

Timber Resources

Introduction

Fiscal Year 2007 was the first full year implementing the revised Forest Plan that was signed in July, 2006. However, most of the timber sales and associated activities that were ongoing in 2007 were prepared under the 1986 Forest Plan. The Timber Program continued with the signing of the Decision Notice for the Little Beech Mountain Environmental Assessment on the Greenbrier Ranger District. This was the first decision issued after the revised Forest Plan was signed. In addition, the NEPA documentation was completed for the first stewardship project on the Forest involving a timber sale. The Decision Notice for the Middle Mountain Savannah Stewardship Project on the Marlinton/White Sulphur Springs Ranger District was signed in September, 2007. NEPA environmental analyses that involve timber sales continued for the Lower Williams project on the Gauley Ranger District and the Hogback project on the Cheat Ranger District.

Associated activities with timber sales include stocking surveys, site preparation for natural regeneration, planting tree seedlings, protection of tree seedlings, and timber stand improvement. These activities must be monitored and evaluated to ensure the forest remains healthy and diverse, in both species and ages of trees, so that it may be continuously managed on a sustainable basis for the enjoyment and use of future generations.

Stocking surveys are mandated by the Forest and Rangeland Renewable Resources and Planning Act of 1974. The purpose is to ensure national forest lands that have been treated with a regeneration harvest method or lands that have otherwise been deforested are re-growing or reforested with adequate stocking.

Site preparation activities that enhance the natural regeneration of hardwood trees include, but are not limited to: 1) using herbicide for control of competing vegetation; 2) cutting residual (usually non-commercial trees of low quality or small size) trees during or immediately after a timber harvest to encourage sprouting and improve the quality of the future stand; 3) vine control to improve potential growth of young tree seedlings and sprouts; and 4) prescribed burning to enhance regeneration of trees such as oak and hickory.

Timber stand improvement activities include, but are not limited to crop tree release, pre-commercial thinning, and vine control.

Planting tree seedlings usually is done on this Forest to ensure a certain species that may be difficult to regenerate remains a component of the stand or to restore certain species that are currently not as prevalent as they were historically. Protection of tree seedlings is necessary in certain areas where deer browsing may inhibit the survival or growth of tree seedlings. Protection may include, but is not limited to fencing, individual tree shelters, and application of chemical deer repellent.

2007 Accomplishments

Timber Program accomplishments for FY 2007 included:

- Budget and work planning, including out-year planning for the next 5 years.
- Preparing and analyzing effects and developing mitigating measures to reduce or eliminate adverse effects for timber-related projects: Little Beech Mountain on the Greenbrier Ranger District, Lower Williams on the Gauley Ranger District, Hogback on the Cheat Ranger District, and Middle Mountain Savannah and Habitat Enhancement on the Marlinton/White Sulphur Springs Ranger District (MWSSRD).
- Awarding the Friel/Laurel and Big & Little Timber Sales on the MWSSRD.
- Preparing, advertising, selling, and awarding the Middle Horse Timber Sale on the Gauley Ranger District.
- Selling a total of 10.6 MMBF of timber, with 9.8 MMBF in timber sale contracts.
- Harvesting a total of 8.6 MMBF of timber, with 8.2 MMBF from timber sale contracts.
- Administering the following active timber sales: Limestone (completed), Lower Clover, and Hobson/Laurel on the Cheat Ranger District; Desert Branch on the Gauley Ranger District; and Shock Run (completed), Day South, and Big & Little on the MWSSRD.
- Completing scheduled harvest, TSI, site preparation for natural regeneration work:
 - 187 acres of regeneration harvest (25 clearcut; 129 two-aged; 33 shelterwood),
 - 491 acres of intermediate harvest,
 - 103 acres of timber stand improvement,
 - 1,122 acres of pre- and post-harvest site preparation for natural regeneration, and
 - 44 acres of natural regeneration certification.
- Monitoring and evaluation efforts as described below.

Monitoring and Evaluation

FOREST PLAN MONITORING FOR TIMBER RESOURCES

The Monongahela National Forest Land and Resource Plan (2006) outlines timber-related resource monitoring on pages IV-7 and IV-10.

7. *Are harvested lands adequately restocked after five years?*
8. *To what extent is timber management occurring on lands suitable for such production?*
9. *How much even-aged management (especially clear cutting) should be used, and in what forest types should it be used?*
36. *Is timber harvesting sustainable over the long term and maintained at predictable and dependable levels?*

Monitoring results for these questions are reported below.

Monitoring Question 7. Are harvested lands adequately restocked after five years?

The purpose of this monitoring is to ensure that lands are adequately stocked within 5 years of a regeneration harvest, as required by the National Forest Management Act (NFMA) of 1976. Monitoring is accomplished through stocking surveys conducted after the first and third growing seasons following the completion of the site preparation for natural regeneration activity initiated during or immediately after the regeneration harvest. The expected precision and reliability of this monitoring is considered very high.

District personnel on the North Zone of the Forest conducted stocking exams on 351 acres in 23 stands of regeneration harvest in 2007. Stocking ranged from 47 percent in one stand to 100 percent. The large majority of stands had stocking greater than 70 percent.

Stocking surveys on the South Zone were done on 127 acres in 9 stands. One stand had 75 percent stocking on 13 acres while the remaining 8 stands had between 90-100 percent stocking.

Monitoring Question 7. Evaluation, Conclusions, and Recommendations

As mentioned in previous annual monitoring reports, the effects of deer browse on tree regeneration are still apparent. In some parts of the Forest a browse line is developing where little or no vegetation palatable to deer is growing on the forest floor. Districts are currently taking steps to increase regeneration success with planting and deer exclosure fencing projects in regeneration units where excessive deer browsing is threatening the growth of tree seedlings and sprouts. Stocking surveys will continue to monitor the effects of deer browse on the vegetation within regeneration harvest units and the effects of protection methods.

Recommendations: It is highly recommended that pre-harvest surveys be completed prior to or during project analysis to determine where those areas are that are experiencing heavy deer browsing. If regeneration harvests are planned in these areas, deer exclosure fences should be installed immediately after a unit is cut to ensure the unit regenerates with adequate stocking of acceptable tree species. In those areas where there is a potential for regeneration failure due to excessive deer browse and fencing is not practical or feasible, timber harvesting should be deferred until the deer population decreases. The Forest may also consider working with WVDNR to re-instate or initiate a doe harvest season in areas where deer browsing is a chronic problem to our regeneration efforts.

To clarify the intent and requirement of this monitoring question, it is recommended that the wording is changed to say: *Are regeneration harvest units adequately restocked after five years?*

Monitoring Question 8. To what extent is timber management occurring on lands suitable for such production?

This monitoring item is derived from the NFMA requirement to identify lands not suited for timber production every 10 years, roughly the Forest planning horizon. MNF lands considered not suited for timber management were determined as part of the recent Forest Plan revision process that culminated with the revised 2006 Forest Plan. The suitability analysis can be found

in the Timber Supply section of Chapter 3 in the Final EIS for Forest Plan Revision (2006). The Forest Plan revision analysis identified an estimated 329,400 acres of land considered suitable for timber production on the Forest, which means that there are roughly 589,700 acres on the Forest that are not suited for timber production.

We recognize that the Forest Plan revision suitability analysis was done at a very broad scale and that refinements may be needed as lands are scrutinized more closely, typically during project-level analysis or timber stand compartment examination. All sorts of factors may influence potential refinements, including stream buffer delineation, the discovery of federally listed plants or animals, new special area designations, pockets of land that are extremely steep or susceptible to erosion, or areas that are just not economically feasible to commercially harvest. These refinements, either individually or collectively, can be used to adjust suitable timberlands through Forest Plan amendments or revision.

It is important to note, however, that trees may be cut or harvested in areas that are considered not suited for timber production—if that activity is designed to achieve goals or objectives in the Forest Plan other than timber production, such as enhancing wildlife habitat, treating insect and disease infestations, or reducing hazards to Forest visitors. For example, there are several habitat enhancement projects scheduled on the Forest's Five Year Plan; however, they have not yet reached the planning or layout stage to determine how much of the timber-related activity would occur on suited vs. non-suited lands.

Monitoring Question 8. Evaluation, Conclusions, and Recommendations

Virtually all of the commercial timber harvest on the Forest in FY 2007 occurred on lands considered suitable for timber production in the 2006 Forest Plan. Furthermore, there were no reports of specific changes needed to timberland suitability. There were trees harvested in small or isolated instances—for example, to provide a needed stream crossing or road access under a special use authorization—but these activities were allowed under Forest Plan management direction, and they did not necessitate any change in suitability classification.

Recommendations: The Forest will continue to examine the issue of suited vs. not suited timberland during analysis for upcoming timber sale projects. Minor land classification changes may be made based on field reviews and stand examinations. Major changes due to stand conditions, environmental restrictions, or legislative actions affecting the suitability of lands for timber production should be addressed in Plan amendments or during Plan revision. Changes should also be recorded in the vegetation inventory FS Veg (Field Sampled Vegetation) database.

To clarify the intent and requirement of this monitoring question, it is recommended that we change the wording to say: *To what extent is commercial harvest occurring on lands suitable for timber production? Is there any need to adjust the suitable timberlands on the Forest?*

Monitoring Question 9. How much even-aged management (especially clear cutting) should be used, and in what forest types should it be used?

The purpose of this monitoring is to evaluate whether we are meeting the NFMA-imposed 40-acre size limit for even-aged timber harvest, particularly clearcutting. If we are not meeting this limit, we need to evaluate why we are exceeding it, and whether there a need to change the size limit to better accommodate our Forest management objectives and practices.

Even-aged silvicultural system harvest methods are defined on page A-2 in Appendix A of the 2006 Forest Plan. The 25-acre even-aged harvest size limit from the 1986 Forest Plan has been replaced in the 2006 Forest Plan with the 40-acre size limit in the National Forest Management Act. Exceptions to this size limit could be allowed on a case-by-case basis with Regional Forester approval. Other even-aged harvest restrictions in the 2006 Forest Plan include:

- No more than 20 percent of National Forest System (NFS) lands within each prescription area unit shall receive regeneration harvest over a 10-year period (Standard TR06, page II-40).
- Stands less than 10 acres in size should only be created (*with an even-aged silvicultural harvest method*) to meet resource objectives other than timber production (Guideline TR07, page II-40).
- Regeneration harvest units shall be separated by manageable stands of trees. This spacing requirement applies to regeneration units until regenerated trees have reached 20 percent of the height of the surrounding vegetation (Standard TR18, page II-41).

There are no harvest size restrictions for uneven-aged silvicultural harvest methods, although individual group selection cuts are generally considered to be less than 2 acres each in size.

Monitoring Question 9. Evaluation, Conclusions, and Recommendations

The Hogback Environmental Assessment and Lower Williams River Environmental Impact Statement are two of the first NEPA analyses for timber sales that will be completed under the 2006 Revised Forest Plan. Proposed even-aged harvest units in the Hogback analysis average an estimated 29 acres per unit. Unit size ranges from 11 acres to a maximum of 40 acres. An estimated 86 percent (1,000-1,250 acres) of the units are clearcuts with reserve trees. In the Lower Williams project, even-aged harvest unit size averages an estimated 27 acres per unit, with a range from 10 acres to 37 acres. An estimated 56 percent (850-900 acres) of these units are regeneration cuts with residuals.

The Little Beech Mountain timber sales were laid out and analyzed under the 1986 Forest Plan, but the Decision Notice was signed under the 2006 Plan. Even-aged harvest unit size ranged from 9 acres to the maximum of 25 acres, with an average of 19 acres per unit. There are no clearcut harvest units in these sales, but an estimated 50 acres are being converted to maintained wildlife openings.

Timber sales sold in 2007 that contained even-aged harvest units include Friel/Laurel, Big & Little, and Middle Horse. Friel/Laurel and Big & Little sales are part of the Upper Williams project area in which about 13 percent (190 acres) of the harvest units are clearcuts. The Middle Horse sale is part of the Cherry River project area in which roughly 8 percent (133 acres) of the harvest units are clearcuts.

These timber sales were analyzed and approved under the 1986 Forest Plan standards and guides. Average size and range of even-aged harvest units within these three timber sales are as follows:

- Friel/Laurel units average an estimated 17 acres/unit, with a range of 13-23 acres.
- Big & Little units average an estimated 21 acres/unit, with a range of 20-22 acres.
- Middle Horse units average an estimated 19 acres/unit, with a range of 16-21 acres.

In conclusion, none of the proposed, completed, or sold timber sales in FY 2007 had even-aged harvest units that exceeded the maximum size limit of 40 acres in the NFMA, which applies to the 2006 MNF Forest Plan.

Recommendations: Continue to monitor the size of regeneration units of even-aged silvicultural harvest treatments to ensure the layout of the unit does not exceed the maximum 40-acre size limit. If units do exceed the 40-acre limit, ensure that the rationale is documented in project decisions and evaluated in future monitoring reports to determine if there is a need to adjust Forest management practices or Forest Plan direction.

To clarify the intent and requirement of this monitoring question, it is recommended that the wording is changed to say: *Are even-aged harvest units, particularly clearcuts, exceeding the 40-acre size limit established under the NFMA? If they are, is there a need to adjust the size limit to better accommodate Forest Plan management objectives and practices?*

Monitoring Question 36 – Is timber harvesting sustainable over the long term and maintained at predictable and dependable levels?

As noted in the Accomplishments section above, an estimated 8.6 million board feet (MMBF) of timber were harvested on the Forest in FY 2007. This number is the equivalent of 1.43 million cubic feet of timber. The 2006 Forest Plan (page II-40) has a timber volume objective (TR03) of 25-100 million cubic feet of timber for the next decade. The Forest Plan EIS also calculated a Long-Term Sustained Yield Capacity (LTSYC) of 14.9 million cubic feet per year for timber harvest on the Forest.

Monitoring Question 36. Evaluation, Conclusions, and Recommendations

The FY 2007 harvest figure of 1.43 million cubic feet is well within the calculated LTSYC of 14.9 million cubic feet per year. Therefore, the current rate of timber harvest on the Forest is easily sustainable while meeting all management requirements for resource protection.

The 1.43 million cubic feet harvest falls short of the average harvest needed to meet Forest Plan Objective TR03 of 25-100 million cubic feet over the next decade. However, this is only the first year of the planning horizon decade, so there are nine years remaining to compensate for this shortfall. Harvest levels will need to just about double in size (> 2.5 MMCF) for these nine years in order to achieve the minimum threshold of the Forest Plan objective.

Harvest dependability is a factor of consistent production over time, and one year is not enough time to assess this attribute. We will continue to track production, however, so that an assessment may be made in the future.