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**COMMENTS on
the REVISION of the LAND and RESOURCE MANAGEMENT PLAN
for the GEORGE WASHINGTON NATIONAL FOREST
on the issue of
NON-NATIVE INVASIVE SPECIES**

Thank you for the opportunity to comment on the Land and Resource Management Plan for the George Washington National Forest (GWNF) as it is being revised. Please accept these comments on behalf of Heartwood and Wild Virginia. These comments deal with the presence of non-native invasive species (NNIS) in the GWNF. NNIS are a serious ecological threat and the revised Plan must address ways to prevent their further spread while working to reduce and eliminate their presence and harmful impacts.

Non-native invasive species are an ecological problem throughout the National Forest System. Goal #2 of the USDA Forest Service Strategic Plan for Fiscal Years 2004-2008 states on page 9: *“Reduce the impacts from invasive species. Outcome: Improve the health of the Nation’s forests and grasslands by reducing the impacts from invasive species.”*

- *“Invasive species – particularly insects, pathogens, plants, and aquatic pests - pose a long-term risk to the health of the Nation’s forests and grasslands by interfering with natural and managed ecosystems, degrading wildlife habitat, reducing the sustainable production of natural-resource-based goods and services, and increasing the susceptibility of ecosystems to other disturbances such as fire and flood.”*
- *“Habitat fragmentation (the division of forest and grassland habitat into smaller, more isolated patches) limits containment and eradication of invasive species.”*
- *“The best defense against invasive species is either preventing their introduction or aggressively eradicating newly detected pest species.”*

The USDA Forest Service Strategic Plan for Fiscal Years 2004–2008 points out (on page 10) that there are several external factors outside the control of the Forest Service that might affect progress toward this long-term objective, including the following:

- *“Invasive species—particularly insects, pathogens, plants, and aquatic pests—pose a long-term risk to the health of the Nation’s forests and grasslands by interfering with natural and managed ecosystems, degrading wildlife habitat, reducing the sustainable production of natural-resource-based goods and services, and increasing the susceptibility of ecosystems to other disturbances such as fire and flood.”*
- *“Habitat fragmentation (the division of forest and grassland habitat into smaller, more isolated patches) limits containment and eradication of invasive species.”*
- *“The best defense against invasive species is either preventing their introduction or aggressively eradicating newly detected pest species.”*

The USDA Forest Service Strategic Plan for Fiscal Years 2004–2008 points out (on page 10) that there are several external factors outside the control of the Forest Service that might affect progress toward this long-term objective, including the following:

- *Increasing demands on the agency’s human and financial resources and the resulting reduced ability to work with and through other jurisdictions and stakeholder groups.*
- *Accelerated susceptibility and mortality of forest trees from drought, insects, and pathogens.*
- *Introduction of new species of insects, pathogens, and invasive plants into the United States.*

Forest Service data from the Wayne National Forest Plan Final Environmental Impact Statement (USDA Forest Service, Wayne National Forest, Final Environmental Impact Statement for the 2006 Land and Resource Management Plan, http://www.fs.fed.us/r9/wayne/planning/2006_docs/final_eis_docs/index%20to%20feis.html) states that:

- *Worldwide, NNIS are considered to be the second-leading threat to biodiversity; only habitat loss is a greater threat.*
- *NNIS plants are estimated to infest 100 million acres in the United States, and invade an additional three million acres annually.*
- *Estimated damages and losses due to NNIS are \$137 billion per year. This figure includes losses to commercially important sectors (e.g., agriculture and livestock), but not the more intangible, non-market impacts, including impacts to natural ecosystems.*
- *NNIS are the primary threat to 49 percent of all imperiled or federally listed species.*

Non-Native Invasive Species are an issue, a concern and a threat to the GWNF. The presence of non-native invasive plants continues to increase in the GWNF. According to the Shenandoah Valley Chapter of the Virginia Native Plant Society, these populations include, but are not limited to the 10 most common NNIS observed in areas of the North River Ranger District:

- *Ailanthus altissima* - Tree of heaven
- *Elaeagnus* species (*angustifolia*, *pungens*, *umbellata*) - Russian olive, Silverthorn, Autumn olive
- *Ligustrum sinense* – Privet (Chinese and European)
- *Lonicera* species - Honeysuckles, 4 species (bush and vine)

- *Lonicera japonica* - Japanese honeysuckle
- *Rosa multiflora* - Multiflora rose
- *Lespedeza* species - includes Shrubby lespedeza
- *Celastrus orbiculatus* - Oriental bittersweet
- *Microstegium vimineum* - Japanese stilt grass, Nepalese browntop
- *Alliaria petiolata* - Garlic mustard

The Introduction and Spread of NNIS

- Non-native invasive plant species tend to invade and establish themselves in areas where disturbance has occurred, such as vegetation removal, canopy opening, or soil exposure.
- NNIS often occur along roads and trails where there is concentrated soil disturbance, and in other areas with bare or disturbed soil, including trailheads, parking lots, developed and dispersed recreational sites, popular fishing locations, and other heavily used areas.
- Once they are established in an area, they can continue to spread along areas of continued disturbance, such as roads, trails (both official and illegal user-created trails), and streams.
- NNIS are transported into new areas by a number of means, including people, vehicles and machinery, animals, birds, wind, water, fire, and rain.

Effects of Vegetation and Habitat Management

- Timber management and harvesting techniques may help spread NNIS plants through use of heavy machinery, canopy removal and earth disturbance.
 1. Movement of forest products on skid trails, logging roads.
 2. Some timber harvests are designed to increase the vigor of the residual stand and thus reduce mortality from future outbreaks of NNIS, such as the gypsy moth.
 3. Herbicide use and timber stand improvement activities for oak regeneration or other management purposes will create increased light environments within the forest that can increase NNIS risks.
- Forest Service activities that have as their intended management objectives the creation or management of habitat for wildlife, endangered species, visual quality, recreation or biodiversity often have the secondary effects of enhancing habitat for the introduction and spread of NNIS.

Effects of Roads and Facilities Management

- Roads are fragmenting agents that increase forest edge habitat. Road construction, maintenance, and use provide continuous soil disturbance, and often act as corridors for NNIS dispersal.
- NNIS have some of their highest densities along permanent, administrative and temporary roads as well as old logging roads, landings and wildlife openings.

- Aside from effects on the natural ecosystem, these invaders also detract from visual quality along roadsides, which may affect tourism.

Fire and NNIS

Fires can facilitate introduction and dispersal of many NNIS. Prescribed fires in particular involve the following activities that can facilitate NNIS establishment and dispersal:

1. Soil disturbing activities during fire line construction and from emergency roads cut through the forest to stop a prescribed burn that moved outside its boundaries.
2. Vegetation and canopy reduction through burning.
3. The reduction of soil protecting litter.
4. The NNIS risks of Mechanical Hazardous Fuel Removal will increase when construction of temporary trails and roads for motorized equipment access are needed.

NNIS and Riparian and Drainage Areas

The effects of NNIS on drainage areas, streams and tributaries can be very significant and are often overlooked in project analysis. With the high runoff from disturbed areas, NNIS are spread throughout the riparian areas and can negatively impact native riparian and wetland species.

Removal and Management of NNIS

The Forest Plan needs to set direction for control, repression and elimination of NNIS. All precautions should be taken to prevent disturbances which can introduce NNIS to remote, interior, roadless and other areas where they have previously been absent. Reducing ground disturbances of all kinds and meticulous cleaning of vehicles, machinery and tools are also important strategies to prevent new NNIS encroachment.

Management actions must be based on good quality, detailed, and site-specific information. Sound professional judgment is required as well. Simply designating a species as non-native and invasive can be somewhat subjective, depending on how long a species has been established in the region. Species also vary in their “invasiveness”, or ability to invade new areas and establish themselves. Negative impacts to native species and ecosystems also vary with species, and sometimes with the length of time a NNIS has been established. All these factors, combined with site-specific characteristics, must be considered when controlling NNIS. Without a comprehensive analysis and approach, potential remedies, such as intensive herbicide use and/or physical removal of NNIS, may do more harm than good.

Conclusion

Given that the most common management activities that occur in the GWNF *all* have the potential for facilitating the spread and establishment of populations of NNIS, the Plan should analyze how it can best prevent the introduction and spread of non-native invasive species. The plan should include significant reductions in projects which cause vegetation disturbance, soil disturbance and habitat fragmentation, including timber

projects, salvage sales, creation of early-successional habitat and wildlife openings, road construction or reconstruction and prescribed fires. When these types of projects are carried out, consideration should be given to confining them to specific geographic areas. Confining potential NNIS problems to specific areas, as opposed to wide dispersal across the GWNF, makes combating them more practical and effective.

The plan should emphasize management actions that would reduce the risk of the introduction and spread of NNIS. These actions include significant road closures and decommissionings and the manual removal of NNIS from established areas, especially newly colonized areas and areas of recent vegetation and soil disturbing activities. Methods should be incorporated into all project analysis, planning, implementation, and monitoring to prevent spread of current NNIS infestations and to prevent new invasions.

Sincerely,

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