listed in Appendix H of the FEIS (specifically, the Generic Attributes on page H-1).

b. Management practices (for example: prescribed burning, various regeneration or intermediate harvest methods, site preparation practices, salvage harvests or weeding) may proceed after site-specific analysis and disclosure which includes a discussion on the old growth characteristics found in each area, the effect of the action on these characteristics, and the effect the action will have on the contribution of the areas to the Forest's "old growth" inventory.

## Conversion

The National Forest Management Act Regulations [36 CFR 219.27(g)] require an analysis and justification for any planned type conversion.

Management direction in the Revised Plan does not direct planned type conversion. Specifically, no conversion of hardwood forest types to pine forest types is needed to meet the desired future condition of any management area.

Pine forest types can be regenerated either artificially or naturally to native pine species that are commonly occurring within the local watershed. Pine-hardwood forest types can be regenerated artificially or naturally to mixed pine-hardwood stands of native species that are commonly occurring within the local watershed.

Paradoxically, the gypsy moth may prompt catastrophic events that will significantly alter the stand regeneration processes in hardwood stands containing a significant oak component. Significant species composition shifts may occur on xeric dry sites.

In response to this anticipated situation, the Revised Plan provides for regeneration of tree species on lands suitable for timber production as part of salvage harvests. When natural regeneration is not sufficient, artificial regeneration will be used to help meet the desired future condition of any management area. Hardwood or pine seedlings may be planted.

counties where unemployment is high and opportunities for employment outside the forest products industry are limited.

**Rural Development**

The desired future condition involves continuing Forest contributions to the economic and social vitality of the Forest's neighbors. The Forest works with neighboring people and communities in developing natural-resource-based opportunities and enterprises within the capabilities of the resources.

Rural development considerations are included in Forest decisions to assist communities in achieving long-term economic development. The Forest actively seeks partnerships that promote development activities.

**Suitability**

Appendix A contains a discussion on the determination and locating of lands suitable for timber production. The lands suitable for timber production are where regulated harvesting of timber products is used to accomplish timber, wildlife, and other resource objectives. These are the lands where, over time, the Forest would be scheduling timber sales using a variety of harvest methods.

The Revised Plan identifies 350,000 acres as suitable for timber production. Lands suitable for timber production are shown on a map that accompanies the Revised Plan. Table 2-2 contains a breakdown of the suitability of lands for timber production in each management area: In Chapter 3, there is a discussion in the desired future condition of Management Areas 7, 11, 13, 14, 15, 16, 17 and 18 describing the desired future condition being achieved by timber sales on suitable lands within these management areas. The overall goal is (1) to initiate timber sales for timber management purposes on those highly productive lands where timber management can show a positive cash flow and is compatible with the desired future condition of the management area and (2) to implement timber sales on other lands in those situations where it is the most cost effective method of achieving the specific desired future condition for the management area.

**Table 2-2.**  
**Lands Unsuitable and Suitable For Timber Production**

<u>Management Area</u>	<u>Thousands of Total Acres</u>	<u>Thousands of Unsuitable Acres</u>	<u>Thousands of Suitable Acres</u>
4	70	70	0
5	10	10	0
6	9	9	0
7	39	27	12
8	44	44	0
9	141	141	0
10	8	8	0
11	11	8	3
12	2	2	0
13	42	38	4
14	133	85	48
15	331	139	192
16	39	12	27
17	91	28	63
18	21	20	1
20	4	4	0
21	60	60	0
22	6	6	0
<b>TOTAL</b>	<b>1,061</b>	<b>711</b>	<b>350</b>

One-third of the forested acres is suitable for timber production. The remaining acres were not designated as suitable for a number of reasons:

1. regulated timber harvesting is inconsistent with the management area objectives (Management Areas 4, 5, 6, 8, 9, 12, 20, 21 and 22);
2. high roading costs to access remote areas with low value Forest products;
3. low value stands on sites with low site indices; and
4. weak markets in certain areas of the Forest. Generally, such areas were removed from the suitable timber base to increase economic efficiency of the Forest's timber program.

**Allowable Sale  
Quantity**

Based on the maximum timber benchmark, all of the potential commercial lands on the Forest are capable of producing a first decade harvest of 1.9 billion board feet off a land base of 915,000 acres. Such a program, however, would result in a major below-cost timber sale program with a projected net revenue of -5.6 million dollars.

The estimated demand for timber products from the Forest is 455 million board feet for the first decade that the Revised Plan is in effect.

The Revised Plan contains an allowable sale quantity (ASQ) of 330 million board feet for the first decade. Although less than the anticipated demand, this ASQ is consistent with achieving an amount of vegetation manipulation to achieve wildlife and other multiple-use objectives.

Table A-7 in Appendix A displays the timber sale schedule by ranger district. The Revised Plan encompasses a more efficient timber sale program concentrated on more productive sites. By concentrating the timber program on the more productive sites, the Revised Plan also permits the Forest to offer an amount of quality pine and hardwood sawtimber greater than what has been historically offered.

**Salvage**

The ASQ normally includes timber volume from scheduled timber sales on lands suitable for timber production. When salvage occurs on lands suitable for timber production, the salvage volume replaces scheduled timber sales volume and is considered part of the ASQ.

Salvage of mortality from gypsy moth infestation as well as other natural events, on lands unsuitable for timber production is not part of the ASQ. Instead, it is non-chargeable volume that is not charged to the ASQ. The "Non-Chargeable Volume" and the ASQ comprise the "Timber Sale Program" as discussed in Appendix A of the Revised Plan. The Revised Plan anticipates a very small amount of "non-chargeable volume" (500 MBF per year).

Providing a forest environment where the ecological processes of the forest are balanced against social and economic uses is a primary goal of the Revised Plan. Dying, dead and damaged trees are an important part of the ecosystems of the Forest. They are also a resource that can be used for fuelwood or sawtimber if removed prior to deterioration. In most cases, only a relatively small percent of the woody biomass is removed from the Forest in salvage operations because either it is deteriorated, low value, small size and inaccessible. Direction is provided to clarify a salvage policy that achieves the objective of balance recognizing that:

1. Dead and dying wood is a major reservoir of organic matter and nutrients. Dead, standing trees (called snags) can provide tree cavities that are important to many animals. When snags fall, they become logs on the forest floor or in streams that provide microhabitats for a diverse succession of organisms.

2. Dead and dying wood is a valuable resource that can be removed from the forest ecosystem (salvaged) for various products to fulfill a social and economic need.

Dead or down trees are salvaged from existing open roads by individuals for personal use fuelwood in most areas of the Forest. Such salvaging is not permissible in Management Areas 4 (Historical, geological and Research Natural Areas only), 8, 12, 20, and 22.

Salvage is used to protect public safety. Salvage is also used for the purpose of utilizing high-value products before that value is lost.

Salvage harvests generally do not remove all trees from a stand, but will leave those trees less susceptible to the insect or disease agent. Where appropriate and needed to meet the desired future condition on any management area, snags will be retained.

As discussed under ISSUE 1 – BIODIVERSITY, providing for regeneration of tree species on lands suitable for timber production is a further objective of salvage harvests. When natural regeneration is not sufficient, artificial regeneration will be used to help meet the desired future condition of any management area. Hardwood or pine seedlings may be planted.

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**ISSUE 3:  
FOREST ACCESS**

The lands acquired for the national forest contained a spiderweb of old charcoal, tanbark, logging, and wagon roads that generally followed the stream bottoms along the path of least resistance. Over the years, roads have been closed or restored by the Forest Service to prevent resource damage, to lower maintenance costs, and to meet management objectives.

At the present time, the Forest varies from highly roaded with road densities exceeding 3 miles per 1,000 acres to unroaded areas with less than 1/4 mile of "improved" road per 1,000 acres.

The Revised Plan recognizes that the desire for motorized access to the Forest must be balanced against conflicting goals of providing for certain types of wildlife habitat and non-motorized recreation use.

**System Roads**

The Forest Transportation System contains approximately 1,760 miles of Forest Development Roads administered by the Forest Service. Approximately 610 miles are open to the public year-round; an additional 440 miles are open seasonally; 710 miles are closed to public vehicles year-round. The latest, updated existing road system and road management status is shown on a map that accompanies the Revised Plan.

Under the Revised Plan, a road system will be maintained to serve the public, meet management needs, and protect resources in a cost-effective manner. New roads will be constructed as needed and to the standard to meet the desired future condition identified in each management area. Road standards are identified in Appendix G.

Generally, it is not the intent of the Revised Plan to change the management of existing roads. Rather, it is to establish direction for management areas which will dictate access requirements.

The amount of road construction needed to accomplish the timber management and wildlife habitat needs on suitable acres in the Revised Plan is estimated to be 5 to 8 miles of system roads every year during the 10 to 15 year period that the Revised Plan is in effect. This does not include reconstruction or maintenance of existing roads. Additional roads may be needed for a variety of reasons including access to new developed recreation sites, general forest access, and access to wildlife improvements.

Most of the future road management practices will consist of the maintenance, reconstruction and, where appropriate, relocation of existing roads.

The decision to construct any additional roads will be made when projects are selected and supported by appropriate site-specific analysis and documenta-

tion. The Revised Plan assumes that any road construction in Management Areas 4, 5, 6, 9 and 21 will be limited to short spur roads leading to parking areas.

The Revised Plan estimates that 90% of new system roads constructed to support the timber and wildlife needs will not be open to public vehicular use. They will, however, be open to non-motorized use, such as horseback riding, mountain biking, and foot travel.

The Revised Plan continues the existing management direction of identifying and evaluating open roads. Roads that serve a legitimate access need, are consistent with the management area direction and meet standards in the Revised Plan remain open to public use. When they do not meet these requirements, these routes will be permanently closed or improved, as funding permits.

Decisions that determine whether individual roads are open or closed to public vehicular use are made on a case by case (road by road) basis. Existing roads may be closed under one of the following conditions:

1. The road will not be needed again. It will be closed permanently and removed from the Forest Transportation System. These roads will be revegetated, and no further maintenance required.
2. The road will not be needed for several years except possibly for emergencies such as firefighting access. It will be closed to all public traffic by placing a physical barrier at the entrance. These roads will be revegetated.
3. The road is only needed for administrative purposes and closing it will contribute to the desired future condition of the management area. It will have a locked gate at the entrance.
4. The road is seasonally closed because of weather conditions, because of the need for resource protection in cases of unacceptable or unsafe conditions, or to meet open road densities in Management Areas 15 or 16. It will have a locked gate at the entrance.

#### **Licensed OHV Use**

The ID Team worked with District personnel to identify approximately 160 miles of system roads which are currently designed to a standard that could offer opportunities for 4-wheel drive and other licensed OHVs without causing unacceptable resource impacts. In addition, there are more than 60 miles of system roads (see Appendix J) open at least seasonally which offer a degree of interest to users of licensed OHV vehicles.

As discussed in Chapter 3 of the FEIS, it is estimated that an additional 187 miles of 4-wheel drive and other licensed off-highway vehicle roads are needed to meet the anticipated demand for such opportunities by the year 2000.

Under the Revised Plan, all open system roads on the Forest are available for vehicles licensed for public roads. The intent of the Revised Plan is to continue to offer year-round use on those system roads where year-round use has traditionally been offered, and to continue to offer seasonal use on those system roads where seasonal use has traditionally been offered.

The map which accompanies this Revised Plan shows the routes which offer opportunities for licensed OHV users. Persons interested in OHV experiences should contact the appropriate Ranger District to learn the status and specifics on the location of these OHV routes.

## **Non-Motorized Trails**

The Forest trail system includes approximately 950 miles designed for a variety of non-motorized uses including hiking, horseback riding, mountain biking and backpacking. The Revised Plan continues the "Share The Trail" concept.

Non-motorized trails are compatible with all management areas. Trails in Management Areas 4 and 18 may be closed or relocated if it is determined that unacceptable damage is being caused to biological or riparian resources.

Appendix B contains a listing of potential trail construction and reconstruction projects. It is the intention of the Revised Plan to develop or improve these trails as funding permits.

Three trails are components of the National Trails System: the Appalachian National Scenic Trail, the Lion's Tale National Recreation Trail and the Wild Oak National Recreation Trail.

Approximately 60 miles of the Appalachian National Scenic Trail are within the boundary of the Pedlar Ranger District. Except for portions of the Trail in the Priest and Three Ridges Roadless Areas (allocated to Management Area 8), and in the Mount Pleasant National Scenic Area (allocated to Management Area 21), the Appalachian Trail Foreground Zone has been allocated to Management Area 6. New standards have been incorporated as recommended by the Appalachian Trail Conference.

The 0.3-mile Lion's Tale National Recreation Trail, located on the Lee Ranger District, is part of Management Area 12 ("Specialized Recreation Sites").

The 25.6 mile Wild Oak National Recreation Trail, located on the Dry River Ranger District, lies within Management Areas 13 and 21.

**Access for  
Persons With  
Disabilities**

The Revised Plan encourages the continued exploration of methods to provide access to persons with disabilities in accordance with the Americans with Disabilities Act and other applicable legislation. The Forest Service intends to continue to seek such opportunities as the Revised Plan is implemented. Access for disabled persons is also provided in developed recreation facilities as discussed under **ISSUE 13 – THE MIX OF GOODS AND SERVICES.**

Currently, two motorized routes are provided for hunting access to physically disabled hunters. The two mile Neal Run Trail on the Warm Springs Ranger District is open for ATVs or motorcycles. The Fore Mountain Road on the James River Ranger District is opened for licensed OHVs.

Most Ranger Districts provide hunting access to physically disabled hunters who possess a valid Virginia or West Virginia permit. Additional information is available from the Ranger District and state agencies.

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**ISSUE 4:  
ALL-TERRAIN  
VEHICLE (ATV) USE**

Under current management direction, the Forest has developed three all-terrain vehicle systems on the Forest:

1. The Taskers Gap/Peters Mill Run System on the Lee Ranger District contains approximately 20 miles of routes. There is potential for additional route mileage within this particular management area.
2. The Rocky Run System on the Dry River Ranger District contains 15 miles of routes. There is potential for additional route mileage within this management area.
3. The South Pedlar System on the Pedlar Ranger District contains approximately 25 miles of routes.

The Revised Plan calls for one additional system to be established on the Deerfield Ranger District if there is interest on the part of an organization to sponsor the construction and maintenance of this system. The length of this potential system is estimated to be 15 miles.

As discussed in Chapter 3 of the FEIS, the ID Team anticipates that an additional 331 miles of routes would be needed to meet the anticipated demand for ATV opportunities by the year 2000.

Forest officials worked with representatives of ATV organizations to identify sixteen other potential areas where ATV systems could be developed. If all of

these systems were developed, an estimated 375 miles of ATV routes would be available for public use.

The number of ATV trail systems offered under the Revised Plan is based on the amount of use deemed appropriate under the overriding theme of managing the Forest to provide a wider array of uses, service, products and conditions than in the past, and under the assumption that all-terrain vehicle use is incompatible with the objectives and desired future condition of most of the management areas. The process paper "Incorporation of the NFMA Requirements for Off-Road Vehicle Use into the Revision of the Land and Resource Management Plan for the George Washington National Forest" contains an analysis of the fifteen trails routes not selected in the preferred alternative.

The four ATV systems are located in Management Area 11. Licensed OHVs are allowed if the trail is designated for such a vehicle by a Supervisor's Order. More detailed information on their management is contained in Chapter 3 of this document under the discussion for Management Area 11.

Under the Revised Plan, as under current management direction, the remainder of the Forest is closed to vehicles which are not licensed by the state.

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**ISSUE 5:  
ROADLESS AREA  
MANAGEMENT**

The Forest contains an identified 27 areas that qualify as "roadless" under national policy. These roadless areas contain more than 260,000 acres. Appendix C of the Final Environmental Impact Statement contains an evaluation report on each of the roadless areas.

Federal legislation is needed to establish wilderness. The Revised Plan recommends three roadless areas for wilderness study (Management Area 8): St. Marys Addition, the Priest and Three Ridges. These roadless areas would be valuable additions to the National Wilderness Preservation System. This recommendation is a preliminary administrative recommendation that will receive further review and possible modification.

Table 2-3 displays how the Revised Plan allocates the 260,000 acres of roadless areas to different management areas.

Big Schloss, Laurel Fork, and Little River have been allocated to Management Area 21 ("Special Management Areas"). Mount Pleasant is allocated to Management Area 21 as a "National Scenic Area" as a result of the George Washington National Forest Mount Pleasant Scenic Area Act of 1994 (PL 103-314). The majority of the remaining roadless area acreage is allocated to Management Area 4 ("Special Interest Areas") and Management Area 9 ("Remote Highlands").

**Table 2-3  
Allocation of Roadless Area Acreage to Management Areas**

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<u>Management Area</u>	<u>Thousands of Acres</u>
4	32
6	1
7	0 <sup>1</sup>
8	12
9	121
10	1
13	9
14	11
15	7
17	0 <sup>1</sup>
18	4
21	60
22	0 <sup>1</sup>

<sup>1</sup>Less than 500 acres, rounded to zero.

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5% of the roadless area acreage is allocated to Management Area 8 and recommended for wilderness study. 84% of the acreage is allocated to Management Areas 4, 6, 9, 10, 18 and 21 where the roadless nature of these areas will not be substantially changed. On the remaining 11%, projects may be scheduled that might substantially change the roadless nature of these areas.

Before any project is scheduled in a roadless area, site-specific analysis and appropriate disclosure will be completed. This site-specific disclosure will include discussion of the effects of the project on the roadless nature of the particular area as described in Appendix C of the FEIS.

**ISSUE 6:  
SPECIAL  
MANAGEMENT  
AREAS**

The 1986 Plan contained 20 management areas, many of which were "Special Management Areas" containing unique values. Most of these Special Management Areas were roadless areas identified in RARE II as part of the roadless area inventory discussed under **ISSUE 5 – ROADLESS AREA MANAGEMENT**.

The Revised Plan continues to recognize areas of the Forest that possess unique values. These areas are assigned to specific management areas with management direction designed to preserve and/or enhance their values.

**Table 2-4  
Allocation of Special Management Areas in the Revised Plan**

<u>Description of Area</u>	<u>Management Area</u>
Little Laurel Run Research Natural Area	4
Existing Wilderness	8
Skidmore	4
Dolly Ann Hollow	4
Southern Massanutten	9
Laurel Fork	21
Little River	21
Big Schloss	21
Hidden Valley	13 and 15
Jackson River	10
North River	10
Crab Tree Falls	13
Mount Pleasant National Scenic Area	21

**Wilderness**

The four existing wildernesses on the Forest are allocated to Management Area 8. Two small portions of wildernesses that are located primarily on the Jefferson National Forest are also recognized in this management area, but no specific management direction is provided since these areas are administered by the Jefferson National Forest.

## Rivers

Table 1 in Appendix D of the FEIS identifies the rivers or river segments on the Forest which are eligible for inclusion in the National Wild and Scenic Rivers System. The Forest Service is required by the National Wild and Scenic Rivers Act of 1968 to protect rivers under consideration for inclusion.

Suitability studies will be completed on these rivers after the Revised Plan is published. Designation of any river or river segment for inclusion in the National Wild and Scenic Rivers System requires an act of Congress. In the Revised Plan, river segments that are eligible for designation are managed in a manner that retains the attributes that make them eligible.

Corridors along these rivers are generally allocated to Management Area 10. A portion of the Jackson River in Hidden Valley, the Elizabeth Furnace area along Passage Creek, and the Walton Tract on the Cowpasture River have been allocated to Management Area 13. Small fields along the South Fork of the Shenandoah River, the Evans, Wallace and Marshall Tracts of the Cowpasture River, and the Zepp Tannery tract on Cedar Creek have been allocated to Management Area 22. Management practices permissible in these management areas will not preclude future inclusion of the rivers into the National Rivers System.

## Important Scenic and Recreational Areas

A number of areas on the Forest will be managed to provide a quality visual and recreation experience to visitors and users.

Except for portions of the Trail in the Priest and Three Ridges Roadless Areas (allocated to Management Area 8), and in the Mount Pleasant National Scenic Area (allocated to Management Area 21), the foreground zone of the Appalachian National Scenic Trail has been allocated to Management Area 6. Additionally, any "seen areas" from the Appalachian Trail have a visual quality objective of either preservation, retention, or partial retention.

The Highlands Scenic Tour (a Forest Service scenic byway) has been allocated to Management Area 7. The foreground zone for the Blue Ridge Parkway, major highways including a number of Virginia Byways noted for their scenic beauty, has also been allocated to Management Area 7 for protection of these scenic corridors. These Forest development roads, known for their scenic qualities, were also added to this management area.

Management Area 13 contains areas which receive heavy dispersed recreation use. Most of these areas are located near popular developed recreation areas and are managed in conjunction with the developed recreation experience such as hiking loops from the Longdale and Elizabeth Furnace Recreation Areas.

## Fisheries

The Forest contains 660 miles of cold water streams, 627 miles of cool or warm water streams and 3,190 acres of lakes, ponds and reservoirs.

**ISSUE 10:  
MINERALS**

The Revised Plan continues to offer opportunities to explore and develop leasable (natural gas and other minerals) and common variety minerals on the Forest as one of the products important to the public. Tables 2-7, 2-8 and 2-9 display the number of acres available for oil and gas leasing, leasing of non-energy minerals and the sale of common variety minerals.

In areas of high mineral resource potential, minerals are recognized as an important multiple use that may be developed in coordination with other resource values. Areas needing special protection (i.e. wilderness, recreation areas, etc.) either have minerals activities prohibited by law or restricted by timing, controlled surface use, or no surface occupancy stipulations according to the appropriate management area direction.

On land available for minerals, exploration and development are consistent with the provisions of the management area to which the land is allocated.

As existing oil and gas leases expire, new leases will be issued under the standards of the appropriate management area.

**Table 2-7.  
Thousands of Acres Available for Leasable Energy (Oil and Gas) Minerals<sup>1</sup>**

<u>Leasing with Standard Stipulations</u>	<u>Leasing with Controlled Use/Timing Stipulations</u>	<u>Leasing with No Surface Occupancy Stipulations</u>	<u>Unavailable due to Congressional Action</u>	<u>Unavailable due to Administrative Action</u>
145	825	41	40	10

<sup>1</sup>The above acreage figures do not distinguish between Federal and private mineral rights. Approximately 19 percent of the Forest contains private mineral holdings.

→ **Table 2-8.**  
**Thousands of Acres Available for Non-Energy Leasable Minerals<sup>1</sup>**

<u>Leasing Generally Available</u>	<u>Leasing on Case-by-Case Basis</u>	<u>Unavailable due to Congressional Action</u>	<u>Unavailable due to Administrative Action</u>
479	525	40	17

<sup>1</sup>The above acreage figures do not distinguish between Federal and private mineral rights. Approximately 19 percent of the Forest contains private mineral holdings.

→ **Table 2-9.**  
**Thousands of Acres Available for Salable (Common Variety) Minerals<sup>1</sup>**

<u>Mineral Material Sales Allowed</u>	<u>Mineral Material Sales on Case-by-Case Basis</u>	<u>Unavailable due to Congressional Action</u>	<u>Unavailable due to Administrative Action</u>
141	847	40	47

<sup>1</sup>The above acreage figures do not distinguish between Federal and private mineral rights. Approximately 19 percent of the Forest contains private mineral holdings.

Although a large number of acres are "available" for mineral activities, mineral deposits suitable for mining are scarce. Areas needed for mineral extraction are relatively small and isolated features on the vast acreage of the Forest. At most, only a very small percentage (less than 1%) of the Forest is expected to contain mineral activities.

Exploration for minerals requires that large areas be searched. Most of the searching of these large areas does not disturb the ground surface. It is done primarily by 1) analysis of satellite images, remote sensing images, and aerial photos, 2) by geologic mapping, and 3) study of existing data from previous exploration or mining.

**ISSUE 11:  
GYPSY MOTH**

One of the goals of the Revised Plan is to provide a forest environment where damage to natural resources from forest pest organisms, especially gypsy moth, are minimized when such damage prevents the attainment of other natural resource objectives. The Forest manages insect and disease populations by utilizing the principles of integrated pest management.

The Revised Plan provides a strategy that is consistent with the expected behavior of gypsy moth populations and their impacts for the ten to fifteen year period that the Revised Plan will be in effect. This expected behavior and impacts are described in the FEIS.

**Population  
Control**

By summer of 1992, reproducing populations of gypsy moth could be found on approximately half of the Forest. Since first defoliation on the Forest in 1986, gypsy moth population levels have expanded to outbreak levels with more than 40 percent of the Forest experiencing at least one defoliation.

It is estimated that the entire Forest will have defoliating population levels in the next five to seven years. Following this first epidemic of gypsy moth, the Forest will be subjected to future recurrent epidemics as populations rise to defoliating levels and then collapse again. Generally, the first outbreak is the worst in terms of duration and damage; subsequent outbreaks are usually of shorter duration and are generally less damaging. The degree of damage or mortality will depend upon specific site factors that directly influence tree vigor and buildup of secondary pests.

Population collapses are usually caused by a virus disease of the caterpillar; however, the collapse may result when caterpillars rapidly consume acceptable foliage and then die from starvation before they can complete their development.

**Intervention  
Treatments**

To date, there is no cost-effective or environmentally acceptable way of achieving wide-spread control of gypsy moth populations in the infested area. Limited treatments of defoliating populations of gypsy moth are based on sound forest health evaluations and compelling economic analysis. Treatments to prevent gypsy moth defoliation are not justified where the costs outweigh the benefits.

A new natural enemy of the gypsy moth is an insect pathogenic fungus that is becoming established across the Forest as the result of its artificial introduction and its natural spread from the Northeast. The fungus attacks and kills gypsy moth caterpillars across a broad range of population densities. It was artificially introduced into the Forest in 1991 and developed to epidemic levels in 1992,

causing the widespread collapse of gypsy moth populations across the Forest. This fungus will most likely alter the population dynamics and impacts of gypsy moth on the Forest.

The Revised Plan calls for the continued introduction, where appropriate, of natural enemies, including fungal agents, to contribute to the biological control of introduced pests.

Those gypsy moth treatments which are evaluated in the *Final Environmental Impact Statement – Appalachian Integrated Pest Management (AIPM) – Gypsy Moth Demonstration Project* and *Final Environmental Impact Statement as Supplemented [in] 1985 – USDA Gypsy Moth Suppression and Eradication Projects* may be considered to manage gypsy moth populations on the Forest.

The protocol for the treatment of gypsy moth populations has evolved under the Appalachian Integrated Pest Management (AIPM) – Gypsy Moth Demonstration Project. Decisions on the specific treatments are made annually based on Forest health evaluations by professional entomologists, economic analysis and site-specific environmental analysis tiered to the environmental disclosure in the *Final Environmental Impact Statement – Appalachian Integrated Pest Management (AIPM) – Gypsy Moth Demonstration Project* and *Final Environmental Impact Statement as Supplemented [in] 1985 – USDA Gypsy Moth Suppression and Eradication Projects*.

Chapter 3 of the Revised Plan provides additional guidance in each management area description on where treatments might be appropriate given management area objectives.

#### **Silvicultural Practices**

Silvicultural practices are considered as a means of reducing the susceptibility and vulnerability of timber stands to damage caused by pests. Stands with high gypsy moth mortality or stands with a high probability of gypsy moth mortality will receive priority in scheduling regeneration harvests and other silvicultural practices on lands suitable for timber production.