

## Land Productivity

### Introduction

This section will examine the effects that Forest management has had on the overall productivity of Monongahela National Forest lands. It will do so by looking at the Management Prescriptions that have been assigned to the Forest, as well as the land-disturbing activities that occurred on the Forest during Fiscal Year (FY) 2008.

### 2008 Accomplishments

There were no accomplishments in FY 2008 that were directly designed or implemented to change land productivity on the Forest. However, there were a number of activities implemented that had the potential to affect land productivity. These activities are described and assessed in the Monitoring and Evaluation section, below.

### Monitoring and Evaluation

#### FOREST PLAN MONITORING ITEMS FOR TIMBER RESOURCES

The Monongahela National Forest Land and Resource Plan (2006) has one monitoring item that specifically addresses land productivity on page IV-7.

*Item 6 – Are the effects of Forest management, including prescriptions, resulting in significant changes to productivity of the land?*

To answer this question, we looked at three types of potential effects or changes on the Forest:

- 1) Changes to National Forest System (NFS) lands via acquisition, exchange or conveyance,
- 2) Changes to Management Prescriptions or prescription areas, and
- 3) Effects from Forest management activities with the potential to change land productivity.

The first two categories provide new information to the monitoring report. The third category is more a summation of other resource activities that are found within this report, along with an assessment of how these activities may have cumulatively affected Forest land productivity.

**Monitoring Question 6. Are the effects of Forest management, including prescriptions, resulting in significant changes to productivity of the land?**

#### Change to NFS Lands

No Forest lands transactions occurred in FY 2008. Therefore, there were no new lands or loss of NFS lands that would have affected land productivity.

## Changes to Management Prescriptions or Prescription Areas

A number of Management Prescription changes were made during Forest Plan revision, which was completed in September 2006. However, these changes were more spatial in nature and had little effect on the overall amount of land available for productive uses. For example, the amount of land considered suitable for timber production declined slightly but still remained at roughly 36 percent of the Forest. The amount of land available for mineral exploration and development decreased slightly, from 75 percent of the Forest to 74 percent of the Forest. The amount of land available for livestock grazing remained the same.

No additional Management Prescription changes occurred in FY 2008. Furthermore, no Forest Plan amendments were generated to allow or disallow specific management activities that would have affected land productivity within any Management Prescription area.

## Effects to Land Productivity from Forest Management Activities

**Road Construction/Decommissioning** - An estimated 0.1 mile of road was constructed in FY 2008, while 2.7 miles of road were decommissioned, creating a net difference of 1.6 miles or between 5 and 6 more acres of land that have returned to production potential for tree growth, wildlife habitat, and watershed function.

**Facility Construction/Decommissioning** - There were no major facilities constructed or decommissioned in FY 2008, and thus no changes occurred to land productivity from facility management on the Forest.

**Timber Harvest** - As seen in the Timber Resources section of this report, the Forest did not come close to exceeding its Long-Term Sustained Yield Capacity in FY 2008, and even-aged harvest units were successfully regenerated, though localized deer browsing problems persist. Although effects from harvest-related activities (tree-felling, skidding, road construction, etc.) did occur, they were generally minor and either mitigated through standard management practices or, as in the case of tree removal, compensated for by natural tree growth.

**Mineral Extraction** - No prescription or implementation changes occurred in FY 2008 that would affect the exploration or development of mineral resources. Effects from mineral activity to other resources remain well under amounts projected in the Forest Plan EIS (2006).

**Livestock Grazing** - The amount of land available on the Forest for livestock grazing remained roughly the same in FY 2008. No losses of forage production were reported.

**Off Road Vehicle Use** - Public off road vehicle use is not currently allowed on the Forest. Although some illegal use occurred on-Forest in FY 2008, most of it was on closed roads or trails that were already considered non-productive, total soil resource commitments.

**Soils** - No significant soil losses or soil detrimental disturbances were reported for FY 2008 in the Soil Resource section of this report. Localized disturbances were noted, but they can be

mitigated to avoid losses in productivity. In addition, more soil chemistry information was collected in FY 2008, and the Forest continued planning a soil liming project (Lower Williams). Both of these efforts are designed to provide more information on how Forest activities and pollutants may be affecting soil chemistry, which, in turn, may help us to understand how acid deposition is affecting soil and forest productivity over time.

**Water Quality and Fisheries** - No significant effects to water quality or fisheries due to ground disturbance were reported in FY 2008. However, sedimentation is an ongoing concern across the Forest, not only from Forest management activities, but also from sediment production occurring off-Forest and moving on-Forest through shared stream systems. A larger concern related to productivity, though, is the impact that acid deposition is having on aquatic ecosystems. Many streams on the Forest would not support aquatic life if it were not for introduced limestone sands that neutralize the acid deposition that comes from industrial pollution sources outside the Forest.

### **Monitoring Question 6. Evaluation, Conclusions, and Recommendations**

#### **Change to NFS Lands**

There were no changes to NFS lands on the Forest during FY 2008 and therefore no changes to lands or land productivity from acquisition or exchange.

#### **Changes to Management Prescriptions or Prescription Areas**

There were no measurable effects to land productivity from Management Prescriptions, as there were no changes to Management Prescriptions or Prescription areas during FY 2008.

#### **Effects to Land Productivity from Forest Management Activities**

Across the Forest, cumulative effects to land productivity from management activities were low in FY 2008. Activity levels for extractive or ground-disturbance uses were generally low. Ground disturbance was typically mitigated through required management practices or mitigation measures identified at the project level. New road construction was kept to a minimum and was compensated for by the decommissioning of some existing roads. Soil chemistry data and soil liming should help the Forest better understand interactions between existing conditions, Forest management activities, and external influences like acid deposition.

**Recommendations:** Continue to monitor changes to NFS lands and Management Prescriptions, and effects to land productivity from Forest management activities. Continue to apply Forest Plan management requirements and additional mitigation measures as needed to reduce the potential for impacts to land productivity at the project level. Continue to collect soil and foliar chemistry data, along with the results from restorative activities such as soil liming.