

Timber Resources

Introduction

Fiscal year 2006 saw continued re-growth of the Timber Program on the Forest. Following an extended period (2002-2004) in which there was little or no vegetation management due to a moratorium imposed during the completion of the Threatened and Endangered Species Amendment to the 1986 Forest Plan, the Timber Program spent a busy 2005-2006 preparing three large sales, and conducting a variety of timber stand improvement (TSI), reforestation, inventory, and monitoring work.

2004 Accomplishments

The Program accomplishments for 2004 included:

- Budget and work planning, including out-year planning.
- Preparing and analyzing effects from three major timber sales, including Desert Branch, Upper Williams, and Lower Clover.
- Completing scheduled harvest, TSI, site preparation, and reforestation work. Specifically:
 - 532 acres of regeneration and intermediate harvest treatments,
 - 138 acres of precommercial thinning,
 - 693 acres of site preparation for natural regeneration,
 - 183 acres of natural regeneration certification, and
 - 35 acres of tree planting.
- Providing input and review for the Forest Plan revision effort.
- Monitoring and evaluation efforts as described below.

Monitoring and Evaluation

1986 FOREST PLAN MONITORING ITEMS FOR WILDLIFE RESOURCES

The Monongahela National Forest Land and Resource Plan (1986) outlines required vegetation monitoring on pages 250 and 251 related to CFR 219.12(k)(5):

- *Lands are adequately restocked as specified in the Forest Plan.*
- *Lands identified as not suited for timber production are examined at least every 10 years.*
- *Evaluate maximum size limits for harvest areas.*
- *Destructive insects/diseases do not increase to potentially damaging levels.*

Monitoring results for these items are reported below.

Monitoring Item 1. Lands are adequately restocked as specified in the Forest Plan.

The purpose of this monitoring is to ensure that lands are adequately stocked within 5 years of a regeneration harvest. Monitoring is accomplished through stocking exams in the first and third year after reforestation. The expected precision and reliability of this monitoring is considered very high.

Forest personnel on the North Zone of the Forest conducted stocking exams on 621 acres of regeneration harvest in 2006. Thirteen stands were surveyed on the Greenbrier Ranger District and 20 stands were surveyed on the Cheat-Potomac District. Stocking percentages ranged from 80-100 percent. Stocking exams on the North Zone revealed all 33 stands surveyed were adequately stocked with acceptable tree species.

Stocking surveys on the South Zone were done one growing season after regeneration harvest on 29 acres of the Gauley Ranger District, and 41 acres on the Marlinton Ranger District. These surveys monitor regeneration progress, and were done on 5 separate units, with percent stocking between 95 and 100 percent.

Surveys were done three growing seasons after regeneration harvest on 211 acres in 13 units on the Marlinton Ranger District, which were successfully regenerated. The stocking percent in these units was between 80 and 100 percent, with height growth adequate to protect against deer browse.

Monitoring Item 1. Evaluation, Conclusions, and Recommendations

Although regeneration monitoring indicated consistent success in 2006, the effects of deer browsing are becoming more apparent. Deer browsing appears to be increasing and altering the understory vegetation on much of the Forest. Regeneration monitoring will continue as mandated by the NFMA and new planning rule directives. It is highly recommended that deer browse and browse treatments studies continue as well, with the purpose of determining whether or how browse effects can be reduced in the future.

Monitoring Item 2. Lands identified as not suited for timber production are examined at least every 10 years

The purpose of this monitoring is to evaluate the lands that are unavailable and not suited for timber production on the Forest. This monitoring was completed in conjunction with the current Forest Plan revision effort on the Forest, as lands not suited for timber production is one of the six planning decisions to be made during revision.

During the analysis for the 1986 Forest Plan, there were an estimated 851,848 acres on the Forest, of which 723,670 acres were considered tentatively suitable for timber management. Acres that were withdrawn from tentatively suitable timber land included water, non-forested land, Wilderness, other withdrawn land, and sites that could not be managed as regulated NFS land without undue resource risk, as seen in Table TR-1.

Table TR-1. Lands Tentatively Suited for Commercial Timber Harvest, 1986 Forest Plan

Acres	Description
851,848	National Forest System lands in 1986
- 19,913	Non-forested land, including water
- 89,107	Forested land withdrawn from timber production (Wilderness, WSRs, etc.)
- 11,664	Lands not suited because restocking within 5 years cannot be assured
- 1,223	Lands not suited due to irreversible damage that could occur from timber operations
- 6,271	Lands not suited because current information is inadequate for decision-making
723,670	Tentatively suitable land for timber production

The 1986 Forest Plan contained additional acres that were withdrawn from suitable timber lands for various reasons, as shown in the table below.

Table TR-2. Lands Suited for Commercial Timber Harvest, 1986 Forest Plan

Acres	Description
723,670	Tentatively suitable land for timber production
- 60,581	Lands not appropriate for production because of environmental limitations
- 124,664	Lands not appropriate because Management Prescriptions do not include timber harvest
- 207,265	Lands not appropriate because they are the least cost-effective to achieve harvest goals
331,160	Tentatively suitable land not currently within or planned for non-timber purpose

Changes occurred since 1986 that affected the Forest’s land suitability determination. For example, over 65,000 acres were added to the Forest through land acquisition. Most of these acres were managed for timber in the recent past and were therefore considered suitable for timber production and added to the suited timber base. However, a similar amount of acres were removed from the suited base because they were identified as threatened and endangered species (primarily West Virginia northern flying squirrel) habitat. Therefore, the current suited base (332,200 acres), as represented by the 1986 Forest Plan as amended, is considered to be roughly what it was in 1986, although those acres have shifted somewhat on the landscape due to changes described above. Deducting the current suited base (332,200) acres from the current Forest land base (roughly 919,000 acres), leaves an estimated 586,800 acres that are considered not suited for timber production on the Forest.

Monitoring Item 2. Evaluation, Conclusions, and Recommendations

There are 585,800 acres that are currently considered not suited for timber production for reasons listed above. This acreage represents roughly 64 percent of the Forest land base. In the Forest Plan revision Draft EIS, three other alternatives were analyzed in detail, and the lands not suited for timber production in these alternatives ranged from 62 to 72 percent of the Forest land base.

The Responsible Official identified those alternatives that both met the criteria and created a reasonable range of outputs, direction, costs, management requirements, and effects from which to consider implementation options. Besides needing to meet the purpose and need and address one or more of the major Need for Change issues in Forest Plan revision, the alternatives considered in detail were further limited in their range by the following factors:

- There are over 78,000 acres in designated Wilderness that do not change by alternative.
- There are over 250,000 acres of habitat for federally listed species with management restrictions that do not change by alternative.
- There are over 60,000 acres of water, stream channel, wetlands, and associated buffer areas with management restrictions that do not change by alternative.
- There are over 70,000 acres of Special Areas (National Recreation Area, Botanical Areas, Scenic Areas, Natural National Landmarks, research areas) that do not change by alternative.
- There are additional acres in eligible Wild and Scenic River corridors and Very High Scenic Integrity corridors with management restrictions that do not change by alternative.

These acres add up to over half of the Forest area, and they have the cumulative effect of reducing management options and narrowing the decision space on remaining Forest lands. This effect was particularly apparent in the determination of suited and not suited timber land.

Recommendations:

The Forest will continue to examine the issue of suited vs. not suited timber land during Forest Plan revision, and will make a final determination of lands not suited for timber production in the Record of Decision, estimated to be released in September 2006. After that time, the Forest may still adjust those lands not suited for timber production based on analysis and decisions made at the project level. Any major changes in land conditions or environmental restrictions affecting the suitability of lands for timber production should be addressed in Plan amendments.

Monitoring Item 3. Evaluate maximum size limits for harvest areas

The purpose of this monitoring is to evaluate the standards relating to harvest size. Have the standards been applied appropriately? Are they helping to achieve desired conditions, goals, or objectives in the Forest Plan? Is there any compelling reason to change the standards? This monitoring was completed in conjunction with the current Forest Plan revision effort.

The following harvest size restrictions are found on pages 76 and 77 of the 1986 Forest Plan:

1. *Even-aged regeneration cuts in Management Prescriptions that harvest timber are subject to the following Forest-wide standards.*
 - a) *25 acres is the maximum size clearcut, seed tree cut, or shelterwood removal cut under normal conditions.*
2. *Exceptions to the 25 acre clearcut size may occur, after Environmental Analysis consideration, for the following reasons:*

- a) *Control of Forest pests.*
- b) *Fire suppression disturbances, e.g., fire lines, heliports, camps.*
- c) *Salvage of damaged trees caused by natural forces, such as ice, fire, insects, or diseases.*
- d) *Creation of scenic vistas or to meet specific visual quality objectives.*

There are no harvest size restrictions on uneven-aged treatments, although the Forest has generally kept group selection cuts under 2 acres in size to meet the technical silvicultural description of a group selection.

Monitoring has shown that the above standards have been applied appropriately. There were no harvest units cut in 2006 that exceeded the 25-acre standard in the Forest Plan, and compliance has been a consistent trend since the Plan was released in 1986. In fact, the average even-aged harvest unit on the Forest since that time has been closer to half that size.

Monitoring Item 3. Evaluation, Conclusions, and Recommendations

The Forest Plan revision team looked at the harvest size standards as part of its task to review all of the 1986 Plan's management direction. Through discussion with current or former employees who were involved with or knew about the 1986 Plan effort, the team learned that the 25-acre maximum was a result of social and political pressure applied at a time when the Monongahela clearcutting controversy was still relatively fresh in people's minds. This controversy was said to have helped generate the National Forest Management Act (NFMA) and its implementing regulations. However, those regulations only indicated a 40-acre size restriction was needed for even-aged harvests, with exceptions that could be granted with Regional Forester approval.

Recommendations:

The revision team recommended that the even-aged harvest size restriction be changed from 25 acres to 40 acres for the following reasons:

- Consistency - with the national standard set by NFMA and its implementing regulations.
- Flexibility – the national standard allows more silvicultural options at the project level.
- History – since the Monongahela controversy over 30 years ago, the Forest has demonstrated that it can manage vegetation without devastating effects to the biophysical or scenic environment, and these lessons and practices can be carried successfully into the future.
- Ecology/Biology – fewer large openings create less fragmentation and leave more connective corridors for wildlife movement and security than many smaller openings in the same area.
- Regeneration Success – deer prefer to browse along the edges of openings and therefore have more relative impacts on regeneration in small openings than they do in larger ones.

Monitoring Item 4. Destructive insects/diseases do not increase to potentially damaging levels

The purpose of this monitoring is to determine the current extent and severity of insect and disease occurrence on the Forest. The frequency of monitoring may vary, but it typically occurs on an annual basis. Monitoring is usually conducted through a combination of aerial surveys and on-the-ground visual inspections during the course of normal project work.

The State and Private Forestry unit out of Morgantown WV completed aerial surveys for insect and disease activity in the summer of 2004. Survey flights covered much of the Forest. The survey results indicated that there were no major increases in activity detectable at the time. However, Forest personnel noted that both native and non-native pest activity persisted during this period (personal communication with Glen Juergens, Forest Silviculturist).

In particular, continuing activity related to beech bark scale and hemlock woolly adelgid was noted. Gypsy moth defoliation was relatively stable, but egg masses were observed and appear to be increasing. Additional spotty defoliation was attributed to native tent caterpillar and locust activity. There was no activity observed related to sudden oak death, sirex wood wasp, Asian long-horned beetle, or emerald ash borer, which are all non-native invasive species that have been observed near West Virginia.

Monitoring Item 4. Evaluation, Conclusions, and Recommendations

Ongoing pest concerns are focused primarily on beech bark scale and hemlock woolly adelgid. Beech bark scale is now seen in most parts of the Forest, and appears to be increasing. It is estimated that the woolly adelgid infestation will kill at least half the hemlock on the Forest in the next 5-7 years, and result in the gradual decline of the remaining hemlock stands. Effects from gypsy moth are currently stable, but egg production continues, and moth populations could expand dramatically in the near future, especially if weather conditions during the spring months are warm and dry. Although species such as Asian long-horned beetle, sirex woodwasp, or emerald ash borer have not been observed on the Forest yet, they have the potential to have significant adverse effects due to their ability to impact multiple host species.

Recommendations:

Aerial surveys and ground inspections should and will continue. Training in insect and disease identification is also highly recommended for field-going timber personnel.