

APPENDIX O – CHANGES BETWEEN DRAFT AND FINAL

In response to comments on the Draft EIS and Draft Revised Plan, a number of changes were made. These changes included the development of two new alternatives (Alternative H and Alternative I), additional analyses, improvement to analyses conducted for the draft, and corrections to fix errors. The following is a summary of the major changes.

NEW ALTERNATIVES: CHANGES FROM ALTERNATIVE G TO ALTERNATIVES H AND I

Land Allocation

- Added Special Biological Areas and adjusted boundaries of Special Biological Areas for a total increase of about 3,000 acres of Special Biological Areas
- Adjusted the northwest boundary of Southern Massanutten Remote Backcountry area to include the entire Inventoried Roadless Area
- Adjusted the boundary of Church Mountain Special Geologic Area based on further analysis by the Virginia Department of Conservation and Recreation and reduced the area by about 350 acres
- Established boundaries and recommended the Beech Lick Knob area for Wilderness Study (5,700 acres), an addition to the Rough Mountain Wilderness (1,000 acres), and a Recommended National Scenic Area on Shenandoah Mountain (67,000 acres)
- Changed portions of the Hog Pen Remote Backcountry area to Mosaics of Habitat and Dispersed Recreation management prescription areas, adjusted the northwest boundary of the Benson Run Remote Backcountry area to Mosaics of Habitat, and adjusted portions of the boundary of the Beech Lick Knob Remote Backcountry area to Mosaics of Habitat, for a reduction in Remote Backcountry of about 4,100 acres
- Adjusted the boundary of the Appalachian Trail Corridor near Pedlar Reservoir to reflect a new trail relocation
- Added a new communication site on the James River Ranger District. Designated two additional sites on the Warm Springs Ranger District and one on the James River Ranger District that have existed for several decades

Desired Conditions

- Made small changes to update desired conditions or emphasis statements in: Forestwide Minerals Resources, Forestwide Road operational maintenance levels, Forestwide Drinking Water (added to list of water supplies), Recommended Wilderness Study, Mount Pleasant (to more closely tie to the establishing legislation), Highlands Scenic Byway, Developed Recreation, and Pastoral Landscapes
- Added statements in the Recommended Wilderness Study and Remote Backcountry sections to better define boundaries in relation to roads

Management Approach and Objectives

- Updated the management approach for wood biomass energy in relation to soil productivity, pastoral landscapes (grazing allotments), gas leasing, recreation facilities, and scenic integrity (including an update to the Scenery Treatment Guide)
- Changed the non-native invasive species (NNIS) treatment objectives (from 5,000-10,000 to 2,000-5,000 acres per year), the objectives for scenic integrity, the table of Lands Suitable for Key Activities on the GWNF, and the list of areas unsuitable for wind energy

Standards

- Added direction for a Recommended National Scenic Area on Shenandoah Mountain

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- Divided the Dispersed Recreation Management Prescription Area into two subcategories, one that has lands suitable for timber production and one that has only lands unsuitable for timber production
 - Added or modified forestwide standards relating to water diversions, municipal reservoirs, soil productivity, northern flying squirrel, old growth, the CMAI age for cove hardwoods, recreation, the effects of fire on scenery, geologic hazards, oil and gas, and disclosure of hazardous materials
 - Deleted two Forestwide standards that applied to adopted Recreation Opportunity Spectrum settings
 - Changed standards in management prescription areas from being “available” for gas leasing under certain conditions to being “suitable” for leasing
 - Added direction to the Appalachian National Scenic Trail Corridor, Special Biological Area, and Shenandoah Crest management prescription areas to cover the portions of those areas that are within Inventoried Roadless Areas and where timber harvest and road construction activities are limited
 - Changed gas leasing suitability in the following management prescriptions to No Surface Occupancy: Eligible Scenic Rivers, Eligible Recreational Rivers, Geologic Areas, Special Biological Areas, Indiana Bat Secondary Conservation areas, and Shenandoah Mountain Crest (Cow Knob salamander)
 - Updated one Wilderness standard about fire and two about trails
 - In Recommended Wilderness Study areas updated standards regarding firelines
 - Added standard about group activities on the Appalachian National Scenic Trail
 - Added standards to Special Biological Areas, Cultural Areas, Highlands Scenic Byway, ATV Use Areas, and Mosaics of Habitat regarding new trails and facilities
 - Added standard to Communication Sites to encourage collocation of facilities
 - Added standard to Utility Corridors to evaluate herbicide use within Special Biological Areas
 - Added standard to Scenic Corridors and Viewsheds making them unsuitable for wind energy development
 - Changed gas leasing standard in Research Natural Areas to be not suitable for leasing
 - Changed two standards in Riparian Corridors regarding mineral development facilities
 - In Mosaics of Habitat, Scenic Integrity Objectives were increased from low to moderate in scenic classes 3, 4 and 5
 - Added direction to Key Natural Heritage Community Areas to allow for the reestablishment of motorized access to Forest Road 173 on Peters Mountain

Monitoring

- Added monitoring questions about soil productivity and climate change

Gas Leasing Decision – Alternative H

- Reduced the total area available for gas leasing by focusing the land available for leasing to the areas underlain by formations with a high potential for gas production and adjusted the areas available under various stipulations
- Changed to identify 471,000 acres of land as available for gas leasing: 238,000 under standard stipulations, 92,000 acres under controlled surface use stipulations and 141,000 under no surface occupancy stipulations for both vertical drilling and horizontal drilling

- Approximately 128,000 acres were administratively unavailable for leasing (Recommended Wilderness Study, Recommended National Scenic Area, Laurel Fork, Indiana Bat-Primary Conservation Area, and Public Water Supply Watersheds) and 51,000 were legally unavailable for leasing (Wilderness and National Scenic Area)
- Added control measures to reduce or eliminate many of the resource impacts from hydraulic fracturing and horizontal drilling

Gas Leasing Decision – Alternative I

- The approximately 10,200 acres of mineral rights under current federal oil and gas leases will continue to be legally available for federal oil and gas leasing
- This decision does not affect the approximately 167,000 acres of subsurface mineral rights owned by private parties (also called outstanding or reserved)
- All other areas of the GWNF are unavailable for federal oil and gas leasing
- The plan identifies suitability for oil and gas leasing that will be used for the lands with existing leases once they expire or for areas that could become available under future availability decisions
- The plan identifies standards for oil and gas development that will be used for development of the lands with existing leases or for areas that could become available under future availability decisions

OTHER CHANGES

- Added analysis for two federally listed species: Endangered Virginia Northern Flying Squirrel (*Glaucomys sabrinus fuscus*) and Threatened Madison Cave Isopod (*Antrolana lira*)
- At the time of the draft only about 60 percent of the ecological zones on the GWNF had been classified and mapped and this information was used to extrapolate estimates for the entire GWNF. We completed the mapping of ecological zones on the GWNF and all of the tables in the EIS and Plan that relied on this information were updated. This includes Tables 2-5, 3B1-1, 3B1-2, 3B2-2, 3B2-3, 3B2-12, 3B2-13, Appendices E and F, and the desired conditions for ecological systems diversity in Revised Plan Chapter 2 and the objectives for ecological systems and species diversity in Revised Plan Chapter 3. We also reran the Spectrum models for all alternatives and updated the Allowable Sale Quantity for Alternatives B through G.
- We corrected an error in the estimate of the acreage of soil disturbance in Table A6-3.
- We updated the acreage of lands suitable for timber harvest in relation to land allocation changes and a correction to the old growth data. This affected Tables C6-2, C6-6, the timber suitability summary in Chapter 3 of the Revised Plan, and Appendix C of the Revised Plan.
- We modified the old growth analysis in Section B3 of the EIS and Appendix B of the Revised Plan.
- We updated the budget needed to implement the alternatives, changing a number of tables in the economic analysis.
- We updated the roads analysis with new information changing the analysis in Section C.8 of the EIS.
- The recreation market area information in Section C.1 and the social and economic affected environment discussions in Section C.12 of the EIS were updated to reflect newly available 2010 Census data.
- In the Draft EIS, the IMPLAN model study area included a number of additional counties beyond those that contained GWNF lands. Upon further review, it was determined that this was too large of an area to use to estimate local social and economic impacts. The model area was adjusted in the Final EIS to only include those counties within which GWNF lands occur. This model also replaced the 2009

IMPLAN data with 2011 IMPLAN data that was updated with regional business data and more current census data. Estimates related to Forest Service budgets and revenues for natural gas production were also updated. The amount of natural gas production was also improperly calculated for the Draft EIS. The assumptions of 1,000,000 MCF total gas production over the life of one vertical well and 3,000,000 MCF over the life of one horizontal well were used for the Final EIS.

- The potential wilderness area evaluations in Table C-1 of the EIS were updated to replace estimated percent of boundary adjacent to private with numbers generated by GIS.
- A number of changes were noted during the comment period and were corrected in *Errata* that were posted on the website and discussed in an August 12, 2011 letter from the Forest Supervisor. These corrections included: a) an error in the level of regeneration harvest in Alternative A; b) the ASQ displayed for Alternatives A and D; c) language to state that harvest levels meant regeneration harvest in several references; d) acres suitable for timber production, regeneration, and age class distribution in Alternative G; e) acres of regeneration for Alternative F; f) acres by Scenic Integrity Objective for Alternative A; g) recreation objectives for Alternative A; h) the narrative description of Alternatives; i) Tables B2.5, B2.9, B5.5, C6.4; j) land allocation in Alternative F regarding national scenic areas; k) number of geologic areas in Alternative G.