

**2010 Plan for Maryland's Green Ridge State Forest: A
Time for New Thinking for a Green Economy**

**FINAL Statement in Opposition to Continued Logging in
Maryland's Green Ridge State Forest**

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PUBLIC COMMENT FOR SUBMISSION

This comment is submitted by the Maryland Alliance for Greenway Improvement & Conservation in response to the Forest Service's request for public comment on the Green Ridge State Forest FY2010 Annual Work Plan.

Introduction

As with previous work plans, the FY2010 plan for the Green Ridge State Forest proposes cutting down more than 200 acres of trees in seven sites. Most of the cutting will leave about six trees per acre on the 22,000 acres designated as the "general management zone." DNR cuts trees that are 90-100 years old, far short of their biological maturity.¹ The stated goal is to optimize production of timber.² Other goals, such as encouraging wildlife growth and breeding, providing healthy forests for Maryland citizens, stabilization of soil, or sequestering carbon are subsidiary or not considered.

Green Ridge logging began in the 1960s. However, in these times of acknowledged and accelerated global warming, human population growth, natural resource depletion, increasing pressure on Maryland native species, and the decline of suitable wildland habitat, the time has come to stop commercial, for-profit, destructive logging in the publicly-owned Green Ridge State Forest. Not only do Maryland taxpayers lose money on the sale of logging rights in their Green Ridge State Forest, but logging itself is environmentally devastating. Citizens are increasingly recognizing and preferring the beauty, biodiversity, serenity, and global benefits of wild places as we feel the increasingly detrimental effects of fragmentation, alteration, and development of privately-owned land. The time has come to maintain existing large, contiguous, and unfragmented blocks of public forests. Finally, the carbon sequestration benefits of mature forests are vitally important in a changing climate; land disturbance and felling of trees results in the release of greenhouse gases into the atmosphere, adding to global warming in a state that aims to lead the nation in the new and emerging Green Economy.

Logging Green Ridge: Financially Unsustainable

The State of Maryland no longer earns a significant profit from logging at Green Ridge. In fact, the State is most likely selling logging rights at a loss. For FY2009, the Forest Service estimated Green Ridge gross logging revenue at a mere \$160,000. Actual revenue for previous fiscal years are in

¹ "Biological maturity allows trees to grow into old age to when the trees are declining in health and vigor. At this point in a tree's life, it is actually decaying faster than it is growing. Rotations approaching biological maturity can be very long (dependant upon species), often several hundred years. Biological maturity is seldom desirable from a timber management perspective, due to the loss of merchantable lumber. . . ." GRSF, Ten Year Resource Management Plan, Vol. II, pg 68 (Oct. 1993).

² GRSF, Ten Year Resource Management Plan, Vol. II, pg 19 (Oct. 1993).

line with the estimate for FY2009: FY 2008 (\$156,901); FY 2007 (\$152,650); FY2006 (\$132,439).³

The Forest Service does not maintain records documenting expenses associated with supporting timber sales—such as funds for personnel or equipment—in such a way that managers can parse the costs to conduct any particular timber sale.⁴ However, when one considers the tasks required to enable logging, it is not unreasonable to conclude that the costs far exceed the revenue: Among other duties, Forest Service employees must select logging sites; evaluate the potential impact of logging those sites on the environment and on historic landmarks; prepare and publish written annual logging plans, analyze public comment, and modify the logging plan, incorporating the comments, as appropriate; mark the boundaries of the stands to be logged and the trees to be saved; conduct pre-bid walk-about for potential bidders; open and evaluate the bid; prepare the bids for approval by the Board of Public Works and account for the funds received. These activities take eighteen months for each annual sale. They must be conducted even before one tree is felled. In addition, the Forest Service must monitor the actual logging operation, for example, to ensure that (a) the operator abides by the logging agreement, (b) sedimentation from logging roads and trails is minimized, and (c) operator damage is repaired.⁵

DNR also incurs additional costs that are not associated with a particular sale, but which are necessary for the continuance of the logging program. These costs would not be incurred in the absence of a logging program at Green Ridge. The activities include, for example, pre-harvest thinning; surveys by the Wildlife and Heritage Service to determine ecologically sensitive areas; and surveys to locate stands of old-growth forest. That DNR may incur a financial loss in the logging operation is not surprising. The U.S. Forest Service has been losing millions of dollars each year on timber operations.⁶ The costs of logging includes more than the payment for salaries and equipment. It also includes environmental costs.

Logging Green Ridge: Environmentally Harmful

Not only does the State lose money on logging sales, but logging itself harms the environment. Timber harvesting initiates a process of forest fragmentation that begins with soil disturbance and openings in the forest canopy. Interior woods species are typically adapted to less sunlight, more

³ Green Ridge State Forest, Annual Work Plan FY2009; Green Ridge State Forest, "Green Sheet Data."

⁴ The Bureau of Land Management, part of the U.S. Department of Interior, also conducts timber sales and has found cost information on individual sales very useful in managing operation. See Government Accountability Office, "Federal Timber Sales," GAO 07-764 (June 2007).

⁵ Green Ridge State Forest, FY 2010 Annual Work Plan and personal communication with GRSF managers.

⁶ For fiscal year 1997, the US Forest Service reported the timber sales program lost \$88.6 million. Apparently the USFS stopped collecting data after reporting losses year after year. See GAO Letter to Congress Sept 21, 2001, <http://www.gao.gov/new.items/d011101r.pdf>

moisture, and stands of large dead and live trees. Continued deforestation results in reduced local rainfall, parched land and vegetation, disappearing wildlife, and less diversity. Less leaf area results in reduced oxygen and decreased sequestering of anthropogenic carbon dioxide that contributes to global warming.

The altered tree canopy allows sunlight to reach the ground in previously shaded patches, providing opportunities for invasive plant species to become established and quickly spread through the area. Invasive species crowd out native plants, changing soil chemistry, altering tree root stability, and killing soil microfauna, and leading to the demise of macrofauna by eliminating food resources. The forest ecosystem is thus changed in multifaceted ways.

In brief:

- Logging causes soil erosion;
- Logging reduces the water purification function performed by forests;
- Logging removes snags and understory required for smaller animals to thrive;
- Roads and trails that are required for removal of logs result in soil compaction and degradation, and destruction of the microenvironment required for nematodes, fungi, bacteria, and other invertebrates necessary for an integrated and healthy forest ecosystem. Logging roads further fragment the forest, introducing stress and inhibiting movement of birds and small mammals;
- Logging opens the forest canopy, permitting invasive plant species to become established. The tires of logging trucks also carry seeds and distribute invasive species. The invasives choke out native plants, depleting or decimating fauna that depend on these plants;⁷
- As patches of suitable habitat become smaller and more isolated, survival and reproduction rates of many organisms decrease; ultimately, patches may be too small to sustain viable wildlife populations on their own.⁸

Portions of Green Ridge State Forest are in environmentally sensitive areas in which logging has been banned administratively and by statute. The MD DNR's Wildlife and Heritage Service recently proposed banning logging in 25 percent of the general management area in Green Ridge.⁹ Currently

⁷ An example is the herbaceous biennial invasive Garlic Mustard (*Alliaria petiolata*; see http://www.mdinvasivesp.org/archived_invaders/archived_invaders_2003_05.html), which spreads rapidly and actually 'fools' Maryland's State insect, the Baltimore Checkerspot butterfly (listed as threatened in 2002), into laying her eggs on its leaves. This results in the death of larvae, for lack of the proper nutrients.

⁸ Freemark et al. 1995 found that that the wildlife value of a plot of forested land is highly dependent on location in unfragmented forest. Freemark KE, Dunning JB, Hejl SJ, and Probst JR. (1995). "A landscape ecology perspective for research, conservation, and management." Pp. 381-427 in *Ecology and Management of Neotropical Migratory Birds* (T. E. Martin and D. M. Finch, Eds.). Oxford Univ. Press, New York.

⁹ Green Ridge State Forest, FY2010 Annual Work Plan.

pending before the State Forester is a separate proposal to protect additional stands – those containing old growth.¹⁰ As the number of acreages eligible for logging decreases, the cost per acre of administering the logging program increases, as well as the risk of inadvertently logging in a sensitive area.

Disrupting the Carbon Sink and Releasing Greenhouse Gases

Finally, cutting down trees on a 90- to 100-year rotation, the current policy at Green Ridge, releases greenhouse gases into the atmosphere in greater volume than would occur if the trees lived through their average 200-300 year biological lifespan. One-third of net CO₂ emissions to the atmosphere since 1850 are the result of land-use changes primarily from the clearing of forests for timber and agriculture.¹¹ However, a recent report to the DNR by Wieland and Strebel claimed that active forest management could actually improve net carbon retention. The authors estimated the amount of CO₂ sequestered and the rate of sequestration for three MD tree species over a 140-year period using computer simulation for each of four different levels of management and intervention, including none at all. Their results predicted that harvesting would result in much greater carbon sequestration than leaving the trees standing.

We find such claims doubtful, for several reasons. The first is that they are in sharp contradiction to the beneficial effects of reduced timber harvesting reported by other researchers in peer-reviewed journals, contrary to the report by Wieland and Strebel. As an example, a recent report by Nunery and Keeton at the University of Vermont found that “mean carbon sequestration was significantly ($\alpha = 0.05$) greater for the ‘no management’ approach compared to any of the active management scenarios.”¹² According to the authors, these findings are consistent with previous peer-reviewed studies excepting those that included product substitutions and energy offset effects in the carbon accounting.¹³ Previous research shows that moving carbon into the wood products pool usually doesn't compensate for foregone storage potential in the forest, due to the transient nature of wood products.¹⁴ Thus, a model purporting otherwise must be carefully examined to determine why it yields a different result. The Wieland/Strebel report, unlike the others referenced above, appears not to have been subjected to peer-review. We recommend strongly that, at a minimum, the Power Plant Research Program have it reviewed by the MD Appalachian Environment Lab. Basing public policy upon unreviewed computer simulations is inherently risky.

¹⁰ Personal communication with State Forester; May 8, 2009.

¹¹ Rhemtulla JM, Mladenoff DJ, and Clayton, MK (2008). Historical forest baselines reveal potential for continued carbon sequestration. *Proceedings of the National Academy of Sciences* 106(13): 6082-6087.

¹² Nunery JS and Keeton WS (2009). Forest carbon storage in the northeastern United States: effects of harvesting frequency and intensity including wood products. *Ecological Applications* (*in review*).

¹³ Personal communication with authors; May 2009.

¹⁴ Harmon, et. al, (1990) Effects on carbon storage of conversion of old-growth forests to young forests. *Science* 241:699-702.

In addition, the recent report from the Pew Center on Global Climate Change offers new evidence that sequestration can and should play an important role in the United States' response to climate change.¹⁵ Evidence continues to mount in support of reducing deforestation and increasing the opportunities for carbon sequestration.

CONCLUSION

The forest service must adopt a new vision for a sustainable future. Because private forest land is becoming increasingly parcelized and logged, it is important to maintain large, unfragmented tracts of public forests for the maintenance of biodiversity, environmental benefits such as groundwater filtration, air quality improvement, and mitigation of global warming, as well as survival of native plants and animals. Green Ridge is the largest continuous block of forest land in Maryland within the Chesapeake Bay watershed. We can no longer depend on large blocks of private forest land to provide adequate contiguous area for wildlife habitat.¹⁶

As citizens of the State of Maryland who are concerned about global climate change, clean air and water, biodiversity, species survival and the multitude of benefits of intact and contiguous public forests, the Maryland Alliance for Greenway Improvement and Conservation hereby request that Green Ridge State Forest:

- Remain unlogged, with trees permitted to grow to maturity, fall, decay, and regenerate;
- Become dedicated to improved air and water quality, nature and natural processes, and appropriate animal and plant habitat free from invasive species and uninterrupted by the chainsaw;
- Provide sequestration of carbon and mitigation of greenhouse gas emissions, rather than a source of greenhouse gas emissions that result from unprofitable, damaging, unpopular, and costly private logging operating in our public forest.

The citizens of Maryland deserve an unlogged public forest in which we, our children, and our grandchildren can wander amongst unevenly aged trees and shuffle on the clutter of the forest floor. We want our grandchildren to see nature at work, rather than reading about it in books. For the financial, environmental, aesthetic and restorative reasons outline here, we want DNR to stop logging in Maryland's Green Ridge State Forest.

Thank you for this opportunity to submit our comments.

¹⁵ Pew Charitable Trusts (2005). The Cost of U.S. Forest-based Carbon Sequestration. Available at: http://www.pewclimate.org/press_room/sub_press_room/2005_releases/pr_0119_forests_cs.cfm. Accessed May 24, 2009.

¹⁶ See Jennifer L. Pfister (2004). Using Landscape Metrics to Create an Index of Forest Fragmentation for the State of Maryland, available at: http://chesapeake.towson.edu/landscape/downloads/thesis_pfister.pdf. Accessed May 24, 2009.

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