

# **Our Land, Our Water, Our Home: Ensuring a Healthy Future For Our George Washington National Forest**

## **I: Our Ark of Wilderness in a Sea of Development**

The people of Virginia and West Virginia are blessed with one of the largest public land holdings between the Great Smoky Mountains and the Adirondacks, the 1.1 million acre George Washington National Forest (GWNF). Thanks to the foresight of its founders, our GWNF was established in 1913 as one of the first national forests in the eastern United States. Home to the black bear, the brook trout, and the bald eagle, our GWNF encompasses some of the wildest territory remaining in the region and provides a natural haven and refuge for our increasingly modern world.

Virginians and West Virginians have long been proud of our GWNF. Hunters and fisherman carry out their time-honored traditions in our mountains, forests, and rivers. Our wild lands are treasured by hikers, backpackers, mountain bikers, canoeists, kayakers, cross-country skiers, horseback riders, campers, cavers, naturalists and bird watchers alike. Our unique George Washington National Forest welcomes visitors from all over the world, with more of the Appalachian Trail passing through Virginia than any other state, fourteen waterways currently eligible for designation under the Wild and Scenic Rivers Act,<sup>1</sup> and the Blue Ridge Parkway welcoming over 19.8 million visitors per year.<sup>2</sup> Our neighboring communities benefit from both our GWNF's outstanding recreational opportunities as well as from much-needed revenue from tourism.

However, like many public lands in our country, our George Washington National Forest exists in a highly fragmented landscape, with serious threats to her well-being. Over the past 400 years, both historical and modern activities have taken their toll on her fragile ecosystems. In the past few decades, our region's remaining natural areas have been under increasing assault from highways, logging, mining, pulp mills, factory farms, expanding development, increased population, air, land, and water pollution, invasive species, and acid rain. The wild old-growth forests that just a short time ago naturally blanketed our region have been devastated, and our region's ecological integrity, her wholeness and healthy functioning, have been severely compromised. Our George Washington National Forest remains our last best hope for preserving the beauty and diversity of our Appalachian Mountains: it is our ark of wildness in a sea of development.

## **II: The Opportunity**

In 1993 the Forest Service adopted a Land and Resource Management Plan (henceforward called "the Plan") for management of our George Washington National

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<sup>1</sup> GWNF Plan FEIS.

<sup>2</sup> Total Parkway visitation, 2003. <http://usparks.about.com/library/miniplanner/blblueridgepkwy.html>

Forest that, among other things, opened up many of our wild areas to logging, with its related road construction and ancillary development.

In 2007 the Forest Service is scheduled to revise the Plan, and early in the year it will officially inform the public of the need for change of the current Plan, state the issues the agency intends to address in the revision, and provide evaluation reports. At this time citizens will be invited to submit comments on

- social, ecological, and economic changes, conditions, trends, and issues citizens think the Forest Service should address in the planning process;
- options for managing the GWNF, with an opportunity to provide an overall vision, specify desired future conditions, and/or suggest management guidelines and objectives;
- places citizens want designated special management areas such as Special Biological Areas, Scenic Areas, Research Natural Areas, Wilderness, or Wild and Scenic Rivers; and
- what citizens like and do not like about the present situation with the GWNF and the GWNF Plan, as well as recommendations for improvement.

### **III: Our George Washington National Forest**

#### **🌲 Geography and Geology**

Our George Washington National Forest spans nearly 150 miles, stretching from Alleghany County to Frederick County over mountains and ridges that flank the Shenandoah Valley in northwestern Virginia and neighboring West Virginia. Great expanses of our GWNF's lands lie in Augusta, Bath, Shenandoah, Highland, and Alleghany counties in Virginia, and in Pendleton county in West Virginia, while the balance of the GWNF is located in portions of Amherst, Rockbridge, Nelson, Frederick, Page, Warren, Hardy, and Hampshire counties in Virginia and West Virginia. Our GWNF encompasses five Ranger Districts (RDs): the Lee, North River, Warm Springs, James River, and Pedlar.

Since the Paleozoic age (570-250 million years ago), the Appalachian Mountains have undergone dramatic geological activity, at one time producing Himalaya-sized mountains. Continental collisions, uplifting, and the thrusting of older layers over younger layers yielded igneous and metamorphic rocks which have been and still are being broken down into sedimentary rocks. Rising and falling sea levels led to the formation of shallow seas, beaches, and undersea banks, producing the beautifully layered deposits of shale, coal, sandstone, and limestone we enjoy today.<sup>3</sup>

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<sup>3</sup> Terwilliger 1991 at pp. 23 & 25

On the west side of the Shenandoah Valley, in part of the ecoregion geographers call the Ridge and Valley physiographic province, our GWNF is characterized by long linear folded mountains that are often 30 miles long or longer and are surrounded by wide limestone or shale valleys. On the east side of the Shenandoah Valley, the Blue Ridge physiographic province consists of rugged, raised mountains comprised of granite, quartzites, and other igneous and metamorphic rocks. In the far western part of our GWNF lies the Allegheny Mountains & Plateau province, extending into West Virginia, which is characterized by richer forests due to the greater amount of rainfall it receives.

### **The Ecological Types of the GWNF: Our Haven of Diversity**

The peaks and ridges of our George Washington National Forest are some of the driest lands in the East. Most precipitation falls on the western slopes of the Allegheny Plateau and eastern slopes of the Blue Ridge, and the Valley and Ridge receive far less rainfall. Lying in a double rain shadow, the bulk of our GWNF averages only 35 inches of precipitation annually.

The high rock content of many central Appalachian soils severely restricts water storage capacity, often leading to dry conditions as well as rapid water runoff, flash flooding, and bank erosion as part of the natural ecosystem. In addition, temperatures in our GWNF can vary by over 100 degrees annually, and snowfall is relatively light, so the ground does not benefit from a thick insulating blanket of winter snow. This combination of temperature extremes, hard penetrating winter freezes, and aridity (droughts are the norm) makes for extremely rigorous growing conditions for trees. Despite these extreme conditions, our GWNF remains a haven of ecological diversity, with several ecological types, including drier oak-hickory forest types, richer cove and riverside forest types, and higher elevation hardwood and coniferous forest types.

Drier hardwood sites (called oak-hickory, oak-pine, and mixed oak forests) make up most of the forestland in our GWNF. These ecological types are characterized by the predominance of five magnificent oak species: Black, Scarlet, Northern Red, White and Chestnut. Other prominent tree species include White Pine, Black Gum, Black Birch, Pignut Hickory, and Red Maple. Wildflowers are abundant, including the wood lily, painted trillium, and yellow fringed orchid. On the driest sites with rocky, shallow soils, particularly with southern and western aspects, Virginia, Pitch, and/or Table Mountain pines dominate the forest communities, with associated gnarly Chestnut Oaks, Scarlet Oaks, and dense thickets of Mountain Laurel.

Our GWNF's moister sites are known as cove or mixed mesophytic forests, which are characteristically populated with Basswood, Sugar Maple, Tuliptree, and Cucumber Magnolia. The wide diversity of tree species in these particular ecosystems has flourished because the land mass of southeastern North America was never covered with glaciers during the ice age. Hemlocks, White Pines, and sycamores have historically thrived along our streams and rivers.

In the higher elevations, northern species such as Yellow Birch, Mountain Maple, Sugar Maple, American Beech, Basswood, and Canadian Hemlock may dominate, and the forest takes on a distinctly northern quality in its shrubs and herbaceous flora. At times she is strikingly similar to the forests of the Adirondack foothills or New England, with traces of typically southern and central Appalachian species such as Cucumber, Fraser Magnolia, and Black Locust. Red Spruce is found in rare scattered locations along a few mountaintops in the higher elevations, such as around the crest of Shenandoah Mountain, and it is common to see gnarled, thick-trunked orchard-like stands of Northern Red Oak. On the most exposed peaks, trees are greatly stunted and directionally contorted by the wind. Many grow long, thick limbs at right angles to the trunk as they adapt to the forces of ice and wind.

On elevations where rocky, acidic soils or other inhospitable conditions are intense lie barrens of low heath shrubs, Sweet Fern and Bear Oak. These shrub expanses may be punctuated by taller wind-contorted Pitch and Table Mountain pines or in some cases shrubby hemlock. Above 3500 ft., low-elevation shrubs and herbaceous flora often give way to northern trees such as Mountain Ash, Mountain Maple, and Canadian Mayflower.

Our 94-year-old George Washington National Forest has one of the higher concentrations of old growth among Appalachian national forests. Old growth forests are very rare in the United States, especially on the East Coast, and we are fortunate to be entrusted with their stewardship. Many Eastern hardwood tree species have life spans of hundreds of years, and many of the forests were cut in the early part of last century and have only just begun to recover from the depredations of the 19<sup>th</sup> and 20<sup>th</sup> centuries.

Our globally significant woodlands are part of the largest and most intact temperate deciduous forest left in the world. Our eastern old growth may sometimes lack the allure of its western counterpart, but without it, our ecosystems are impoverished, for healthy old growth forests are the foundation of ecosystem diversity. The Forest Service identifies old growth as “optimal habitat” for some species of salamanders, neo-tropical migrant and other birds associated with late-successional habitat. In addition, our GWNF has key unroaded forests that can be found in few other locations in eastern North America.

### **Watersheds: Our Lifeline to Pure Water**

The lands of our George Washington National Forest are part of two major watersheds, the James River and Potomac River, both of which drain into the Chesapeake Bay. The James and Potomac Rivers are not only part of our geological and ecological history, but they have also played key roles in the history of our country since colonial times. Unlike other Atlantic seaboard rivers to the south, both rivers cut eastward through most of the Appalachian Range, and as a result they drain very large areas.

Tributaries of the James River found in our GWNF include the Cowpasture River, Calfpasture River, Little Calfpasture River, Wilson Creek, Mill Creek, Back Creek, Jackson River, Rockfish River, and Pedlar River. In addition to the North and South Forks of the Shenandoah, tributaries of the Potomac include Passage Creek, Jennings

Branch, Middle River, North River, South River, Briery Branch, Dry River, Little Dry River, Shoemaker River, Cedar Creek, German River, South Fork South Branch Potomac River, and Cacapon River. All of these extensive and complex river basins are vital repositories of aquatic biological diversity, and are treasured by hikers, fishermen, canoeists, and kayakers.

Our George Washington National Forest watershed supplies drinking water to Staunton, Harrisonburg, Lynchburg, Strasburg, Woodstock and other communities. The upper-elevation headwaters of the drainages hold some of the most intact watersheds that produce some of the best water quality in the region.<sup>4</sup> Regrettably, in stark contrast, our GWNF lowlands in the Shenandoah Valley contain watersheds with some of the worst water quality in the entire mid-Atlantic region, as the area is heavily developed with the I-81 corridor, manufacturing, municipalities, suburban and exurban sprawl, and industrial-scale agriculture, including huge confined animal feeding operations, or “factory farms.”

### **Special Habitats: Our Precious Wild Places**

Special habitats, smaller biological communities with unique or unusual characteristics, almost always arise from distinctive geologic, topographic, and/or climatic conditions. These singular ecosystems include shale barrens, seepages, springs, bogs and fens, marshes and swamps, sinkhole ponds, mountain ponds, glades and heath barrens, cliffs, rocky outcrops and slopes, boulder fields, talus and scree, caves, rare forest types, and old growth forest. They preserve vital elements of biological diversity, and are often the home of rare species and endangered biological communities that need our protection.

Perhaps the most widespread biological communities in the GWNF are the dry glades or natural openings that result from interrupted drainage or bedrock-imposed drought conditions. Other special habitats can be found on exposed ridges and peaks that support montane and boreal plants such as Michaux's Saxifrage, Greenland Sandwort and Three-toothed Cinquefoil. Moister areas are home to more widespread special habitats such as the orchard-like summit forests of Northern Red Oak, and, more rarely, beech and hawthorn forests, with ground covers of Flattened Oatgrass, Hay-scented Fern, sedges, and cushions of Haircup Moss. Certain special habitats, such as the Central Appalachian shale barrens and the Shenandoah Valley sinkhole ponds, are unique not only in our region, but in the entire world.

### **Shenandoah Mountain: The Crown Jewel of the Central Appalachians**

Shenandoah Mountain is the largest single contiguous tract of National Forest in the entire East, and is perhaps the most important single “special area” of the George Washington National Forest. This natural cathedral for the rejuvenation and inspiration of

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<sup>4</sup> Jones 1997

the human spirit stretches 60 miles in length and 15 miles in width, encompassing almost 400,000 acres of public lands in the North River Ranger District in Augusta, Bath, Highland, Rockbridge, and Rockingham Counties, Virginia and Pendleton County, West Virginia.

Shenandoah Mountain is home to tracts of old growth forest, rare habitats such as shale barrens, the glorious Ramsey's Draft Wilderness Area, and eight Forest Plan-designated Special Interest Areas. It provides a haven for wild trout, black bear, and endemic species such as the Cow Knob Salamander and Shenandoah Mountain Millipede. Over 200 miles of hiking trails traverse the area; the 20-mile North Mountain Trail, the 25-mile Wild Oak Trail, a component of the National Trails System, and the 40-mile long Shenandoah Mountain Trail all provide outstanding recreational opportunities.

The complex of roadless land on Shenandoah Mountain is an unparalleled backcountry recreational resource for area citizens, and boasts of four clusters of Virginia Mountain Treasures, areas identified by conservationists as having special value, with twenty-four individual Treasures totaling around 260,000 acres.<sup>5</sup>

### **Wildlife: All Creatures Great and Small**

In our increasingly developed world, wildlife depends on us to ensure that sanctuaries to sustain their vitality and long-term survival are guaranteed into the future.

Our GWNF is famous for world-class trout fishing, and Virginia currently has more native brook trout streams than all other states in the southeastern US combined.<sup>6</sup> Wild trout thrive in cold water streams with clean water where sedimentation rates are in balance with the watershed. There are approximately 1300 miles of perennial streams in our George Washington National Forest, and 660 miles of cold water streams are classified as supporting a cold water fishery.<sup>7</sup>

Our GWNF is currently a key stronghold for numerous native species that need the security and stability of undeveloped unfragmented mature forests to survive and thrive. Some of the notable species include the black bear, the brook trout, and the bald eagle, along with various species of small mammals, reptiles and amphibians, raptors, and songbirds.

## **IV: Current Management of Our George Washington National Forest**

The majority of the lands of our George Washington National Forest, once blanketed with magnificent old growth forests, were intensively logged from 130 to 80 years ago. Afterwards, this cutover landscape, called "the lands nobody wanted," was purchased with federal funds to form the George Washington National Forest we know and love today. The current ownership pattern was established almost a century ago: public

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<sup>5</sup> The Wilderness Society "Virginia Mountain Treasures—the GWNF"

<sup>6</sup> <http://www.dgif.virginia.gov/fishing/trout/wildtroutprogram.asp>

<sup>7</sup> GWNF FEIS 1993

ownership is mostly confined to steep rocky highlands, while the flatter, more economically viable lowlands remain in private hands.

While the forest management philosophy of the U.S. Forest Service appears to be more balanced than that of other forestry professionals, the agency still only faintly grasps the pressing ecological imperative to create, protect, and support as many large wilderness areas as possible. Wild places are still seen as mere recreational resources, or, even worse, as inconveniences that don't create management jobs. The agency's values are still dominated by desires to farm and log trees while issues of long-term ecological health, biological diversity, wilderness, and natural beauty are often dismissed, discredited, and devalued.

### **Major Internal Threats to the Health and Stability of the George Washington National Forest**

In addition to the current external threats of air pollution, water pollution, acid rain, and climate change, serious preventable inside pressures threaten the health and future of our GWNF, most stemming from current policies of the Forest Service. Some of the major threats include

- **Commercial Logging.** Since 1993, the Forest Service has logged an average of 23.5 million board feet each year. (in these years a total of around 22,000 acres was cut).
- **Old Growth Logging.** The Forest Service continues to log irreplaceable old growth sites, some over 150 years old.
- **Excessive road building.** Over 2,606 miles of Forest Service, local, state, and federal roads pass through the forest. New roads continue to be built every day.
- **Off-road Vehicles.** Illegal use of off-highway vehicles (OHVs) is a growing and serious threat to the health and future of our GWNF.
- **Invasive Species.** Poor management has created conditions that are ideal for invasive species overgrowth.
- **Energy Development.** Developing natural gas and wind energy can permanently alter ecosystems and the landscape.
- **Mismanagement.** Current management is frequently cost intensive, energy intensive, and at cross purposes with the prime directive of conservation.

#### **1. Commercial Logging: Liquidating Public Assets for Private Gain**

During the current plan period (1993 to present), over 21,749 acres of our George Washington National Forest, or *twice the number of new acres protected as wilderness*,

have been cut.<sup>8</sup> Our richest woodlands, which lie in coves or at lower elevations of the GWNF, have suffered from a disproportionate amount of commercial logging, and logging is whittling away the remaining unprotected roadless areas in places such as Tom's Knob, Elliott Knob, and Great North Mountain.

Commercial logging in National Forests is opposed by 70% of the American public.<sup>9</sup> Unfortunately, most Americans are not even aware that our National Forests are not protected from commercial logging.<sup>10</sup> Ongoing cutting in our GWNF is poorly regulated and insufficiently monitored, and it artificially deflates timber prices for our private landowners. Even without clearcutting, intensive disturbance still occurs under other industrial logging practices that have been dubbed "seed tree," "shelterwood," and "salvage" logging. Heavy machinery can reduce complex ecosystems that have evolved over decades to simple, barren systems within a matter of weeks.

Contrary to some arguments, logging does not closely mimic natural disturbance regimes. While a severe natural disturbance might kill most large trees, it would not remove them from the site, nor would it destroy vital forest floor herbs, shrubs, seed banks, and roots. Logging operations compact and churn up soils, producing harmful sediment and run-off. They involve the spraying of highly toxic herbicides to kill so-called "undesirable" trees (and neighboring plants), as well as the spraying of broad-spectrum insecticides that kill untold millions of non-target arthropods. All of these practices of industrial logging result in the death and displacement of countless flora and fauna along with the disruption and simplification of complex ecological interrelationships and food webs.<sup>11</sup> They also serve to maintain excessively high White-tailed deer populations that in turn have devastating impacts upon various species and communities.<sup>12</sup>

Agency concerns for "forest health" and "oak decline" (a euphemism for the natural progression of mature trees toward an old growth forest character) drive harmful cutting of the forest, and timber sales are justified by the purported "need" for "early successional habitat." In reality, researchers have shown that a variety of natural processes promote forest regeneration and create canopy openings and early successional habitat. Logging not only doesn't help these natural processes; rather, it interrupts and damages them. Our forests are in bad health largely due to past logging practices, and a continuation of this management regime is unlikely to lead to 'healthy' forests in the future.

The Forest Service widely prescribes even-aged logging, industrial logging practices such as modified shelterwood, seed tree, and clearcutting. The modified shelterwood method differs little from "high grading" in which the biggest and best trees are cut and removed, leaving thinner, smaller, less healthy, and often damaged trees behind. Logging regularly takes place on the fragile ecosystems found on steep slopes and rocky areas, in old growth and remote areas, in Virginia Mountain Treasure areas, in special biological areas, in and around riparian areas, in sensitive wildlife habitats, in popular recreation

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<sup>8</sup> GW-JNF 2005 Monitoring & Evaluation Report App. G – 7

<sup>9</sup> US Forest Service 1986; Market Strategies, Inc. and Lake, Snell, Sosin, Perry, and Associates 1998.

<sup>10</sup> Mellman Group, 1999.

<sup>11</sup> Meier *et al* 1995 and deMaynadier & Hunter 1995

<sup>12</sup> Miller *et al* 1992 and Rooney & Waller 2003

areas, and in other ecologically sensitive places. Areas considered to be “remote habitat for wildlife” (Management Area 14) are regularly the sites of logging and road construction.

<b>Logging Project</b>	<b>Sensitive Areas Damaged</b>
Bear Trap	Important recreational areas
Canbe	Cow Knob Salamander habitat
Chestnut Oak Knob	Virginia Mountain Treasure areas ( <i>de facto</i> roadless)
Cold Spring	Important recreational areas
Dice Run	<ul style="list-style-type: none"> <li>• Virginia Mountain Treasure areas (<i>de facto</i> roadless)</li> <li>• Logged rare forest type found in only 0.2% of GW</li> </ul>
Dowell’s Draft	Old growth
Grindstone	Virginia Mountain Treasure areas ( <i>de facto</i> roadless)
Hematite	<ul style="list-style-type: none"> <li>• Boulderfields and rocky areas</li> <li>• Old-growth</li> </ul>
Hiner Hollow	Old growth
Hoover Creek	Old growth
Johnson Mountain	Old growth
Maybe	Old growth
Mulligan	Old growth
North River	Trout stream riparian areas & prime wildlife habitat
Paddy	<ul style="list-style-type: none"> <li>• Virginia Mountain Treasure areas (<i>de facto</i> roadless)</li> <li>• Trout stream riparian areas &amp; prime wildlife habitat</li> </ul>
Shady Mountain	Vulnerable steep slopes
Slate	<ul style="list-style-type: none"> <li>• Boulderfields and rocky areas</li> <li>• Virginia Mountain Treasure areas (<i>de facto</i> roadless)</li> </ul>
Sugar Tree	<ul style="list-style-type: none"> <li>• Vulnerable steep slopes</li> <li>• Old growth</li> </ul>
Tom’s Branch	Virginia Mountain Treasure areas ( <i>de facto</i> roadless)

Table 1: Sensitive Areas Damaged by Forest Service Logging Projects

## **2. Old Growth Logging: Sacrificing our Natural Heritage**

At one time the vast temperate hardwood forests of our Appalachian Mountains were rich with a wide variety of trees of many sizes and stately old growth forests. The life spans of Eastern hardwood trees can be astonishingly long: for example, Northern Red Oaks live to be at least 200-300 years old, beeches at least to 360 years old, White Oaks to 600 years old, and hemlocks to 900 years old.<sup>13</sup> Tragically, by the dawn of the 20<sup>th</sup> century, large corporations had already clearcut millions of acres, leaving only isolated patches of small old growth forest in inaccessible areas.<sup>14</sup>

<sup>13</sup> Fowells 1965

<sup>14</sup> USDA FS 2002 at p. 21

The Forest Service continues to log old growth. Recent timber sales, such as those of the Hematite, Hoover Creek and Overly Run areas, took place on sites that may not have been logged for 200 years or more, if ever. Old growth forests have been logged in the Hiner Hollow, Dowell's Draft (North River RD), and Mulligan projects (Warm Springs RD). The Mulligan logging project occurred on the upper elevations of the highest ridge in our GWNF.

Currently, old growth acreage in the "dry-mesic oak" forest type group is open to commercial logging. This forest type, both old growth and non-old growth, is our most common forest type, constituting 64% of our GWNF. Even though the Forest Service has not assessed how much of our dry-mesic oak forest is bona fide old growth, it has arbitrarily assigned no limits to old growth logging of this forest type.

The Forest Service frequently creates artificial stand boundaries in order to avoid proper recognition and protection of many deserving old growth tracts. Old growth tracts often do not conform to artificially determined stand boundaries, as tracts can be smaller than a stand or can overlap multiple stands. The Forest Service also uses any evidence of any past human disturbance, regardless of how minimal, to reject the designation of entire stands as old growth.

Moreover, the Forest Service habitually does not admit that it cuts old growth when it does. For example, the agency cut spectacular old growth at the Hoover Creek timber sale (James River RD) and also cut old growth at Sugar Tree\_(North River RD). The Forest Service's systematic abuse of its discretion in protecting old growth is documented in *And Still They Fall: A Report on Old Growth Logging in the George Washington National Forest*.<sup>15</sup> Forest Service employees of the James River RD denied there was old growth in the Hematite timber sale area when in fact there was an estimated 3,600 acre tract of irreplaceable 200-300-year-old growth in the vicinity identified by the Virginia Division of Natural Heritage. The cutting units contained some old growth, including a small part of the Heritage-identified tract.

As a result of ongoing depredations, old growth forest habitat is now considered "critically endangered" in the Southeast, with old growth surveyors and analysts estimating that little more than one-half of one percent of the forest cover in the southeastern US is in old growth condition.<sup>16</sup> Gradually maturing forests are just beginning to fill in the gaps between these sparse, tiny old growth patches.

### **3. Road Building: Scarring Our Magnificent Forest**

An excessive number of roads already cut through our George Washington National Forest, yet the Forest Service continues to build more. We now have over 1800 miles of permanent Forest Service roads in our GWNF, with close to 500 miles of permanent system roads laid over the past twenty years.<sup>17</sup>

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<sup>15</sup> <http://wildlaw.org/docs/OldGrowthWhitePaper2ded.pdf>

<sup>16</sup> USDA FS 2002 at p. 20; see also, Noss *et al* 1995 at p. 50

<sup>17</sup> GWNF 2005 M&E Report at pg. G – 7

Over 95% of our 37-million acre southern Appalachian region is crisscrossed with roads.<sup>18</sup> Since only 12% of the total area is national forest land, precious few opportunities remain to protect roadless habitat.<sup>19</sup> Our priceless road-free areas provide clean water, high quality fisheries, wildlife corridors, essential habitat for area-sensitive species, and habitat for wide-ranging, disturbance-sensitive species such as black bears, which occupy a scant 5-10% of their former range in the southeast and would now most likely not exist in our region if not for our roadless areas.<sup>20</sup> Other area-sensitive species, such as cougars, have been extirpated or are barely surviving in the east due to habitat loss.<sup>21</sup>

Roads are a primary cause of forest fragmentation and its associated pathologies. Roads inflict diverse, systemic harm to terrestrial and aquatic ecosystems by negatively impacting soils, hydrology, native species, ecological integrity, and recreation. They cause wildlife roadkill and create pathways for invasive species. In addition, many “closed” roads are often inadequately closed, leaving avenues for harmful illegal use.<sup>22</sup>

Our GWNF contains 35% of all USFS officially-inventoried roadless areas (IRAs) in our southern Appalachian National Forests and also dozens of other roadless areas which the Forest Service has refused to recognize as such. A coalition of conservationists has identified 65 officially unrecognized Virginia Mountain Treasure (VMT) areas totaling about 620,000 acres.<sup>23</sup> A sampling of these treasured and roadless areas includes:

**Tom’s Knob Area (VMT)** Originally part of a 12,912 acre RARE II Roadless Area, this area north of Barbour’s Creek wilderness provides citizens with outstanding views of the surrounding valley, and it remains unprotected today.

**Rich Hole additions (IRA)** Located between the Rich Hole and Rough Mountain Wilderness Areas, its many features include the famous White Rocks Tower Trail and rugged terrain.

**Kelley Mountain Area (IRA)** East of St. Mary’s Wilderness, it features beautiful natural areas and trails.

**Jerkentight Area (IRA/VMT)** Incorporating the existing Jerkentight IRA and the Benson Run area to the north, 22 miles of the Shenandoah Mountain Trail pass through this area.

**Elliott Knob (VMT)** The summit of Great North Mountain, Elliot Knob supports a large black bear population and contains as much as 4400 acres of possible old growth.

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<sup>18</sup> SAMAB Southern Appalachian Assessment, 1996

<sup>19</sup> SAFC "SAA Highlights" and SAMAB SAA 1996

<sup>20</sup> Pelton 1984 and Rudis & Tansey 1995

<sup>21</sup> USFWS, Federal Register Notice, Vol 72, Number 18 (2007); and Taverna *et al* 1999

<sup>22</sup> Trombulak and Frissell 2000

<sup>23</sup> The Wilderness Society *et al* “Virginia’s Mountain Treasures - the GWNF”

**Ramsey's Draft additions (VMT)** This area forms the boundary between the Potomac and James River watersheds, home to a sizable black bear population and many large trees.

**Little River (IRA/VMT)** The largest inventoried roadless area in Virginia, Little River supports stands of very large Northern Red Oaks, a healthy black bear population, and possibly up to 6000 acres of old growth forest.

**Big Schloss Cluster (IRA/VMT)** Incorporating the existing Big Schloss IRA, this area of six wild forest areas encompasses approximately 71,000 acres and forms the headwaters for the Potomac and the North Fork of Shenandoah Rivers. It is characterized by numerous outcrops and crags and hosts many miles of hiking, equestrian, and mountain-biking trails as primitive backcountry.

As with logging, the Forest Service cloaks its road building practices in euphemisms. For example, the Forest Service calls most roads that it builds "temporary," yet it neglects to obliterate these roads and return them to the forest after they are used for logging. So although the use of these roads by motor vehicles may be temporary, their presence and negative impacts will persist for decades. Currently, the miles of "temporary" roads in our GWNF are neither inventoried, monitored, nor disclosed, but estimations from project Environmental Assessments and on-the-ground observations conclude that hundreds of miles have been constructed.

In addition, the national Forest Service Roads Policy is not being implemented in our GWNF. The Forest Service has not identified the minimum road system needed, and the "roads analysis" conducted in 2003 neither addressed citizen concerns nor provided adequate guidelines for management. Perimeter roads do not count in the road density calculations, and existing Plan "standards" for road density only apply only to "open" permanent Forest Service system roads, meaning that so-called "closed" and "temporary" roads continue to be built without limits.<sup>24</sup>

Furthermore, there is no requirement that road density standards be met within any set time. Currently very few Management Areas have Plan Standards that limit road density, so 53% of our GWNF has no existing Plan standards limiting road density. Road density is excessive for approximately 300,000 acres, or around 28%, of our GWNF.<sup>25</sup> After fourteen years of "striving," the Forest Service is still failing to meet road density standards for hundreds of thousands of acres of our GWNF.

#### **4. Off-road Vehicles, ATVs and Illegal Trails: Wrecking Creation for Recreation**

Both the sales of off-highway vehicles (OHVs) and the number of OHV riders using national forests have increased dramatically in recent years.<sup>26</sup> OHVs, OHV routes, and roaded areas have a serious negative impact on the health of our forests disproportionate to their numbers, as one sole reckless OHV rider can cause a great deal of damage in a very short time.

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<sup>24</sup> GWNF LRMP 1993

<sup>25</sup> GW-JNFs Monitoring & Evaluation Reports and MA Standards at the 1993 GWNF LRMP 3 – 75 & 81

<sup>26</sup> Wilkinson 2000, and Fritsch and Bamford, ASPI, 2001

OHVs greatly increase the range of human activities in remote areas. OHV users cause intense soil disruption, loss of vegetative cover, compaction, erosion, and root system damage. They damage sensitive riparian areas by increasing bank erosion, disturbing the stream bed, and increasing turbidity. They spoil the peace of the forest for visitors and they traumatize wildlife, disturbing or displacing breeding and nesting areas.<sup>27</sup> The dubious recreational value OHVs provide is not worth the destruction wreaked upon our forest resources.

*Official Routes:* Approximately 80 miles of official ATV areas and 160 miles of “Featured OHV Routes” are open to OHV users in our GWNF. The Forest Service reports that user impacts from these OHV routes are significant and that maintaining OHV routes is a considerable taxpayer expense,<sup>28</sup> at a time when the Forest Service is proposing closing down many other recreational sites across the country because of budget “shortfalls.” Although the Forest Service is required to report on poor route conditions, hazards, and user conflicts, they have consistently failed to do so and have also failed to take effective action to reduce unacceptable impacts.

Some of these routes run through areas with high conservation or recreational value. For example, 37 miles of jeep roads fan out beyond the boundaries of the Rocky Run OHV area (North River RD), crisscrossing areas with “remote highlands” and “remote habitat for wildlife” prescriptions. ATV trails at Tasker’s Gap and Peter’s Mill Run (Lee RD) are harming two special biological areas, and the proposed Archer OHV area (North River RD) is adjacent to another allegedly “remote habitat for wildlife” area. Noise is a particular concern at the South Pedlar OHV trail system (Pedlar RD), which is within earshot of the Blue Ridge Parkway, a campground, and the James River Face Wilderness. Yet another route skirts a special biological area at Potts Mountain Pond, and official routes run through a management area ostensibly protected for the sake of the Cow Knob Salamander. Riders using the Potts Mountain route routinely trespass within the marked boundaries of the adjacent Barbour’s Creek Wilderness Area.

It is noteworthy that problems have been documented on many of these routes, forcing the Forest Service to temporarily close, rehabilitate, or reroute sections of OHV routes; however, larger fundamental problems surrounding OHV use continue to remain unaddressed.

*Illegal use:* The GWNF’s Chief Law Enforcement Officer has stated that illegal ATV use is the “number one threat” facing our GWNF and that illegal motorized trespass is an ongoing problem that is not under control.<sup>29</sup> However, the Forest Service routinely refuses to consider the degree to which its own roads and logging trails facilitate illegal OHV use when assessing the projected impacts from proposed logging and other projects. Illegal motorized trespass or evidence of such has been observed by citizens’ groups at the Potts Mountain Pond and Maple Flats special biological areas; within streams, such as Sours Run; within areas of known habitat for at-risk wildlife; within

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<sup>27</sup> Kalisz 1996

<sup>28</sup> GW-JNFs 2004 M&E Report at p. 15

<sup>29</sup> GW-JNFs 2004 M&E Report at p. 19

unroaded areas at Crawford Mountain, Big Schloss, and Great North Mountain; and in many other “protected” areas.

## 5. Invasive Species: Degrading our Biodiversity

The South has the dubious distinction of having the most introduced plant species in North America, and there is a serious risk that new invasive plants and insects will emerge in the future.<sup>30</sup> Among the key invasive species of current concern are

*Hemlock woolly adelgid*: Hemlocks, some many centuries old, are dying in great numbers in our GWNF due to the woolly adelgid, an invasive pest that literally sucks the life out of our majestic trees. The northern portions of our GWNF, including spectacular old growth in the Skidmore roadless area and the Ramsey’s Draft Wilderness Area, have already been devastated. Hemlocks provide essential four-season shade along streams, which benefits a wide variety of wildlife, including crucial wild trout populations. Despite their critical role in wildlife and aquatic habitat conservation, hemlock trees have not received the same attention from the Forest Service as commercially-desirable tree species.

*Gypsy moth*: Logging based upon the pretext of gypsy-moth infestation--that is, was, or will be present--has been a common logging rationale of the Forest Service justifying excessive and needless cutting. While there is no doubt that the gypsy moth has had an impact on forest cover in some regions of the country, the Forest Service itself reports that “gypsy moth spread has been slow when compared to most invasive pests...only about 30% of the susceptible habitat in the US is infested 135 years after the initial establishment occurred.”<sup>31</sup> Further, research has shown that forests can actually benefit from gypsy moth-caused disturbance, and trees can sometimes recover from the outbreak on their own.<sup>32</sup>

*Ailanthus*: Tree-of-heaven (*Ailanthus*) is one of the most common invasive tree species in the Eastern US. Each tree produces as many as 325,000 seeds per year, and an extract of its leaves was found to be toxic to at least 45 other plants.<sup>33</sup> Logging and other disturbances often provide a pathway for introduction of this highly invasive alien tree and exacerbate existing problems. Field observations reveal that logged sites and road edges are commonly overrun with invasive species such as the *Ailanthus*.<sup>34</sup>

*Chestnut blight*: Once one of the tallest and most magnificent trees in our Appalachian forests, the American chestnut was virtually wiped out decades ago by a strangling fungus that entered the country in the early 20<sup>th</sup> century. Today chestnut trees are not

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<sup>30</sup> USDA FS 2002 at p. 54

<sup>31</sup> JNF Mt. Rogers NRA Scoping Notice for “2007 Gypsy Moth Treatment”

<sup>32</sup> Gansner *et al* 1993

<sup>33</sup> <http://tncweeds.ucdavis.edu/esadocs/ailaalti.html>, accessed Mar. 12, '07 and The Virginian-Pilot 5/02

<sup>34</sup> See, for example, the Marble Valley timber sale near Clayton Mill Creek Special Biological Area on the North River RD and Forest Road 507 on the Pedlar RD.

able to reach maturity before they succumb to the blight. Researchers may have a blight-resistant chestnut ready for release in the near future.

## 6. Energy Development: Breaking our Pledge to Conserve

*Natural Gas Development (Conventional and Non-conventional):* Natural gas development brings roads, pipelines, destruction, and noise to national forest lands, with significant negative impacts.<sup>35</sup> For example, one recent gas development proposal in the neighboring Jefferson National Forest calls for a vast network of roads, pipelines, and wells across nearly three-quarters of a 4,700 acre roadless area.<sup>36</sup>

Natural gas is found in both conventional and non-conventional gas deposits. *Conventional* natural gas is relatively easy to find and extract, whereas *non-conventional* gas deposits require deeper drilling, higher investments, or new technologies. Unfortunately, non-conventional gas development in our national forests is expected to increase in coming years. Non-conventional gas development can involve explosive extraction methods and other disturbing and harmful practices. Large volumes of water are often pumped out of aquifers, increasing land subsidence and increasing concentrations of hydrogen sulfides and methane in groundwater and drinking water wells. Between 20% and 40% of the fracturing fluids may remain in the ground after drilling, further contaminating groundwater with toxic chemicals for years and threatening the health of watersheds that provide clean water to the citizens of Virginia and West Virginia.<sup>37</sup>

Approximately 832,000 acres (74.6% of our GWNF) is currently available for federal oil and gas leasing.<sup>38</sup> Private parties own the rights to minerals beneath another 200,000 acres (18% of our GWNF). Virginia and neighboring West Virginia are major natural gas producers: major gas reserves in and around our GWNF include the Bergton, Thornwood-Horton, and Lost River Gas Fields (Warm Springs and North River RDs).<sup>39</sup> Historically, only minimal gas production has occurred in one of the counties in the GWNF (Rockingham County). However, increasing demand or national energy policy directives could provide additional pressure to develop even marginal fields on pristine portions of national forest lands.

Areas of special biological interest, boreal forests, Cow Knob Salamander habitat, roadless areas, and old growth are extremely vulnerable to gas development (Warm Springs and North River RDs). Recently, in the neighboring Jefferson National Forest, the Forest Service made the bulk of our remaining unleased lands, including biologically sensitive areas, available for gas leasing. The Forest Service likely intends to make most

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<sup>35</sup> USDA Forest Service 1984a; Defenders of Wildlife 2000; 1993 GWNF FEIS 3 - 69-70; 2004 JNF FEIS 3-350 *et seq*; Oil and Gas Accountability Project 2005.

<sup>36</sup> JNF Clinch RD Scoping Notice for North Fork of Pound Gas Development project 2002

<sup>37</sup> US EPA <http://www.epa.gov/safewater/uic/cbmstudy/docs.html>; Puri, King and Palmer, 1991, pp 109-115; Palmer et al., pp. 233, 237; Natural Resources Defense Council

<sup>38</sup> 1993 GWNF Plan at 2-33 and 1997 GWNF Plan Amendment #4

<sup>39</sup> 1993 GWNF FEIS p. 63 and

[http://www.eia.doe.gov/pub/oil\\_gas/natural\\_gas/analysis\\_publications/maps/Appalach5\\_eastWV\\_GAS.pdf](http://www.eia.doe.gov/pub/oil_gas/natural_gas/analysis_publications/maps/Appalach5_eastWV_GAS.pdf)

of our GWNF open to gas and mineral development as well, as the current administration continues to push for expedited energy extraction on public lands at taxpayers' expense.

*Wind Turbines:* Gigantic (300 to 550 ft. tall) industrial wind turbines threaten our highest forested ridgelines in Virginia. Because of prevailing wind patterns and topography, many of our most remote and wild ridges are considered desirable for such development.<sup>40</sup> If permitted, on-shore wind facilities would provide for only a small fraction of energy demand in Virginia, but would irrevocably and visibly disfigure our national forest landscape.

Beyond the visual impacts, these large turbines have the real potential for significant migratory bird and bat mortality, depending upon their location, construction details such as lighting, and seasons/hours of operation. In addition, the infrastructure needed to support these facilities, such as access roads and transmission line corridors, could promote additional fragmentation of interior forest areas. While there are currently no pending permits for industrial wind development in our GWNF, the early stages of proliferation of such facilities on nearby areas of private land would suggest that is just a matter of time before such permits are suggested, especially with the current push for the utilization of public lands as energy sources.

## **7. Mismanagement: Cost-intensive Fragmentation and Loss**

Far from being a unified whole of diverse and interrelated parts, our 21<sup>st</sup>-century GWNF is a fragmented agglomeration of patches of land with myriad conditions and uses which stands in sad contrast to our original pre-settlement landscape with its high degree of interconnectivity. Due to the patchwork nature of public/private ownership, the majority of the land within the official 'proclamation boundary' of the GWNF is in the hands of small-acreage owners employing widely divergent land uses, and all 1.1 million acres of the GWNF itself are allocated to various Management Areas with differing management prescriptions. Conflicting emphases of current zoning policies contribute to fragmentation, degradation, and loss of habitat by designating large expanses of forest as suitable for disruption and development. Negative effects of injudicious management overlap in time and space and are long-term, cumulative, and chronic.

*Fragmentation* is the disruption of habitat continuity and integrity that results from human disturbance, along with the subsequent loss of viable habitat. In tandem with overt habitat destruction, alteration, and conversion, fragmentation is considered a principle threat to biodiversity in our region.<sup>41</sup> Area-sensitive species that have large home ranges or must move between different habitats can be especially harmed by fragmentation.

Fragmentation does not only occur when small islands of habitat are isolated by agriculture and development. It also occurs when a more or less large and intact area is degraded by being disrupted or perforated from within, causing it to lose both area and

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<sup>40</sup> see maps at <http://vawind.org/Assets/Maps/Class3-plus-Wind-western-VA.JPG>

<sup>41</sup> Riitters *et al.* 2002 and Soulé 1986

strength, as when a tapestry is eaten away by moths. Along with external pressures along all of her boundaries, this accumulation of internal fragmentation is perhaps the most pervasive and pernicious threat to the vitality and stability of our GWNF.<sup>42</sup> When considering disturbances such as logging and roads that fragment forests, it must be remembered that the harmful consequences are not confined to the sites where the disturbances directly occur; a relatively small amount of disturbance can fragment a large area.<sup>43</sup>

*Edges* occur when distinct habitat boundaries are created by logging and roads. *Edge effects* extend outward into the forest, often resulting in changes of species composition and community structure.<sup>44</sup> Harmful edge effects include an increase in invasive species, drying of the forest floor, facilitation of edge-associated predators such as raccoons and skunks, and an increase in nest predators such as cowbirds. Current scientific knowledge recognizes a potential 600-meter edge effect for predator impacts to bird populations.<sup>45</sup> Even an 80 meter edge effect can mean that over 40% of a large area of national forest can be degraded or unsuitable habitat for species such as salamanders.<sup>46</sup>

The current GWNF Plan permits logging, mineral, gas, and utility corridor development, and road system construction and maintenance that produce and maintain harmful internal fragmentation and edge effects. One of the most harmful impacts of these fragmentation and edge effects is degradation of *mature forest interiors* and *remoteness*, key habitat elements which have a strong influence on species viability.

However, current management of our GWNF is not only misguided ecologically, it is also misguided economically. For example, the current model creates the unnatural “need” to endlessly spend tax dollars generating early successional habitat (ESH) patches through logging. Continuing this imprudent direction for habitat management perpetuates the artificially even-aged structure of much of our GWNF that is the result of past abuse. In addition, the existing Forest Service plan has led to the creation, at the expenditure of large amounts of energy and taxpayers’ dollars, of artificial balds and savannas which clash with local ecosystems, disrupt wildlife habitat, and further the fragmentation of the forest. One of the many examples of this type of mismanagement can be found on the top of Bald Mountain along Forest Road 427 in Augusta County.

Both natural fire and prescribed fire (intentional fires) play a key role in the current management practices of our GWNF. Some Appalachian forest types, such as table mountain pine forests and some oak forest and rare plants, may derive some benefit or competitive advantage from fires, when properly administered. However, the Forest Service is dramatically increasing its use of fire across our Southern Appalachian region on a very large scale with little knowledge and understanding of the impacts of this untested program.

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<sup>42</sup> Harris & Silva-Lopez 1992, Riitters *et al.* 2002

<sup>43</sup> Flamm 1990

<sup>44</sup> JNF New Castle RD Broad Run EA-24 and GWNF LRMP 2 - 2.

<sup>45</sup> Leimgruber *et al.* 2000 and Wilcove 1987

<sup>46</sup> Semlitsch *et al.* 2007

Recent studies performed directly for the Forest Service call into question the assertion that fire played a widespread role in shaping forests of this region. Researchers studied charcoal and pollen depositions at ten sites in four Appalachian states and found no consistent pattern of historical fire; furthermore, they found that fire may not always be necessary for maintaining and regenerating oak forests, and that “gaps resulting from ice damage, drought, wind throws, and insect damage might contribute to the maintenance of oak forests in the southern Appalachians.”<sup>47</sup> Research has shown that human-caused ignition (arson, accidents, etc.) outnumber natural lightning-caused fires by 8 to 40 times in the Appalachian Mountains.<sup>48</sup> As a result, our GWNF may very well have been negatively affected not from a lack of fire, but from too much fire, such as that which occurred with European colonization for agricultural purposes.

Excessive burning destroys coarse woody debris, an integral part of our GWNF’s compositional, structural, and functional diversity that provides food, shelter, and habitat for forest wildlife.<sup>49</sup> Woody debris contributes to soil fertility and stores water, providing moist logs that serve as fire breaks as well as shelter for wildlife when fires occur. Some of the many species that can be harmed by fire include at-risk species such as wood turtles, northern pine snakes, coal skinks, and many kinds of salamanders.

One of the worst aspects of the Forest Service’s burning program is the practice of constructing fire lines that, in some cases, are constructed within designated unroaded areas. These routes are often bulldozed, with little concern about soil and watershed impacts, and they frequently provide pathways for illegal vehicle access.

### **Threats to Shenandoah Mountain, Wilderness Areas, Rivers and Streams, Special Habitats, and Rare and Sensitive Species**

Our GWNF faces increasing degradation and forest loss due to internal forces such as commercial logging, road building, off-road vehicle abuse, invasive species, and energy development. But our beloved Shenandoah Mountain, together with our unique rivers and streams, wilderness areas, special habitats, and rare and sensitive species, are especially fragile and vulnerable to irreparable harm.

#### **1. Threats to Shenandoah Mountain**

Shenandoah Mountain contains the greatest concentration of old growth, an estimated 75,000 acres, in our Southern Appalachian Mountains.<sup>50</sup> The headwaters of the James, Potomac, and the legendary Shenandoah River originate on this mountain, and parts of North and Cowpasture Rivers qualify for inclusion into the National Wild and Scenic River System. Vital watersheds on Shenandoah Mountain supply clean drinking water for

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<sup>47</sup> Lynch and Clark 2002

<sup>48</sup> SAMAB SAA 1996 and the research of Ted Gragson with the USDA Coweeta Hydrologic Laboratory Long Term Ecological Research

<sup>49</sup> McMinn & Crossley 1996

<sup>50</sup> see maps at pp. 210-11 of Southern Appalachian Assessment Terrestrial Technical Report and USDA FS GWNF "Stands 150 Years And Older CISC" map and CISC “old growth trend” at App. G-39 of 2005 GW-JNFs Monitoring Report.

the citizens of Staunton and Harrisonburg. Conservationists have identified four clusters of Mountain Treasures here with twenty-four individual Treasures totaling around 260,000 acres.

Nonetheless, the Forest Service does not recognize the regional and ecological significance of Shenandoah Mountain, and the mountain is currently managed under a hodgepodge of differing management area prescriptions with conflicting emphases that do not adequately conserve unique ecological values and conditions. Current management decisions and actions are damaging Shenandoah Mountain's significant ecological, social, cultural, and recreational values. No one wants to see our majestic mountain become more and more like everywhere else, but under the present management system such decline is a constant threat.

## **2. Threats to Wild Areas**

Because our forefathers designated wild areas to be held in the public trust, the wildest of our wildlife are more plentiful, and we are richer for the experience. Wilderness areas and roadless areas are environmental time capsules where we can experience nature unmarred by the frenzy and racket of modern society. Without natural refuges where we can restore our souls, civilization would undoubtedly be less civil.

Our remnants of the original Great Eastern Forest are unique, vulnerable, and precious. Unfortunately, less than 4% of our GWNF is permanently protected as designated Wilderness, far below the national average of 18% of designated Wilderness in our National Forests. Indeed, our entire southern Appalachian region is under-represented; in our entire 37-million-acre "Southern Appalachian" region, only 1.1% (428,000 acres) is currently designated as Wilderness.<sup>51</sup>

Development pressures continue unabated, and we are steadily losing parts of our wildest areas on lands that we have entrusted to the care of the Forest Service. Some of the largest unroaded areas in our GWNF – Elliott Knob, Big Schloss, and Crawford Mountain – have been downsized and degraded since they were designated as roadless a few decades ago. As a result, Virginia's national forests have become vulnerable islands of natural habitat surrounded by development, and vital de facto wildlife refuges of the region.

## **3. Threats to Rivers and Streams**

Our GWNF's rivers and streams are not only exciting places to explore, fish, and canoe. They also harbor outstanding biological diversity and endangered species, including wild trout, four at-risk mussels, and one at-risk fish. Cumulative impacts to the Forest's streams and populations are a priority concern.<sup>52</sup> A host of impacts are currently affecting waters on the Forest, in some cases literally raining down upon them. While

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<sup>51</sup> Loomis and Richardson 2000 at pp. 20-23; Cordell, SAMAB SAA Social Technical Report at 178-82; USDA FS Southern Research Station, 2006

<sup>52</sup> Harris 1988

acid rain and climate change are affecting water quality, roads are pouring sediment into channels and streamside hemlocks are dying.

Tragically, more than 1,300 miles of rivers and streams in our Shenandoah watershed fail to meet federal clean water standards because of excess nutrients, sediment, and other pollutants,<sup>53</sup> and Virginia's most recent water quality report, approved October 16, 2006, identifies approximately 43 impaired waterways within or immediately downstream from our GWNF.<sup>54</sup> Specific indicators for waterways being designated "impaired" include unhealthy populations of macro-invertebrates (poor water quality), fecal coliform, high temperatures, low pH, low dissolved oxygen levels, PCBs, and mercury contamination. Alarmingly, the north and south forks of our Shenandoah River suffered massive fish kills in 2004 and 2005,<sup>55</sup> and the American Rivers conservation group named her one of the "Most Endangered Rivers of 2006."<sup>56</sup>

Due to prevailing wind patterns, our GWNF's rivers and streams are extremely vulnerable to nitrous and sulfurous air pollutant depositions and ozone damage, largely blown in from coal-fired power plants to the west of us. Our wild trout and other valuable aquatic species are highly threatened because many streams are low in buffering capacity and highly sensitive to acid rain from upwind coal-burning sources.

Mussel populations are declining alarmingly, and are found to be "imperiled disproportionately relative to terrestrial species."<sup>57</sup> The American Fisheries Society estimates that nearly 72% of all freshwater mussels are endangered, threatened, or of special concern. This steep decline is directly attributed to habitat destruction and degradation caused by human activities. Endangered, sensitive and locally rare mussels and fish found in our GWNF include the James spiny mussel, green floater, brook floater, yellow lance, and roughhead shiner.<sup>58</sup>

Sediment from roads, logging jobs, and other activities is another major concern. Once sediment spoils our stream channels, negative effects can persist for decades, even centuries.<sup>59</sup> Small sensitive headwaters catchments can be severely effected by sediment release from concentrated logging activity.

According to the Southern Appalachian Assessment (SAA) Aquatic Technical Report, sedimentation has been implicated as a cause of low trout productivity because fine sediment may suffocate or trap developing eggs and embryos in the substrate, alter the amount and kinds of food that live in the substrate, limit the amount of habitat available

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<sup>53</sup> [http://www.americanrivers.org/site/PageServer?pagename=AMR\\_MER2006](http://www.americanrivers.org/site/PageServer?pagename=AMR_MER2006)

<sup>54</sup> Virginia DEQ's Final 2004 305(b)/303(d) Water Quality Assessment Integrated Report, Approved by EPA on September 7, 2004 at: <http://www.deq.state.va.us/wqa/ir2004.html> and at: <http://www.deq.state.va.us/wqa/ir2006.html>

<sup>55</sup> <http://www.purewaterforum.org/fishkill/index.php>

<sup>56</sup> [http://www.americanrivers.org/site/pageserver?pagename=AMR\\_MER2006](http://www.americanrivers.org/site/pageserver?pagename=AMR_MER2006) and <http://www.deq.virginia.gov/wqa/pdf/2006ir/maps/shenandoah.pdf>

<sup>57</sup> Williams *et al* 1993

<sup>58</sup> GW-JNFs Threatened, Endangered, Sensitive, Locally Rare species lists

<sup>59</sup> JNF Clinch RD March 2001 Bark Camp timber sales Environmental Assessment at p. 86

for cover and nest building, or inhibit visual feeding by trout. Brook trout seem especially susceptible to these effects.<sup>60</sup>

Timber harvesting affects sediment transport in our streams by increasing or decreasing the amount of sediment, altering the rate or frequency of flow, and changing the makeup of the channel by flushing out vital woody debris that catches and stores sediment.<sup>61</sup> Fifty percent of the 392 miles of streams surveyed in our George Washington National Forests from 1995 to 2005 did not meet desired levels of large woody debris necessary for healthy stream systems.<sup>62</sup> In the most recent year of stream surveys, taken solely in the North River RD, 78% of all streams were deficient in large woody debris.

Plan revisions for five national forests completed in 2004 found that typical southern waterways are overloaded with sediment hundreds or thousands of times higher than baseline or natural conditions. In a frightening redefinition of the serious problems our forest streams face, the Final Decisions for many National Forest Plans in 2004 deemed such unnatural levels of sediment as “acceptable.”

The 1993 GWNF Plan evaluated eligible waterway segments for possible recommendation as federally protected Wild, Scenic, or Recreational Rivers. Many of these are superlative and should be designated, yet for the past thirteen years the Forest Service has not made any recommendations to Congress to gain this important protective status for the fourteen waterways found to be suitable for designation.

#### **4. Threats to Special Habitats**

Our endangered rare communities and habitats are a valuable part of our George Washington National Forest’s ecosystem diversity, and their future health and expansion is vital for maintaining viable populations of rare species. Sadly, the southeast United States has more endangered ecosystems than any other region in the country, with many ecosystem communities having declined by 70% or more since European settlement in the South.<sup>63</sup> These rare communities include old growth deciduous forests, Southern Appalachian spruce fir (designated by the Forest Service as “critically endangered” with 98% loss), red spruce, Appalachian bogs, and bottomland and riparian forests (“threatened” with 70-84 % loss).<sup>64</sup>

Many unique biological communities are located throughout our GWNF,<sup>65</sup> with some protected from the most flagrant harm by lying within Wilderness Areas or by designation as Special Interest Areas (SIAs). SIAs, designated either by Congress or administratively, include National Recreation Areas, Research Natural Areas, National Wild and Scenic Rivers, Wilderness, and special biological areas. The 1993 GWNF Plan identified 38 SIAs in our GWNF: rare communities, rare habitats, and/or locations of

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<sup>60</sup> SAMAB SAA Aquatic Technical Report, pg. 50

<sup>61</sup> 2004 JNF FEIS 3-158

<sup>62</sup> GWNF 2007 Draft Comprehensive Evaluation Report at pg. 26

<sup>63</sup> Stein *et al* 2000

<sup>64</sup> USDA FS 2002 Table at p. 20; and Noss *et al* 1995

<sup>65</sup> Braun 1950

rare species that are currently allocated to Management Area 4 (MA 4). These SIAs total about 26,000 acres (exclusive of the Shenandoah Crest area) and are designated as areas that are set aside to be “managed to protect and/or enhance their outstanding natural biological values” by being classified as “unsuitable for timber production” and “generally protected against the activities of humans that directly or indirectly modify natural processes.”<sup>66</sup>

Some of the special habitats identified by various agencies and researchers in our George Washington National Forest include a high elevation outcrop barren at the summit of Mt. Pleasant (Pedlar RD), old-growth oak forests at Peters Mountain (Hematite) (James River RD), wetland at Peters Mill Run (Lee RD), sinkhole ponds in the Maple Flats area (Pedlar RD), talus or scree areas at Catback Mountain (Lee RD), boulderfield forests at Paddy Mountain (Lee RD), and cliffs at Tom’s Knob (James River RD).

Since the current Plan was adopted in 1993, scientists with the Division of Natural Heritage of the Virginia Department of Conservation and Recreation (DCR) have identified additional areas with significant biological values, including 146 new stand-alone sites as well as extensions to existing SIAs, and they recommend that 111 of these new sites be designated as SIAs.<sup>67</sup> In addition, many other undesignated threatened and endangered areas exist: some have yet to be officially discovered, and some have been identified by scientists or citizens but have yet to be officially recognized.

At present, these newly identified special biological areas are not allocated to MA 4. In many cases the lands that comprise these special sites are allocated to management areas with prescriptions that do not ensure the protection of their outstanding natural biological values. Many of these newly identified special areas are in management prescriptions that the Forest Service currently considers “suitable” for logging.<sup>68</sup> Furthermore, our GWNF includes a significant amount of acreage in West Virginia that has yet to be surveyed for special biological sites.

Unduly restrictive boundaries for designated special habitats often fail to account for the interconnected and interdependent nature of ecosystems. Current Forest Service boundaries frequently exclude all areas above key watersheds or porous limestone (karst) areas that flow directly into special habitats, and they often exclude nearby areas inhabited by wildlife throughout their life cycles. Moreover, boundaries often do not buffer sites from harmful activities such as logging, road building, invasive species introductions, or deer browsing. Clearly, the current GWNF Plan’s conflicting zoning scheme leads to poor planning for biodiversity among special habitats. Some examples of poor planning that adversely affect special habitats include

- featured off-highway vehicle routes being gerrymandered into a special habitats ostensibly set up to conserve the Cow Knob salamander,

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<sup>66</sup> 1993 GWNF LRMP at 3 - 4-6.

<sup>67</sup> L. Smith pers. com., and see Wilson 2000 and Smith 1991

<sup>68</sup> 1993 GWNF LRMP “Lands suitable for timber production by management area” map

- ATV routes being placed beside sensitive streams and special habitats, and
- commercial logging taking place alongside popular recreation trails and special habitats for species such as the Wood Turtle.

## 5. Threats to Rare and Sensitive Species

Our GWNF currently has over 200 species of plants and animals designated as “Sensitive Species.” However, under the new planning regulations for species diversity,<sup>69</sup> the Sensitive Species list has been jettisoned and the agency now recognizes three types of species: federally listed “threatened” and “endangered” species, “species-of-concern,” and “species-of-interest.” Federally listed species are those protected by the federal Endangered Species Act (ESA). Species-of-concern are those for whom the Forest Service determines management activities may be necessary to prevent future listing under the ESA. Species-of-interest are those for whom the Forest Service determines that management actions may be necessary or desirable to achieve ecological or other multiple-use objectives, including state-listed species, other rare or declining species, species of conservation concern, and species of public interest, such as game animals that are hunted. Finally, there are also rare species that have not been officially documented but are “likely to occur.”

Sensitive and rare species are of particular concern because their populations are low, they or their habitat are not well distributed, they or their habitat are declining, they are dependent on a specialized habitat, or the GWNF acts as an important refuge for their continued viability. Their survival is influenced by complex interactions among habitat variables, populations, climate, and other factors. For many species, habitat selection is very nuanced, and distribution patterns are little understood, so the currently used crude “ecosystem” models or protections under a broad category of “suitable habitat” are not sufficient to protect them.

While the presence of rare or sensitive species can be indicators of the acceptability of their habitat (similar to the canary in the coal mine), their presence can neither guarantee that their habitat is healthy nor that it will continue to be so. Only vigilance and close monitoring, combined with completely protecting areas these species frequent from outside interference, will ensure that their populations remain steady (or increase) in the long run. Further, it is not just these species we protect, but the very diversity and interconnectedness upon which all life in the forest is based, and upon which we all depend in a very real way for our own continued health, happiness, and well-being. Understanding this web of life goes far beyond the Forest Service concept of ‘indicator species,’ which is largely used as a tool of habitat manipulation ostensibly for the benefit of game animals, but instead serves mainly as a *raison d’etre* for increased logging.

Rare species living in the George Washington National Forest that are guaranteed protection under the federal Endangered Species Act include shale barren rockcress, swamp pinks, northeastern bulrushes, blackside dace (fish), James spinymussels, Indiana

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<sup>69</sup> Forest Service Handbook 1909.12, 43.22

bats, Virginia big-eared bats, Virginia northern flying squirrels, and bald eagles. The small whorled pogonia and the Virginia spiraea are listed species that may occur on the Forest.

Virginia state-listed threatened species include American ginseng, orangefin madtom fish, Atlantic pigtoe mussels, and wood turtles. Virginia state-listed endangered species include variable sedge, Virginia sneezeweed, eastern tiger salamanders, shaggy coil snails, brook floater mussels, southern water shrews, southern rock voles, and snowshoe hares.

Four rare and sensitive species of interest that face serious preventable internal threats are Indiana bats, Cow Knob salamanders, cerulean warblers, and wood turtles.

- **Indiana Bats**

Indiana bats (*Myotis sodalis*), listed as “endangered” under the ESA, winter in the caves of our George Washington National Forest and thrive in old-growth conditions. While the immediate areas surrounding known Indiana bat winter cave hibernacula are somewhat protected, bats do not live solely in caves, and merely protecting the places they hibernate is not sufficient: effective stewardship principles demand that their year-round habitat be protected as well.

During the spring, summer, and fall, Indiana bats use forest areas for roosting, foraging, and maternity sites. Logging sites in our GWNF are typically older-aged forests, which have canopy gaps and snags and trees with exfoliating bark that are the bats’ preferred habitat, so logging operations regularly remove the specific species and characteristics of trees that Indiana bats favor. Numerous timber sale sites and other project areas are within the likely summer range of bats which hibernate in Highland, Bath, and Pendleton counties or elsewhere.

The “incidental take permit” issued by the U.S. Fish and Wildlife Service in September 1997 allows the “take” of up to ten Indiana bats from the GWNF annually. However, the Forest Service does not effectively survey and monitor sites either before, during or after disruptive activities, so it cannot reasonably ensure that authorized levels of “take” are not being exceeded. Moreover, the GWNF Plan standards mandate distinct no-disturbance zones around roost trees and maternity roosts, but these standards carry no weight, as the Forest Service routinely fails to determine exactly where the bats are occupying trees or habitat at proposed disturbance sites.

- **Cow Knob Salamanders**

Cow Knob, or white-spotted, salamanders (*Plethodon punctatus*) are lungless amphibians living on the upper slopes of Shenandoah Mountain, with most of their global range in our GWNF. They prefer late successional or old-growth hardwood sites with rocks and woody debris<sup>70</sup>, and are especially vulnerable to threats in part due to their naturally limited range. Much of their habitat is somewhat protected in the Shenandoah Crest Special Interest Area (SIA), but the lower elevations of their range are open to

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<sup>70</sup> Buhlmann *et al.* 1988

development. According to the 1994 Conservation Agreement, Cow Knob salamanders “must be actively protected against taking and killing by humans.”

Project areas for various logging proposals, including the sites of “cutting units,” are located within the known range of Cow Knob salamanders and contain suitable habitat for this globally rare species. Cumulative impacts to this species, and especially to vulnerable peripheral populations, are a significant concern that is not being fully addressed by the Forest Service. The Forest Service has even run “featured OHV” routes through the salamanders’ home territory.

- **Cerulean Warblers**

Cerulean warblers (*Dendroica cerulea*), delicate blue and white songbirds, spend their summers in our GWNF and their winters in neotropical areas. This area-sensitive species favors large tracts of mature and old-growth deciduous forest with open ground-floor conditions and multiple canopy layers, as well as tall large-diameter trees forming a high percent of crown closure and openings from natural disturbance.

According to the most recent Breeding Bird Survey (BBS) numbers, since 1966 cerulean warblers have declined by 90% or more in Virginia in part due to the damage, destruction, or removal of their homes by logging operations. Warblers in our GWNF are not in the core of the species range, and as a result are even more vulnerable to extirpation. A Plan that truly cared for the future of this rare bird would foster old growth conditions, not promote ill-informed logging schemes that are of no proven benefit to the cerulean warblers along with a host of other species.

- **Wood Turtles**

Wood turtles (*Glyptemys insculpta*), a priority species for conservation in our GWNF, are officially listed as a “threatened” species in Virginia, and as a “very rare and imperiled” species in West Virginia. The wood turtle’s natural habitat of clear running streams and associated forest in the far northern portions of Virginia and West Virginia is suffering intense growth and development pressures. Preserving wood turtle populations and habitat in our National Forests appears critical for ensuring their long-term survival in Virginia and West Virginia, as places where the turtles find refuge today may serve as critical source populations in the future.

Wood turtles are vulnerable to harm from collection, road kill, and predation, as well as habitat destruction, degradation, and fragmentation.<sup>71</sup> Wood turtles cannot run or fly away from harm, and the species is extremely sensitive to the loss of breeding adults. Regrettably, the Forest Service has failed to implement measures to protect wood turtles in our GWNF. The current Plan allows activities such as logging and road construction that can directly or indirectly harm wood turtles in areas known to be inhabited by them.

Clearly, the current Plan does not sufficiently protect rare species and their habitats. Although a great deal of information is lacking regarding species’ distributions, populations, and life history needs, the Forest Service charges ahead with projects that

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<sup>71</sup> Ernst 2001 and Ernst & McBreen 1991

threaten their viability. Even when the agency admits that harm occurs, the harm is always claimed to be of “no significant impact.” Cumulative impacts are not fully and properly considered during project analyses, and known locations of rare species are not protected from damage even though it is feasible to do so. The drive to extract resources from the Forest for profit overrides any concern for the health and viability of our precious rare species.

**V: The Citizens’ Alternative for our George Washington National Forest:  
A Plan for Today, a Vision for Tomorrow**

**[INTERIM GUIDELINES: The Citizens’ Vision calls for a “good faith” voluntary moratorium on all logging and roadbuilding (with the exception of human safety and rare, threatened or endangered species emergencies) in areas identified in “Virginia’s Mountain Treasures,” existing old growth, and areas recommended by the Virginia Division of Natural Heritage for designation as Special Biological Areas for the duration of the GW plan revision process.]**

Our increasingly rare wilderness sanctuaries are a vital necessity for preserving and sustaining the health of all that we love and call home. The Citizens’ Vision calls upon the Forest Service, public servants entrusted to care for our George Washington National Forest, to take an ecologically-oriented and restorative approach to forest management to ensure the vitality of our public lands for generations to come.

A natural forest is an infinitely complex synergism of diverse individuals, populations, habitats and communities: every habitat, every life form, is unique, interdependent, and interconnected, and sustaining these myriad connections is crucial to the continued health of our GWNF. Our distinctive plant and animal populations bear witness to the wondrous variations in rock, soil, topography, weather, and latitude; the destruction of any piece of habitat is an incomparable loss which can result in the elimination of life found nowhere else. Given that so many of our precious habitats have already been developed, degraded, or destroyed, it is crucial that we preserve the few irreplaceable wild tracts we have left.

The Citizens’ Vision calls for a common-sense approach to true long-term restoration of long-lost habitats. Restoration of the forest to its natural steady-state condition where ecological processes, not chainsaws and machines, create a healthy mix of habitat types is a balanced and fiscally conservative alternative to spending millions of tax dollars fabricating vast expanses of artificial habitat. A significantly lighter-on-the-land approach is not only possible but also beneficial, as we can and should commit to nurturing self-sustaining ecosystems with as little taxpayer-funded intervention as possible.

Leading scientists, in collaboration with the conservation community, have adopted a set of guiding restoration principles and best practices based on the best-available information. At its introduction in 2003, over 120 national citizens’ groups heartily endorsed the restoration principles outlined in “A Citizens’ Call for Ecological Forest

Restoration: Forest Restoration Principles and Criteria.”<sup>72</sup> These restoration principles seek to preserve and strengthen our remaining wild forests while repairing the damage caused by past mismanagement. Key mandates are to

- halt degrading activities that impede the process of natural recovery;
- recognize that the least intensive interventions are likely to provide the greatest ecological benefit, while minimizing management-induced ecological risks and economic expenditures;
- give first priority to identifying and protecting areas that currently exhibit high ecological integrity such as rare community types, intact old-growth forests, wilderness areas, large roadless areas, native forest ecosystems, intact watersheds, unimpaired streams, and other aquatic habitats of high conservation value;
- protect intact natural areas and core refuges where restoration is largely unnecessary;
- avoid active management of areas of high ecological integrity unless there are high levels of scientific and stakeholder support and no other means of restoring or maintaining ecological integrity;
- encourage passive restoration to eliminate or reduce the root causes of ecosystem degradation;
- apply active restoration judiciously in areas of high ecological integrity based on degree of degradation and ecological need;
- extend high-integrity areas and connect them at the intermediate scale to remediate fragmentation;
- implement an ecological reserve system with core preserve areas and connecting corridors to ensure healthy wildlife movement, genetic interchange, and natural ecological process functioning;
- restore the nurturing and dynamic processes and native communities found in pre-settlement landscapes; and
- restore and provide habitat, ecosystem conditions, and recreational opportunities not available on private lands.

These principles for sound restoration provide the foundation of the Citizens’ Vision for restoring ecological integrity to our George Washington National Forest.<sup>73</sup> They both inspire and guide us as we envision a better future and work hard to take a prudent,

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<sup>72</sup> DellaSala et al. 2003; see also [http://www.safc.org/campaigns/restoration\\_principles.php](http://www.safc.org/campaigns/restoration_principles.php).

<sup>73</sup> Angermeier 1996

logical, and ethical approach to the management of our precious forests, watersheds, and ecosystems. Working together, we can create a viable and sensible direction for the future of our public lands.

## **1. Public Participation**

First and foremost, public participation must be restored to our GWNF Plan revision process. Many traditional opportunities for public participation in forest planning were eliminated with the rewrite of planning regulations in 2005 and 2006. If the 2006 rules are not overturned, forest plans such as our GWNF's plan, or any subsequent amendments, would no longer be subject to National Environmental Policy Act (NEPA) review, cutting off most avenues of meaningful public participation until the individual project stage. Rewrites of the planning regulations in 2005 had already substantially weakened wildlife, clean water, and other environmental protections by converting quantifiable, enforceable standards and goals to vague, unenforceable "desired conditions" and guidelines that the Forest Service need not follow. Many of these changes are not only demonstrably illegal, they are shameful, as they subvert the very notion of democracy and the noble tradition of public lands and public trust established by the founders of our George Washington National Forest at the start of the twentieth century.

## **2. Restoration**

While protecting our wild areas is central to our vision for our GWNF, we also recognize the pressing need to rehabilitate past damage with authentic restoration projects. Unfortunately, harmful activities have been allowed under the guise of restoration. One of the fundamental guiding principles of sound ecological restoration is that it has as little impact as possible, and allows natural processes to restore themselves.<sup>74</sup> In other words, authentic restoration stays close to nature and uses the lightest level of intervention possible to bring the ecosystem to the point where forest self-renewal processes can naturally occur.

Large-scale reestablishment of unmanipulated forest conditions is perhaps the greatest single improvement that we can implement to support biodiversity and ecological integrity.<sup>75</sup> At this time, prime opportunities for the reestablishment of even moderately large unfragmented wildlands in the Southern Appalachians are found in blocks of low road-density land in the George Washington, Jefferson, and Monongahela National Forests. One primary Vision is to sustain native ecological systems and diversity by allowing for the landscape-level re-emergence of natural old-growth forest. This can best be achieved by working to maintain, restore, and connect existing large habitat blocks through such actions as road obliteration and revegetation, invasive species removal, and the addition of woody debris to streams.

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<sup>74</sup> DellaSalla 2003

<sup>75</sup> Noss 1990, 1991, 1995

Restoration of our GWNF has been identified as vital to the long-term recovery of long-lost habitats and ecological conditions in our region.<sup>76</sup> Performing restoration is vital to meeting the National Forest Management Act requirements to conserve soils, watersheds, wildlife, and biodiversity. Restoration priorities of the Citizens' Vision call for the Forest Service to

- prioritize watersheds for restoration activities,
- cease grazing allotments,
- close roads and revegetate them with blight-resistant chestnut trees or other native species,
- revegetate game openings with chestnut trees or other native species,
- combat hemlock wooly adelgid,
- transform roads into trails,
- augment stream loadings of large woody debris,
- restore riparian areas by relocating camping areas, trails and roads away from streams in areas such as North River and Paddy Run,
- reforest riparian pastures at Jackson and Shenandoah Rivers,
- promote increased beaver populations,
- return extirpated species to suitable habitat, and
- eradicate and prevent introduction of invasive species.

### 3. Logging

Our George Washington National Forest was once an intricate mosaic of diverse ecosystems shaped by natural disturbance, with an abundance of mature and old-growth stands interspersed with scattered patches of early successional habitat. If allowed, it can return to this healthy equilibrium. The current Forest Service paradigm claims to create "ecosystem diversity," but instead habitually alters and harms the composition, structure, and processes of our terrestrial and aquatic ecosystems through logging and associated road building to such an extent that a healthy, natural equilibrium is currently unachievable. Instead of gaining, we are losing the few remnant wild spaces we have left.

Logging doesn't pay, neither ecologically nor economically. Logging, road building, and similar activities can lead to conditions in which our woodlands are overrun with invasive species, our streams are choked with sediment, and our wildlife is displaced and harmed. The economic costs for our communities are as tragic as the ecological costs, as approximately 40% of Forest Service expenditures go toward commercial logging sales and road building, even though *the estimated income and number of jobs contributed to local economies from recreation and wildlife in our GWNF is over 30 times that derived from logging*. A similar relationship (around 30:1) holds for the extrapolated value of unroaded and wild areas.<sup>77</sup>

The Citizens' Vision calls for a substantial and measurable shift in management priorities that reflects both the ecological and economic reality that commercial logging on publicly-held lands is harmful to the health of our forests, our citizens, and our

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<sup>76</sup> Hitt 1997, Halbert & Chang 1999, Taverna *et al* 1999, and Irwin *et al* 2002

<sup>77</sup> Niemi and Fifield 2000 at p. 21

communities. Restoration shifts the management paradigm from a resource extraction model to an ecosystem management model. Managing the GWNF with restorative purpose and objectives can both halt and reverse the on-going degradation caused by decades of commercial logging. However, the current demand for meeting extraction quotas works against restoring the forest. Until the Forest Service replaces its practice of issuing and pursuing timber extraction quotas with an accounting of acres of restored forest, any logging on the GWNF will be performed to meet the objectives of a commercial timber sale program with extraction quotas as the bottom line.

To implement a restoration model, the Forest Service must engage in much more thorough studies and information gathering both before and after logging is performed, and should prescribe logging and other management activities for genuine restoration purposes or for purposes scientifically proven as necessary for the viability of threatened and endangered species. The millions of tax dollars spent every year conducting the logging extraction program would be much better spent on research, enforcement, custodial management, and restoration of the tragic legacy of ecological degradation our GWNF currently faces.

#### **4. Artificial Fabrication of Early Successional Habitat (ESH)**

The Forest Service's stratagem of creating "balanced" age classes is an artificial regime that may make good sense for commercial tree farms, but it makes very poor sense for our wild and diverse GWNF. A healthy natural eastern forest ecosystem does not have "balanced" age classes; rather, it includes a wide variety of multi-aged or all-aged stands. Continuing the current direction of maintaining an artificial even-aged structure is a self-sustaining cycle that endlessly generates the unnatural "need" to pour tax dollars into manufacturing man-made patches of early successional habitat (ESH) through commercial logging.

The claim that commercial logging is beneficial to wildlife is unsupported by the Forest Service's own analysis (or lack thereof). The Forest Service consistently rationalizes its sales of our irreplaceable mature and old-growth forest habitat to commercial logging interests by claiming a "need" to fabricate ESH for wildlife coupled with a "need" to move toward "balanced" age classes. But this assessment of need is based on faulty data, as the Forest Service currently neither inventories nor counts most of the ESH that results from natural disturbances.

The truth is that our GWNF naturally contains all developmental stages of forest growth due to regeneration at canopy gaps created by disease, fire, ice, lightning, insect outbreaks (including gypsy moths), tree senescence, windthrow, beaver, and other small-scale natural disturbances. Disturbances occur in the canopy as well as in the understories, independently or in concert. Such processes normally occur and can be expected to occur in the future, as nature is very capable of maintaining our GWNF's ecological integrity without the assistance of commercial logging.<sup>78</sup> To the contrary, logging has actually been shown to create erratic detrimental explosions in ESH, such as

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<sup>78</sup> See Runkle 1991; see also Shugart & West 1981 and Bormann & Likens 1979

occurred following the logging boom a century ago, which set off an unnatural expansion from which our maturing ecosystems are only now beginning to recover.<sup>79</sup>

In the interests of accountability, the Forest Service must commit to a full survey, analysis and consideration of the contribution of naturally occurring ESH (down to 0.1 acre in size) to sustaining wildlife populations, and must clearly and thoroughly disclose any supporting rationale and data for assertions that various amounts of ESH must be artificially fabricated. This rationale must be available for public comment before a decision is reached on a revised Plan, as how the Forest Service goes about deciding where and how much ESH will be fabricated and maintained is an important public issue. Further, the agency must fully and fairly consider and analyze the ESH on private lands near our GWNF and its contributions to sustaining wildlife populations.

Further, since the Forest Service has failed to validate its so-called “need” to intensively log areas of our GWNF with site-specific wildlife population data for even the targeted game species, let alone for all other non-game species, it must obtain and analyze such data before implementing intensive cutting and other ground-disturbing activities based on the ostensible and unverified “needs” of wildlife. Analyses of wildlife and development of desired future conditions (DFCs), guidelines and objectives must fully recognize and consider the differing types of early successional habitat. If site-specific data indicate an actual need to fabricate wildlife habitat, the Forest Service must then fully and fairly consider the fabrication of small grassy openings instead of conducting extensive regeneration logging, and re-cut sites in the project area that have been logged in the recent past.

In short, there is no “need” to spend millions of our tax dollars every year on heavy-handed management, and, lacking adequate scientifically-based predictions, estimates, and analyses of naturally created habitat, the Forest Service cannot legally substantiate claims for the necessity of any additional logging to fabricate artificial habitat in our GWNF.

## **5. Oaks**

The Forest Service repeatedly uses oak trees to rationalize intensive management activities such as timber sales. It claims that if there are fewer numbers of oaks in our GWNF, then the forest is unhealthy; it also claims that oaks need intensive even-age logging to maintain themselves.<sup>80</sup> The agency seems unwilling to address issues of common sense and empirical evidence by expecting the public to believe that oaks will disappear if we don’t sell them to corporate logging interests and that our wildlife will all die without unnaturally high numbers of oak trees.

The Forest Service must recognize that, barring a catastrophic plague, oaks are not going to disappear from our GWNF. Natural disturbance regimes have maintained oaks in the past and can reasonably be expected to do so in the future.<sup>81</sup> The Forest Service must

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<sup>79</sup> Litvaitis 1993

<sup>80</sup> but see Miller & Kochenderfer 1998

<sup>81</sup> Zahner 1992, Johnson 1993, Lynch & Clark 2002

also recognize that the numbers of oaks currently in our GWNF are in many ways an artifact of past intensive human disturbance, and that having fewer oaks than we do now would not be unhealthy, but would rather bring us closer to the original, diverse, and naturally balanced state of our forests.<sup>82</sup>

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The Citizens' Vision calls for the Forest Service to fully and fairly consider scientific knowledge and empirical evidence regarding regeneration of oaks, to monitor oak reproduction in natural canopy gaps, and to fully inventory the numbers of such gaps and the amounts of oaks present.<sup>83</sup> Maintaining artificially inflated numbers should not be a "desired condition," and the agency should not use misrepresentations or inadequate analysis regarding oaks as a rationale for spending millions of tax dollars fabricating "desired conditions" through timber sales and increased prescribed burning.

## 6. Old Growth

Old growth forest habitat is now considered "critically endangered" in our region, with analysts estimating that little more than one half of one percent of the forest cover in the southeastern U.S. is in old growth condition.<sup>84</sup> However, of that incredibly small amount, the remnant forests of our George Washington National Forest contain some of the least fragmented and most remote habitat in our region, offering us a unique opportunity for ecological recovery unmatched perhaps anywhere in the world. Much of our GWNF has only just begun to recover from the depredations of the nineteenth and early twentieth centuries, and now, before it is too late, we have the opportunity to begin to nurture, connect, and expand our priceless old growth forests.

Much remains unknown about many species associated with old growth. To account for these unknowns, the great conservationist Aldo Leopold affirmed that we must "keep all the pieces" by preserving representative old-growth forest communities.<sup>85</sup> The degenerating reality of our present situation demands the restoration of an essential component of ecological health: habitat continuity over large areas. Nurturing and expanding our old-growth forests will reduce fragmentation and isolation, and ensure that we have clean watersheds, a wide range of healthy plants and animals, and vital unfragmented pathways for shifts of species that may occur in response to climate change or natural or manmade disasters.

A primary directive of the Citizens' Vision is to allow for the re-emergence of the old-growth forest across our GWNF and encourage integration and consolidation into large interconnected blocks. With a high concentration of mature stands (generally 80-120 years old), our GWNF is a seed area for the eventual healthy expansion of functioning old-growth ecosystems. Indeed, the restoration of old growth ecosystems is possible, but we must act now to halt further disruption of these valuable mature sites.

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<sup>82</sup> Braun 1950

<sup>83</sup> See, e.g., Lynch and Clark 2002, Miller and Kochenderfer 1998, and Johnson 1993

<sup>84</sup> USDA FS 2002 at p. 20; see also, Noss *et al* 1995

<sup>85</sup> Leopold 1949; see also USDA FS 1997 "Old Growth Guidance" p. 12

We can begin by restoring integrity to our old growth criteria. All acreage that meets GWNF FEIS age criteria or the Region 8 Old Growth Guidance criteria, whether it consists of a complete “stand” or not, must be designated as unsuitable for timber harvest or other intensive ground disturbance. The currently unreasonable requirement for the number of large or old trees per acre must be reevaluated and revised according to best conservation practice. The ages of the oldest trees must be accurately identified, and improperly determined timber inventory data that does not gauge the true age of a site must not be used.<sup>86</sup>

The Citizens’ Vision calls for the conscientious identification of small, medium, and large tracts of old growth in our GWNF. It is essential that the new Plan identify old-growth linkages and implement policies to achieve the creation of the largest interconnected old growth network possible.

## **7. Fragmentation and Edge Effects**

The Forest Service currently relies upon the use of amounts of “forest cover” to evaluate large-scale fragmentation,<sup>87</sup> a flawed rationale that denies the very concept of fragmentation, which concerns not only the amount of habitat that is lost or altered, but also the distribution of that loss or alteration.<sup>88</sup> The Forest Service confines the analysis of effects to habitat to only the number of acres cut, and disregards the current scientific knowledge that recognizes a potential 600 meter edge effect. Moreover, the Forest Service fails to properly acknowledge, much less analyze, the harmful effects of the internal fragmentation resulting from roads and logging that perforate our GWNF from within.<sup>89</sup>

The Citizens’ Vision calls for a thorough spatial and temporal analysis of fragmentation and edge effects. Estimated amounts and distribution of mature interior forest that will be destroyed, lost, or harmed due to past and predicted logging, roading, other developments, and edge effects from different alternatives must be comprehensively assessed and fully disclosed.

## **8. Fire**

The current burning program used in our GWNF is an enforced artificial regime that harms natural forest diversity, conditions and elements. It has not been proven that the site-specific flora and fauna populations and natural communities found in all of the expansive areas proposed for burning are in need of artificial fires, and the damaging effects of past artificial fires occurring on these sites have not been fully analyzed. Finally, the scientific data and analyses used to substantiate the proposed burning at project sites have not been revealed. More appropriate methods to “control succession” or alter vegetation must be considered.

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<sup>86</sup> For more on this important issue see “And Still They Fall” at <http://www.virginiaforestwatch.org/docs/OldGrowthWhitePaper2ded.pdf>

<sup>87</sup> 2004 JNF FEIS 3-122-123

<sup>88</sup> Flamm 1990

<sup>89</sup> See the use of “temporary” to dismiss the issue at USDA FS 2007 Draft GWNF CER

A lighter-on-the-land approach is both possible and beneficial, and reasonable alternatives need to be seriously examined that can and should be accomplished without the use of heavy machinery, with its ancillary construction of control lines, and without burning of the material which enriches the sites. Prescribed burns need to be focused on the small sites and specific communities that actually need them. When and if analyses indicate fires are needed, lightning ignitions should be allowed to burn more acreage when possible.<sup>90</sup>

Fire must be used only in appropriate ecosystems, and at appropriate seasons, intensities, and frequencies. Burning should be confined to specific sites where it is actually ecologically needed to sustain the natural community, such as for fire-dependent plant communities, or in precise areas where burning is appropriate to benefit rare species, such as in our dry scrub pine, oak, and heath communities with variable sedge.

The Citizens' Vision calls for the development of a comprehensive Fire Plan that uses an ecologically valid method to assign portions of the GWNF to a spectrum of zones, from limited zones where the highest priority of fire management is the protection of people and homes, to zones where a range of responses to fire is allowed (from suppression to allowing natural fire) based on local conditions. The Forest Service should monitor biological communities affected by natural and prescribed fires (monitoring at least one plot per 500 acres of burned areas) and should ensure that an adequate budget will be provided for such monitoring.

## **9. Roads**

Our George Washington National Forest is overwhelmed by an excessive road burden. All of our eastern National Forests are so overbuilt with roads that not one single "primitive" recreational area (land at least three miles from an open road) remains. The time has come to call a stop to wasting taxpayer dollars to fund road building on land that has much greater potential as a safe haven for increasingly-threatened plants and animals, as protective watersheds for clean drinking water, and as opportunities for unique and sorely-needed low-impact recreational experiences. Both the Forest Service and the citizens it serves need to seriously consider: Do we really need so many roads to get *into* the Forest? Or do we simply need roads to get *to* the Forest?

The Citizens' Vision calls for the Forest Service to cease building roads of all types (open, closed, permanent, and temporary) until a detailed and comprehensive analysis of the road system that currently exists is performed. As part of this analysis and in collaboration with the public, the Forest Service should identify the minimum feasible road system for our GWNF and establish clear guidelines and objectives for identifying potential candidates for decommissioning.

Roads must be aggressively decommissioned, closed, obliterated, recontoured, and revegetated to restore habitat and watershed integrity, enhance esthetic and recreational

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<sup>90</sup> November 2006 USDA Inspector General report on forest fires

benefits, and meet road density requirements for wildlife species that favor remote habitat and freedom from disturbance (*e.g.*, an open road density of no more than one-quarter mile of open road per 1000 acres).<sup>91</sup> The Forest Service should also identify the minimum road system needed<sup>92</sup> and establish clear unequivocal objectives, desired future conditions (DFCs), and deadlines for meeting road density guidelines, limiting “closed” roads, limiting “temporary” roads, limiting total road mileage and density, closing illegal routes created by OHVs, and decommissioning roads.

Road decommissioning is especially needed in all areas of old growth or mature forest suitable for interior forest species, all Special Biological Areas, Special Management Areas Remote Highlands, watersheds providing drinking water, and “Mountain Treasure” areas identified by the public. Firm guidelines for limiting mileage and density of all types of roads across the Forest must be set and adhered to, and reductions must be achieved in a timely manner. The Forest Service should also develop comprehensive guidelines for performing site-specific road analyses at all project areas, regardless of their location or of whether road construction or reconstruction are planned. Total road mileage, including so-called “temporary” roads, should be considered and monitored, and road-facilitated poaching must be fully and fairly analyzed.

A reasonable objective is to achieve conditions where the density of open roads is no more than 0.8 miles per square mile across our entire GWNF, with the long-term goal of reducing road mileage to 1984 levels (1330 miles) within 15 years. This important undertaking will provide vital jobs for local communities, and monies presently spent on administering timber sales can be reallocated to bringing the wild back into our wilderness.

## **10. Watersheds**

Our watersheds are our lifeline. When these valuable resources are harmed, we all suffer the losses of clean drinking water, scenic beauty, recreation, species habitat, and livelihood. Since the Forest Service cannot control the detrimental external effects of pollution and acid rain to our streams and rivers, it must do everything possible to cease the harmful activities it can control. Cumulative negative impacts to aquatic and riparian water quality, habitat conditions, and biological communities need to be fully and fairly analyzed and disclosed, and strict protocols must be put into place to curtail the spoiling of our waterways.

Watersheds that serve as drinking water sources for our families and communities must be strictly protected. Protecting our GWNF headwaters will ensure the continued provision of clean healthy water for surrounding communities and serve to mitigate the highly degraded conditions found downstream in the Shenandoah Valley. The best examples of intact healthy watersheds, as well as watersheds that support rare species, must be strictly protected with special prescriptions. Watersheds in need of restoration

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<sup>91</sup> See Standard 14-7 at 1993 GWNF Plan 3 - 75

<sup>92</sup> See 36 Code of Federal Regulations 212.5.

work must be identified and prioritized, and are neither suitable for logging, road construction, drilling, nor any other high-impact disturbance.

In the 1993 GWNF Plan, fourteen waterways, including the Tye, Jackson, and Cowpasture Rivers, as well as the north fork of the Shenandoah River, were found to be eligible for designation under the federal Wild and Scenic Rivers Act. However, not one of these waterways has been formally recommended as such to Congress. Some have remarkable values that are neither recognized nor protected by the Forest Service. The Citizens' Vision calls for these high-priority national resources to be fully protected by initially recommending them for federal Wild and Scenic Rivers designation.

The Forest Service must work to take an expansive view of watershed integrity and recognize the critical importance of all waterways, not just perennial streams or those with fisheries. All of our GWNF's streams, perennial, intermittent, and ephemeral, along with their associated terrestrial habitat, must be strictly protected from harmful developments such as logging and road building. Expansive no-disturbance zones should extend at least 200-300 feet out from both sides of a stream channel or over the entire defined site-specific riparian area, whichever is greater, and road decommissioning and obliteration to restore watershed integrity must be a high priority.

Guidelines must be mandated and adhered to that

- require precise field delineation of all riparian areas;
- ensure the protection of conditions upslope of riparian areas that contribute to their integrity;<sup>93</sup>
- recognize and strictly protect ephemeral and intermittent channels; and
- provide rigorous protection in areas with high road density or more intensive management activities.

Because intense ground-disturbing management activities harm and degrade riparian and aquatic conditions and biota, protection of aquatic species must also be a high priority for our GWNF. It is extremely alarming that sediment levels 100s or 1000s of times higher than natural levels have been deemed "acceptable." The biotic populations of some perennial streams, and intermittent and ephemeral tributaries, even if a "fishery" may be absent, may be close to threshold levels of tolerance for sediment.

No standard for sediment has been set by the state, and various Forest Service management activities result in adding tons of sediment to our GWNF waters. These sediment loadings are long-term and chronic: thousands of miles of roads are constantly contributing sediment, and commercial logging operations typically add their loads to small first-order streams that are the most vulnerable. The Forest Service is often unaware of the status and trends of aquatic populations in these affected streams. Furthermore, the Forest Service improperly analyzes impacts, using an entire watershed for the scope of analysis without adequately evaluating impacts on site-specific areas.

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<sup>93</sup> Crawford and Semlitsch 2007

The Citizens' Vision calls for full recognition of the ongoing degradation of our watersheds resulting from erosion and sediment production, and to the greatest extent feasible a cessation of all activities that create and maintain sources of sediment. The Plan must also provide protocols requiring the proper site-specific consideration and analysis of the effects of sedimentation.

In short, the Citizens' Vision insists that integrity be restored to the management of our vital streams and rivers, and that

- the water quality of all streams (perennial, intermittent, and ephemeral) be strongly protected;
- logging, road building, and other ground-disturbing activities be strictly curtailed when they may have an adverse impact on aquatic ecosystems;
- sedimentation, stream acidity, low woody debris levels, and other causes of impairment and degradation receive special attention; and
- habitat for wild trout and endangered, threatened, sensitive, and locally rare aquatic species receive the utmost attention.

## 11. Invasive Species

Both the National Forest Management Act and the Executive Order on Invasive Species require the Forest Service to address the issue of invasive species with sound and effective procedures. It is not only crucial, but it is also the law that the Forest Service preserve and enhance the diversity of the forest ecosystem so that it is "at least as great as that which would be expected in a natural forest."<sup>94</sup>

The GWNF Plan should first and foremost evaluate risks associated with invasive weed spread and introduction, and address future means of limiting these vectors.<sup>95</sup> The Forest Service should examine and address the most prevalent ways that soil disturbances which lead to the introduction and spread of invasive species take place, including logging, roadwork, road access, livestock grazing, and off-highway vehicle (OHV) traffic. Measures must be implemented to limit future ground disturbing activities conducive to invasive species overgrowth. Disturbed areas, especially roads, should be decommissioned and repopulated with native plant species. When necessary, the Forest Service should also take active measures to control and eradicate invasive species using the least toxic, most effective methods available.

In particular, the ongoing loss of our ancient, majestic hemlocks to the invasive woolly adelgid is an ecological tragedy of the first order, and combating and reversing this insidious threat to our GWNF's integrity must be made a top priority in the new Plan and its budget. The 2007 Plan must focus on ways to preserve our threatened hemlocks by exploring the latest research and development of methods to halt current and prevent future infestations.

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<sup>94</sup> National Forest Management Act: 36 CFR 219.27(g).

<sup>95</sup> See, e.g., Elton 1958, Mack *et al* 2000, Aber *et al* 2000

## **12. OHVs**

Given that OHV use is a highly disruptive, destructive, and cost-intensive form of recreation that is widely considered to be the number one threat facing our nation's forests, the Citizens' Action Plan calls for increased funding for road closures, road gates, and OHV-interdiction-related law enforcement, and for the Forest Service to

- review the condition of the current official OHV system and related spillover areas;
- review the inherent environmental problems, resource conflicts, and user conflicts regarding the current official OHV system and neighboring lands;
- close existing OHV areas that do not conform to the findings of such environmental and resource/user analysis;
- decline to open any new OHV areas and OHV routes;
- cease building new permanent roads, so-called "temporary roads", and skid trails that facilitate illegal OHV use;
- recontour and/or revegetate existing roads with trees and native vegetation that discourages illegal OHV use; and
- block vulnerable roads using methods demonstrated to be 100% effective at halting illegal OHV use.

## **13. Energy Development**

The Citizens' Vision insists that all areas of our GWNF with federally-owned gas and minerals, especially those with key resources, be designated as unavailable for leasing. In addition, the Forest Service must make special efforts to remove existing gas facilities, especially non-producing facilities, as expeditiously as possible.

Locating wind turbines in our National Forests is largely held to be a bad idea. Many citizens are very concerned about current policies that allow private developers to use public land for their own gain, and feel that, even though we need to utilize renewable energy technology, public forest lands are generally not the place to develop commercial wind technology. Inherent problems with wind power in the GWNF have yet to be fully resolved, such as turbines killing flying birds and bats, the negative impacts of the extensive infrastructure required for the typical facility, and the small amount of energy produced per mile of permanently disfigured ridgeline.

Current Multiple Class 3+ Wind Areas (areas suitable for large-scale wind energy development) in our GWNF overlay the Appalachian Trail, roadless areas, old growth

areas, forest interior habitat, important recreational areas, and key ecological areas.<sup>96</sup> The Citizen's Alternative Plan calls for the earnest application of the U.S. Fish and Wildlife Service's 2003 guidelines.<sup>97</sup>

#### **14. Wilderness Areas**

Aside from its ecological and economic values, wilderness is considered to be a highly important recreational opportunity that can only be provided for on public lands.<sup>98</sup> Our George Washington National Forest has fewer federally designated Wilderness Areas than most other National Forests,<sup>99</sup> but fortunately for us, it encompasses far more roadless areas than most other eastern National Forests. So, unlike many of our sister National Forests in the east, such as the Allegheny, Daniel Boone, and Mississippi National Forests, we have a golden opportunity to protect our substantial roadless acreage and provide a significant legacy of wilderness that will help mitigate the lack of opportunities available elsewhere.

The contrast value that the remoteness, stillness, and solitude of our wild lands offers to our developed landscape is one of their most valuable attributes, drawing more and more people seeking refuge from our increasingly urban world. Recreational use of designated wilderness has been shown to increase substantially over time: our southern National Forest wilderness areas had five times the number of visitors in 1996 than they did in 1975. Since visitor use of Wilderness Areas in southeastern National Forests is forecasted to grow by about 1% per year for the next fifty years, clearly the demand for backcountry recreation is increasing--in the face of diminishing supply.<sup>100</sup>

Forest Service projections for the southern region estimate that 1.4 million acres of wilderness will be needed to meet recreational demands and "carrying capacity" of wilderness. Currently, in the 131-county region surrounding our GWNF, Forest Service surveys indicate that 35% of adult residents visit wilderness areas, the second highest participation rate of all nature-based land activities in the national forest, and a 1993 Forest Service study estimates that backpacking in the south will increase 238% by the year 2040.<sup>101</sup> It is imperative that we provide more wilderness areas to meet demand and ensure that our existing wilderness remains wild, uncrowded, and undegraded.

The Citizens' Vision calls for a substantial increase in the recommendations of Congressionally designated areas such as Wilderness Areas and Scenic Rivers, as well as new Research Natural Areas designated by the Chief of the Forest Service. The revised Plan should also greatly increase land managed as administratively designated special areas including Scenic Areas, Historic Areas, and Special Biological Areas.

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<sup>96</sup> See, e.g., <http://vawind.org/Assets/Maps/LCS-coverages-VA.JPG>, <http://vawind.org/Assets/Maps/LCS-coverages-western%20VA%20.JPG>, <http://vawind.org/Assets/Maps/Forest-Interior-1.JPG>, and <http://vawind.org/Assets/Maps/Forest-Interior-2.JPG>

<sup>97</sup> U.S. Fish and Wildlife Service 2003 guidelines

<sup>98</sup> The Wilderness Society 2000

<sup>99</sup> Johnson 2001; USDA Forest Service 2000a, SAMAB SAA 1996

<sup>100</sup> Loomis & Richardson 2000 at 9 and 11; USDA FS 2000a at 3-215

<sup>101</sup> SAFC "SAA Highlights", SAMAB SAA 1996, and USDA FS Southern Research Station, June 2006

Many of the areas listed in the publication “Virginia’s Mountain Treasures”<sup>102</sup> would make outstanding federal Wilderness Areas, and should be recommended to Congress for designation as wilderness. These wildlands, selected for their outstanding wild and natural values, include high-quality fisheries, mature and old-growth forests, valuable wildlife habitats, backcountry recreation opportunities, intact watersheds, and beautiful scenery. If they are not further disrupted and are allowed to recover from past degradation, they will be of ever-increasing value in maintaining biological diversity and ecological integrity.

A Wilderness review should be conducted during the plan revision process for our GWNF that examines not just areas already identified under the roadless rule, but also newly identified areas, including areas that were previously overlooked. All undeveloped areas need to be conscientiously inventoried and evaluated to determine which are suitable for designation as Wilderness. At least 156,000 acres of new Wilderness should be designated to bring the GWNF closer to the 18% average Wilderness composition of our other National Forests. In order to ensure that these areas are reliably and thoroughly protected, citizens must actively participate every step of the way by advocating that every single well-qualified area possible be preserved.

## **15. Roadless Areas**

The public involvement record has clearly demonstrated overwhelming support for strong roadless area protection: hundreds of public meetings have been held, and millions of public comments have been put on record since 1998. Regrettably, at the present time, the Forest Service has not properly identified or inventoried roadless areas in our GWNF, and existing roadless tracts are not fully and adequately protected from harmful development. It is appalling that some of the largest unroaded areas in our GWNF, such as Elliott Knob, Big Schloss, and Crawford Mountain, have been downsized since they were officially designated roadless a few decades ago: this ongoing loss of our rare roadless areas must stop now. The 2001 Roadless Area Conservation Rule should be established as the baseline for protection of roadless areas in our GWNF. In addition, the Plan revision process should expand the inventory of roadless areas to include all areas greater than 1,000 acres.

The Citizens’ Vision calls for all 65 Virginia Mountain Treasure areas to be managed under desired future conditions, guidelines, objectives, and suitability analyses that completely protect them from logging, road building, mineral development, and other harmful development.

## **16. Shenandoah Mountain**

Shenandoah Mountain, located close to our largest population centers in a region where pressures upon wildlands are constantly increasing, must be managed in a way that fully and consistently preserves and restores its unique values. A cluster of Virginia Mountain

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<sup>102</sup> The Wilderness Society *et al* in press

Treasures on Shenandoah Mountain help make up the largest and least fragmented block of contiguous wildlands remaining in our Southern Appalachians. The entire area is not suitable for logging, road building, grazing, nor mineral and gas development. Our vision for the future of our beloved mountain should include

- halting any further development while retaining present developed recreational sites such as Todd Lake and Brandywine;
- rehabilitating the North River riparian area;
- emphasizing low-impact dispersed recreation;
- designating land use compatible with the stewardship of the species most sensitive to human-caused disturbance; and
- returning Shenandoah Mountain to a forever wild all-aged forest similar to pre-settlement conditions.

Ultimately, Shenandoah Mountain should be federally designated as a National Conservation Area to preserve this wild resource that profoundly benefits the health, vitality, and prosperity of her neighboring communities.

## **17. Ecosystems**

In just 300 years, less than the life span of many trees, our regional and national landscape has changed from pockets of human development occurring in nature to fragments of nature struggling to survive in a sea of human development. As a result, our few remaining natural areas have become highly vulnerable “genetic source pools” for the entire region. More than ever, it is incumbent upon us to be good stewards for the wild creatures who share our world, and ensure that our GWNF remains a stronghold for native species, many of whom need the security and stability of unfragmented mature forests to survive and thrive. We can do much better than to treat our precious remnants of our original Great Eastern Forest as mere tree farms, game feedlots, and motorways.

*The present grave situation urgently demands the implementation of an integrated ecological reserve system in the Appalachians.* This system should include core preserve areas and biological connecting corridors necessary for ensuring wildlife movements, genetic interchange, and functioning of natural ecological processes. True stewardship of our wild areas will involve restoring and nurturing the dynamic processes and native communities found in pre-settlement landscapes. The establishment of new special areas (including wilderness and biological sites) and new non-motorized trails, in addition to restoration work, will provide the foundation for a long-term sustainable forest-based economy as well as immediate employment opportunities for local citizens.

The present Plan attempts to conserve the diversity of our GWNF’s flora and fauna chiefly through the consideration of broad-scale “ecosystem diversity.” However, this coarse-filter ecosystem diversity framework is insufficient in and of itself to provide appropriate ecological conditions for specific rare species. For many species, habitat selection is highly nuanced, and distribution patterns are little understood, so the current use of crude “ecosystem” models and/or protection under a broad category of “suitable habitat” are not sufficient to protect them. The revised Plan must include additional

provisions to ensure that these species populations are well distributed, interactive, and self-sustaining.<sup>103</sup>

The Citizens' Vision recommends the designation of new Research Natural Areas and Special Biological Areas. We must ensure that the outstanding ecological values present at these sites are protected from degradation or destruction for generations to come. The West Virginia portions of the GWNF should be surveyed for special biological areas during the initial Plan revision process, and these areas should be strictly protected in the new Plan. The Forest Service needs to delineate and protect all the special biological areas identified and recommended by the Virginia Division of Natural Heritage. They are not "suitable" for logging, road building, grazing, mining, or gas drilling. In addition, the GWNF lands in West Virginia need to be thoroughly surveyed for special biological sites and the identified areas designated in the revised Forest Plan. The Citizens' Vision further calls for explicit guidelines and objectives to swiftly reallocate acreage to protected status as special biological areas when new potential sites are found after the Plan is adopted.

## **18. Special Habitats**

Numerous special areas in our GWNF are not sufficiently protected from harmful development. The Forest Service must closely consider how special habitat designation will affect ecological processes and patterns of biodiversity at broader scales, as maintaining habitat connectivity and continuity at a variety of scales is essential for keeping ecological functions intact, and maintaining broad ecosystem integrity is critical for terrestrial and aquatic species alike.<sup>104</sup>

The current GWNF Plan allows harm to sensitive sites and does not sufficiently protect diversity. These sensitive sites, such as rocky outcrops and slopes, steep slopes, places with poor growing conditions, springs, seeps, and unusual or rare forest types, need special consideration. These key wildlife areas, like our riparian areas, provide special habitat conditions different from our general forest.<sup>105</sup> Current policy does not protect highly vulnerable rock outcrops and rocky slopes in project areas which are frequently in or immediately adjacent to logging sites. Springs and seeps are crucial components of landscape diversity that support the health and distribution of a wide variety of wildlife such as salamanders, frogs, toads, crayfish, turtles, ruffed grouse, and wild turkeys, as well as providing refuges for reptiles, amphibians, invertebrates, and lichens. These key wildlife areas, like our riparian areas, provide special habitat conditions different from our general forest.

The Citizens' Action Plan calls for all sensitive sites to be strictly protected under explicit guidelines, objectives and desired future conditions (DFCs). Special habitats should not be considered "suitable" for logging or other harmful disturbance. In addition to ensuring

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<sup>103</sup> See Forest Service Manual 1921.77c.

<sup>104</sup> Noss 1995

<sup>105</sup> GWNF Dry River RD Maybe timber sale and JNF Clinch Ranger District Hagan Hall timber sale Environmental Assessments

the full protection of designated sites, protective buffer zones should be implemented that are a minimum of 100 feet on each side (preferably 200-300 feet) so as to protect their integrity.<sup>106</sup> Steep slopes (40% or over) and places with a site index below 70 are not suitable for logging or other intense ground disturbance. Because of their significance in maintaining National Forest Management Act-mandated diversity, rare forest types should not be logged or subject to other intense ground disturbance.

## **19. Rare and Sensitive Species**

Given that our GWNF is a refuge for rare and sensitive species, it is vital that the locations of such species be identified at project areas, and that these locations be strictly protected. Rare species have limited distributions and cannot be assumed to make their homes in arbitrarily designated “suitable habitat.” Species such as ginseng, sword-leafed phlox, coal skinks, or Allegheny woodrats may survive at only a few, or even a single, site(s) in a relatively large project area. In order to maintain these species’ present distribution and viability, sites need to be precisely identified and rigorously protected from both direct and indirect harm.

The Forest Service must take a much more proactive and explicit role in protecting actual populations and individuals of rare species from harm by

- incorporating explicit guidelines, goals, objectives, and monitoring tasks for all federally-listed threatened and endangered species, species-of-concern, and species-of-interest;
- identifying information that is currently lacking for evaluating species-of-interest and species-of-concern, and using all feasible means to attain it;
- halting logging, road building, and other management actions in or near any suitable habitat for federal- and state-listed endangered and threatened species, species-of-concern and species-of-interest until the project areas have been thoroughly surveyed by qualified professionals using adequate protocols;
- strictly protecting all rare species locations from harm during the implementation of site-specific projects, including banning ground disturbance until proper evaluations are made and banning operations in the dark;
- making surveying, inventory, monitoring, and restoration of rare species’ populations a budgetary priority;
- transferring funding currently allocated to the logging program to the protection of rare and endangered species; and
- ensuring the maintenance of suitable habitat that is not currently occupied but has a likelihood of being occupied in the near future.

Conservation Plans must be developed and implemented for all of our GWNF’s rare and vulnerable species. Plan components should focus on key risk factors that have contributed to the decline of various species that have not been previously addressed.

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<sup>106</sup> GWNF James River RD Johnson Mountain timber sale project file; see also Wenger 1999 and Crawford & Semlitsch 2007

Two rare and vulnerable species of particular concern are Indiana bats and wood turtles. The Forest Service should implement reasonable and prudent measures to protect them. While the immediate areas surrounding known Indiana bat winter cave hibernacula are somewhat protected, bats do not just live in caves, and merely protecting the places they hibernate is not sufficient: their spring, summer, and fall habitat must be protected as well. Further, the current Plan allows activities that can directly or indirectly harm our threatened wood turtles in areas where they are known to live. The Citizens' Vision calls for "suitability" findings and mapping to restrict activities that could harm our wood turtles or their habitat. Currently occupied sites should be designated as Special Interest Areas.

## **20. Conclusion**

More than ever, we depend upon our natural wild places to clear our minds, refresh our spirits, and restore our souls. When our homelands are harmed, we all suffer the losses of clean water, scenic beauty, recreation, and livelihood. To protect our irreplaceable wildlands, the Citizens' Vision calls upon our Forest Service, public servants entrusted with the stewardship of our George Washington National Forest, to

- Manage our GWNF, which are public lands, for values and resources that are not ordinarily available or protected on private lands.
- Emphasize backcountry recreation such as hiking, camping, bird-watching, horseback riding, mountain biking, hunting and fishing.
- Ensure that all watersheds, sources of clean water, and native Brook Trout streams are fully protected.
- Fully protect all "inventoried" roadless areas as petitioned by the Governor of Virginia. Identify and fully protect all other remaining roadless tracts.
- Fully protect all areas identified in the forthcoming publication "Virginia's Mountain Treasures: The Unprotected Wildlands of the George Washington National Forest." These areas provide the last, best places for outstanding recreation in the backcountry, and intact habitat for migratory songbirds, Black Bear and other wildlife.
- Respond to the threat of climate change by restoring and protecting wildlife migration corridors.
- Fully protect all existing old growth and maintain sizeable uncut buffers and natural linkages around these areas.
- Fully protect all areas recommended by the Virginia Division of Natural Heritage for designation as Special Biological Areas. Also thoroughly survey West Virginia lands of the GW for special sites.

- Fully protect all rare, threatened and endangered species listed by the U.S. Fish and Wildlife Service and the Virginia Division of Natural Heritage.
- Fully protect and buffer rare and sensitive habitat conditions such as springs, seeps, rocky slopes and outcrops, steep slopes, sensitive soils, nutrient poor sites, and rare forest types.
- Create recovery and reintroduction plans for native species no longer found on the GW, for example, potentially the blight-resistant American Chestnut when fully developed. Make a Plan priority the aggressive combating of the loss of Hemlocks to the Woolly Adelgid.
- Halt below-cost logging that loses millions of American taxpayers' dollars.
- Identify and recommend all areas that qualify for Wilderness Study Area and Wild & Scenic River designation.
- Use *A Citizens' Call for Ecological Restoration: Forest Restoration Principles and Criteria* (Ecological Restoration, Vol. 21, No.1, 2003) to guide management objectives.
- Aggressively address the encroachment of non-native invasive species. Restore remote interior forests to help stop the influx of invasive species by closing unneeded roads that cannot be properly maintained and that act as corridors for many of these invasive species.
- Only when absolutely necessary, use logging to open cleared, shrubby areas used by certain wildlife, and locate any such areas, called "early successional habitat," close to existing roads and existing open areas on private or public lands to lessen the impacts of forest fragmentation across the landscape. If early successional forest must be maintained for some species, then re-cut sites that have been recently logged.
- Avoid using "prescribed" burns in moist areas and other areas where they are not appropriate, and allow lightning ignitions to burn in a contained manner.
- Fully recognize the vital role lightning ignitions and other natural disturbances play in promoting biological diversity and new growth and maintaining forest health.
- Prepare a full Environmental Impact Statement in support of the Plan revision.

## **VI: The Time is Now: How You Can Help**

The document you hold in your hands was written to raise awareness and understanding of the values, functions, and protection needs of our George Washington National Forest and its many native species that depend on us for their well-being. It was written with the knowledge and the faith that our region's citizens, landowners, and the government can and must work together to make a difference for the future of our GWNF.

Now is the time to take the bold steps necessary to protect and nurture our GWNF for all those who share our world. We can begin by restoring vast tracts of degraded habitat to their essential wildness. As involved citizens, we can choose to make restoration a national habit by taking the streams out of pipes, the rivers out of channels, and the roads out of forests. We can allow our forests to unfold as nature intended and begin a great re-wilding to restore the diversity, integrity, mystery and majesty of our beloved Appalachian Mountains.

The Citizens’ Vision calls for a fundamental shift in the current philosophy of forest management that aligns the true spirit of conservation with common sense, sound judgment, and solid planning. This is a management philosophy no longer emphasizing *taking from* the Forest, but *taking care of* the Forest. Table 1 contrasts the fundamental principles of the Citizens’ Vision with the failed results of the current Plan and management approach.


Citizens’ Alternative Vision	Moving from...	Current Forest Management
<ul style="list-style-type: none"> <li>• stewardship</li> <li>• “light on the land”</li> <li>• prudent use</li> <li>• ecosystems restored to balance</li> <li>• habitat gain</li> <li>• proactive</li> <li>• efficient</li> <li>• environment-focused</li> <li>• cost-effective</li> <li>• big-picture thinking</li> <li>• embraces transparency and integrity</li> <li>• management is conscientious and trustworthy</li> </ul>		<ul style="list-style-type: none"> <li>• exploitation</li> <li>• “hard on the land”</li> <li>• reckless use</li> <li>• ecosystems degraded</li> <li>• habitat loss</li> <li>• reactive</li> <li>• inefficient</li> <li>• commodity-focused</li> <li>• cost-intensive</li> <li>• short-term thinking</li> <li>• employs deception and obfuscation</li> <li>• management demonstrates little or no accountability</li> </ul>

Table 2: Current Forest Management contrasted with the Citizens’ Alternative Vision

*2007 marks a crucial window of opportunity for citizens to voice their opinions regarding the many issues affecting our GWNF. Don’t miss your chance to comment on the new Plan! Your participation will make a difference for generations to come. Here’s how you can help:*

➤ **Connect**

*Write to the Forest Service today and ask to be put on the GWNF Forest Plan Revision mailing list. Mail a request with your name and address to:*

George Washington Forest Plan Revision  
5162 Valleypointe Parkway  
Roanoke, VA 24019

For your convenience, a request card is included in this report. You can also find more information about the GWNF Plan revision by calling the Forest Service toll-free at 888-324-7383 or by visiting the agency's web site at <http://www.fs.fed.us/r8/gwj>

Planning regulations provide for written comments, public meetings, open houses, workshops, and field trips. Specific methods of public involvement and timing are solely at the discretion of the Forest Supervisor in Roanoke, so stay connected and insist that a full range of opportunities for citizen participation be provided.

Contact the organizations listed at the end of this report that have contributed to and support this report and the efforts of regular citizens around the region who want to assume responsibility for caring for our GWNF. Join us in spreading the word that there are real alternatives to Forest Service business as usual.

➤ **Communicate**

Let the media know that the Plan revision is a pressing issue deserving of attention. Write letters to the editor of your local newspapers. Call your local and national radio and television stations and ask them to feature a story on our GWNF Citizens' Vision. Spread the word as many ways as you can.

Discuss these vital issues with your family, friends, neighbors, co-workers, the business community, school groups, church groups, and civic organizations. Inform, encourage, and support your fellow citizens in taking advantage of this crucial opportunity for civic participation. Urge them to take specific, effective action to ensure that Virginians and West Virginians have healthy, robust forests now and in the future.

➤ **Comment**

Make your views known to your local city and county administrators, your Congressional representative, your state senators, and other key public officials. Urge them to shift priorities and funding away from corporate interests, industrialized extraction, and exploitation and toward research, protection, and restoration.

Participate in public meetings and field trips, and bring along your friends and family. Share your views with agency officials, and submit your conservation options for portions of our GWNF that concern you. Tell the agency where you would like to see special management, such as recommended Wilderness, Wild and Scenic Rivers, botanical and scenic areas, rare species locations, riparian reserves, protected old growth areas, historic sites, remote habitat for wildlife, and wildlife corridors.

In your conversations with agency representatives, identify areas that are affected by

current or proposed logging or mining, and request that the Forest Service thoroughly analyze the impact of these activities. Identify aspects of the current plan you feel need to be updated or expanded upon. Be sure to share your personal knowledge about scenic or biologically important areas where highly destructive off-highway vehicle use should be curtailed.

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Our George Washington National Forest belongs to each and every one of us and enriches the lives of all who live in and visit Virginia and West Virginia. As responsible American citizens we must fully take ownership of our role as wise stewards of these precious lands and preserve the remarkable treasure that is our George Washington National Forest, for ourselves and for ages to come.

For far too long, corporate and political interests have defined the debate and set the agenda for our relationship with the Appalachian Mountains. A new direction is in order, one that restores our George Washington National Forest to her citizens and emphasizes the wholeness, health, and sacred beauty of the mountain forests that support our lives. This jewel, this remnant of the original Great Eastern Forest, is venerable, vulnerable, and in dire need of our protection. The George Washington National Forest is our precious ark in a sea of development. We must rise to the occasion before us, and act with courage, humility, strength, and determination.

###end###

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A study using GIS data sets has shown that "forest interior species and specialists are selecting landscapes with no edges or low-contrast edges, lower number of patch types per unit area, and a greater number of core areas." Villard, M. and B. Maurer, 1996, *Geostatistics As A Tool For Examining Hypothesized Declines In Migratory Songbirds*, *Ecology* 77(1) at 63.

GW-JNFs March 2001 Monitoring and Evaluation Report Appendix G page 13: Overall, across both Forests, "management activities are not significantly affecting deer populations..."

Regarding habitat alteration through defoliation, Cooper *et al.* write of "an increase in understory, shrub, and herbaceous cover. We would expect ...more [bird] species that nest and forage low to the ground [such as Rufus-sided Towhee and Grouse - see GWNF LRD Peterfish EA-18]. Overall, tree mortality should increase habitat patchiness..."

(page 52, "Impacts of the Gypsy Moth on Nongame Bird Populations," Robert J. Cooper, et. al., Workshop Proceedings, 1987)

“Mature Forest Interiors” are also a key “habitat element” for “terrestrial species viability”; see 2004 JNF FEIS E-26. The species there identified as “Interior” are Black-billed Cuckoo, Cerulean Warbler, and Swainson’s Warbler.

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Petition to list the Cerulean Warbler under the Endangered Species Act

Petition to Designate Critical Habitat for the Summer Habitat of the Indiana Bat (*Myotis sodalis*) under the Endangered Species Act