*Note: What follows are the Introduction and Recommendations from the 2008 Heartwood-commissioned white paper, An Economic Analysis of the 2006 Wayne National Forest Plan, by environmental economists Glaser and Moskowitz. This 213-page report is being submitted yet again to the Wayne NF with hopes that it will finally be considered and fully evaluated in the Wayne’s current planning process for a new Forest Plan.*

Economic Analysis of the 2006 Wayne National Forest Plan

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Full report at *heartwood.org/wp-content/uploads/2016/07/Wayne\_Economic\_Analysis-.pdf*

Commissioned by Heartwood, www.heartwood.org

**A. Introduction**

This White Paper, developed by GreenFire Consulting Group, LLC and commissioned by Heartwood, contains a comprehensive economic analysis of public benefits and costs from the Forest Service’s 2006 Plan for managing the Wayne National Forest (WNF) over the next 10 years.

The WNF has the potential to become the jewel of southeastern Ohio. Covering 238,000 acres of unglaciated Ohio hill country, it is the only national forest in the entire state. About 12 million people live within 100 miles of the Wayne. Ohio ranks seventh among the states in population but only 47th in public lands (Federal and State) per capita.

Yet under the management of the USDA Forest Service, the WNF has continued to be a sacrifice zone for extractive industries, including logging, strip mining, oil and gas drilling. Its hills are scarred with clearcuts, crisscrossed with power lines, torn up by ORVs, and the water flowing through its creeks and rivers is tinted orange with mining waste.

The WNF, managed for its highest values — water filtration and flow regulation, air purification, tourism, biodiversity and carbon sequestration — could become a great natural asset to the State of Ohio and to the nation. Yet, by implementing the 2006 WNF Plan, the Forest Service continues to degrade and diminish this natural asset. The 2006 WNF Plan has declared 161,752 acres—almost 70 percent of the WNF area—as suitable for timber production and proposes to log 18,441 acres over the next decade—not including salvage logging. In addition, the Forest Service plans to burn 46,215 acres for an unproven “Oak regeneration” program and 21,904 acres to reduce questionable “hazardous fuels” risks. Almost 11,000 acres of forest land may be sprayed with herbicides, 1,250 acres opened to surface coal mining, and 121 acres to oil and gas well development. We may see about 180 miles of new temporary and permanent roads.

The sum of extractive and destructive activities proposed in the 2006 Forest Plan will lessen the attractiveness of the forest and will negatively impact tourism. They will also diminish the capacity of the WNF to deliver “ecosystem services” such as water purification performed by the natural filtration systems of the earth and carbon sequestration provided by the trees and other forest plants. These ecosystem services have a much higher value to society than the timber that is taken out.

In addition, cutting timber, digging for minerals, drilling for natural gas, and building ORV trails costs more in purely financial terms than what the Forest Service receives in revenues from those activities. Consequently, they create a financial loss to the taxpayer. The Forest Service justifies this double–negative with supposed benefits of “ecosystem management,” “oil independence,” and “tourism niche marketing,” as well as benefits to the local economy.

However, as our analysis shows, it is questionable whether the 2006 WNF’s Land and Resources Management Plan (LRMP) provides any net benefits to the public.

The failure of the Forest Service to manage the WNF according to what would maximize net public benefits is rooted in a system of financial incentives established by Congress. This system of incentives is operative in other national forests as well. Since the failure of the WNF Plan to maximize net public benefits derives directly from Congress, only Congress, through the urging and support of the citizens of the United States, can fix it.

We hope to move this process along by providing the U.S. Congress and concerned citizens with a proposal for reforming the WNF system (please see our Recommendations Section at the end of the document) in a way that gives agency managers an incentive to reduce public costs and increase the value of the resources under their management, thus providing numerous benefits to the public that only standing forests can provide.

In our view, this analysis is not an endpoint, but rather a beginning. We offer this analysis as a framework based on simple, but powerful, principles of economic reasoning, and we illustrate how this framework can be put to use in evaluating the management of this nation’s forests. It is our hope that others use this framework and expand on any aspects that we could not fully develop. We hope that this report will alter the debate over the management of national forests by putting a strong focus on identifying the highest values and benefits that forests can provide to society and by exposing what is sacrificed when forests are not managed for these highest values.

**…**

**VIII. Recommendations**

These recommendations are based on the findings of this report, and are derived from basic principles of economic reasoning, which demand the maximization of net public benefit.

Simply put, net public benefit is maximized by preferring activities that generate a high net public benefit (= benefits minus costs) over those that create a lower net benefit. Net public benefit for any activity increases when costs of achieving that benefit go down, and decreases when costs go up. For this analysis, costs and benefits have both monetary and non-monetary components.

Net public benefit cannot be maximized when activities that have a low net public benefit (or that generate a net public loss), are preferred over activities that have a high net public benefit (large benefit, low cost).

Basically, our recommendations consist of pointing out activities that are likely to generate the largest possible positive difference between costs and benefits.

1. The Forest Service activities that generate the highest (long and short-term) financial costs on the WNF—prescribed burns, logging, mining, and OHV use—are also the ones that generate the most pollution and that most diminish the capacity of the Forest to provide highly valued ecosystem services related to air, water, climate, recreation, and biodiversity. Therefore, by simply stopping logging, burning and mining, the Forest Service can at once cut short-term and long-term costs considerably (including future costs of mine reclamation, or costs of removing roadbeds that were constructed to facilitate logging), and provide much larger public benefits from ecosystem services.
2. Stopping logging, mining and prescribed burning will give the forest the opportunity to heal from centuries of heavy abuse. With trees being allowed to grow beyond the age when it is economical to log them, second growth forest will, over 200 to 300 years, develop into old growth forests, in which early successional habitat is provided by natural disturbances, and the forest develops a fine grained structure of habitats at various stages of succession. Old growth forests have all but disappeared from the landscape, and facilitating its recovery will greatly enhance one of the most valuable of all ecosystem services, the provision of rare interior forest habitats that keep associated species from going extinct (currently valued at over $900 per acre/per year).

1. To further enhance the potential of the WNF to provide highly valued ecosystem services, the Forest Service needs to put increased emphasis on mine reclamation, removal of roads and trails, on reclaiming and reforesting areas with highly compacted or eroded soils, repairing damaged stream banks, and restoring wetlands. Forested wetlands and riparian areas have the highest ecosystem values of all forest land, and should therefore receive priority with regard to any necessary restoration work. (Ecosystem services from general forest land are currently valued at $1,476 per acre/per year, from wetlands at $11,568 per year, and riparian buffers at 3,383 per year).
2. We recommend that the Forest Service increase the recreational value of the forest by excluding OHVs from the WNF, by closing and rehabilitating all illegal trails, and by enacting an effective program for monitoring and enforcement of forest regulations related to OHV. The existing OHV network is too large to be effectively monitored and maintained at a reasonable cost. The negative effects of both legal and illegal OHV usage—air, water and noise pollution, damage to wildlife habitat and conflicts with other high value, low impact recreation activities—outweigh any perceived benefits from OHV use. Providing ORV trails should be a private landowner function and the federal government shouldn’t compete on this.
3. Instead of expanding OHV trails, we recommend that the Forest Service focuses on facilitating more highly valued uses, such as hiking, wildlife viewing, visits to historic/cultural sites, use of highly developed recreational sites, and swimming. This can be accomplished for example by offering more hiking trails that are not open to conflicting uses by horses or mountain bikes, and more opportunities for wildlife watching. We support the Forest Service identifying, protecting and developing recreational opportunities related to cultural and historic sites, which have already been identified by the Forest Service as a niche for the WNF.
4. We also support the Forest Service in consolidating forestland within the WNF proclamation area through purchases of land from willing sellers, and recommend that priority is given to high-value riparian areas, areas with wetlands, areas suitable for wetland restoration, and areas that could help expand and restore large, continuous blocks of interior forest.
5. In addition, we recommend that the Forest Service addresses ownership fragmentation through buying conservation easements from private land owners.
6. To increase the prospects of expanding habitat for rare and endangered forest species we recommend that the Forest Service partners with other public and private land owners to create wildlife corridors that connect small remnants of still existing original forest with each other and with the emerging old growth forest.
7. We recommend that as a rule, prescribed burns for treatment of hazardous fuels on the WNF not be used, since they are ineffective in protecting home sites, and the risk of wildland fires is low on the WNF. If and when abnormal, significantly higher fire risks do develop on the Wayne, appropriate risk reduction activities should be considered on a case by case basis.
8. We recommend that any future Forest Plans provide a rigorous, focused, and complete analysis of monetary and non-monetary costs and benefits associated with different activities (including detailed budget projections), inspired by the format developed in this report.
9. Future Forest Plans should include reports on the values of different ecosystem services, and how they are affected by management activities. The values of different ecosystem services (per acre/per year) can be expected to change over time. Forest plans should keep up with new developments in ecosystem valuation. At some time, it may be appropriate for the Forest Service to conduct original studies on specific ecosystem services that may be of special importance for the WNF.
10. Instead of conducting benchmark analyses showing the largest possible timber output or OHV trail length, the Forest Service should develop benchmarks related to the highest benefits derived from the forest, for example the number and size of unfragmented interior forest blocks, the consolidation of forest land, the development of high value/low impact recreation opportunities, the reintroduction of charismatic species, the restoration and rehabilitation of disturbed lands (including wetlands and riparian areas), the rehabilitation of illegal OHV trails, and the effective enforcement of regulations on existing trails.
11. There will be jobs and income for the Forest Service and local communities from the implementation of these recommendations, but they will be different jobs with new job descriptions. For example, the Forest Service would not need experts in timber management any more, but instead would need to hire or contract with professionals trained in different aspects of ecosystem restoration, and re-introduction of rare species. People would be hired or contracted for monitoring trails and enforcing regulations. Experts in identifying, protecting and developing historic/cultural sites would be needed, and jobs and income opportunities would develop around expanding opportunities for high value/low impact recreation.
12. Currently, off-budget funds such as K-V and Salvage Sale Fund, and the Fee Demo Project, creates incentives for Forest Service managers to continue logging, mining and offering high-impact recreation such as OHV use. We recommend that Congress remove such incentives. Instead, new incentives should be created for managers to give priority to forest restoration, endangered species protection, and to increasing the capacity of the forests to provide highly valued ecosystem services, including different forms of low impact recreation.
13. We recommend that the Forest Service put together a task force that includes low impact recreation groups, wilderness advocate groups, and other interested parties to do a serious survey of areas on the WNF that might be designated Wilderness.

Full report with references and tables available at Full report at

*heartwood.org/wp-content/uploads/2016/07/Wayne\_Economic\_Analysis-.pdf*