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**COMMENTS on the
LAND and RESOURCE MANAGEMENT PLAN
for the GEORGE WASHINGTON NATIONAL FOREST
on the issue of
DRINKING WATER RESOURCES and WATER QUALITY**

Thank you for the opportunity to comment on the Land and Resource Management Plan for the George Washington National Forest (GWNF). Please accept these comments on behalf of Wild Virginia and Heartwood. These comments address issues related to public drinking water resources and water quality in the GWNF. These comments supplement those submitted by Wild Virginia and Heartwood on July 5, 2009.

Our July 2009 comments point out numerous statements by Forest Service staff and wording in numerous documents that emphasize the need to protect and restore water quality and watershed health in our national forests. The need to protect and restore these resources was recognized, and commitments made to do so, as early as the Weeks Act of 1911.

Since our July 2009 comments, water resources have continued to be an emphasis of national forest management. Remarks by Secretary of Agriculture Tom Vilsack on August 14, 2009 highlight the importance of water resources. He stated, "*Our shared vision must begin with a complete commitment to restoration. Restoration, for me, means managing forest lands first and foremost to protect our water resources while making our forests far more resilient to climate change.*"

The July 2009 comments also discuss the concern of local citizens and communities about drinking water that originates from surface waters of the GWNF. At that time, thirty-three organizations had adopted resolutions calling on the Forest Service to provide stronger protection and management of water quality and local drinking water watersheds in the GWNF. Forty organizations have now adopted drinking water resolutions. Attachment A lists these organizations. The list includes sixteen localities (city councils, town councils, and county boards of supervisors), two regional Soil and Water Conservation Districts, two regional Planning District Commissions, three county Public Service Authorities, and a county Water Quality Committee.

Other important points and concerns raised in our July 2009 comments bear repeating and are listed in the bulleted items below. Full discussion of these items is provided in the earlier document.

- There continues to be great public concern about water quality in general and drinking water in particular. This is true at the local level (as evidenced by the drinking water resolutions) and the national level (e.g., Gallop Environmental Survey, March 2008).
- Forest lands are critical in providing clean, safe drinking water. A 2008 report by the National Research Council concludes that a sustainable supply of clean water is as important as any commodity or other resource our forests provide.
- For a number of reasons, many localities are taking steps to protect their drinking water at its source, greatly reducing the need for costly infrastructure to cleanse it (e.g., Roanoke, VA, Asheville, NC).
- The GWNF is a critical source of public drinking water. Twenty-two localities in western Virginia obtain some or all their drinking water from surface waters of the GWNF.
- More than 262,000 residents of these communities are domestic users of water from the GWNF. Downstream communities using waters that originate in part from the GWNF include Richmond, VA and the metropolitan Washington DC area.
- Approximately 44.5% of the GWNF land in Virginia occurs in watersheds that provide drinking water to these 22 area localities.
- There is cause for concern about water quality in the GWNF. Fifty streams (roughly 154 stream miles) and 6 reservoirs within the GWNF were designated as impaired in 2006 by the Virginia Department of Environmental Quality (DEQ). None of the water bodies were considered impaired as a public water supply though.

The map entitled “Surface Drinking Water Sources on or downstream from the George Washington National Forest”, produced by the Forest Service and dated April 3, 2009, is helpful in illustrating the importance of the GWNF as a source of drinking water. It somewhat understates the importance of GWNF though. Many of the localities identified on the map provide drinking water to other localities that are not identified. For example, the City of Lynchburg provides drinking water to portions of Campbell and Bedford Counties. The City of Winchester provides drinking water to Frederick County. There are several other instances of “consecutive users”, in which a locality purchases or otherwise acquires drinking water from a locality that obtains drinking water from the GWNF (see Table 3, page 10, Wild Virginia 2008).

The Forest Service document entitled Draft Evaluation of the Need for Change, dated March 2010, has a good discussion of Riparian Resources and related topics. Viewpoint 1 (page 33) and additional discussion on page 39 is useful in pointing out the need to adequately protect intermittent and channeled ephemeral streams. These streams play a large role in storing and processing sediment, water, woody debris and nutrients for the larger stream system. Many amphibians are dependent upon habitat provided by forested riparian areas in headwater streams. In fact, a large variety of wildlife species benefit from wide riparian buffers along all streams.

The discussion of New York City's (NYC) watershed protection program (pages 39-43) is also very informative. In partnering with numerous agencies and organizations, NYC has been very successful in protecting the watersheds (and thus water quality) from which it draws its drinking water. The Draft Evaluation uses information from a 2000 publication by the National Research Council to help make judgments on management of the GWNF. The Draft Evaluation also compares New York State Forestry Best Management Practices (BMPs) to proposed riparian management guidelines for the GWNF. On page 43, the Draft Evaluation states "the NYC strategy views a managed forest landscape as the preferred land use."

Though the NYC information is useful, there are definite limitations in applying the NYC strategies to management of the GWNF. Most of the forest land in the NYC watershed is privately owned and managed by thousands of individual landowners. As such, one of the primary watershed protection strategies is to maintain the land in its current forested state and minimize conversion of the land to non-forest uses. In other words, a managed forest that follows BMPs is preferable to other potential uses of the land, such as residential or commercial development or intensive agricultural use. In order to maintain the forested landscape, economically viable forestry operations are essential.

Given the land use and economic considerations just described, forest management options in the NYC watershed are much more limited than those on publicly owned national forest lands. The Northwest Forest Plan, finalized in 1994 and creating the framework for management of public lands in the Pacific Northwest by the Forest Service, USDI Bureau of Land Management, and other federal agencies, might be a better example from which to draw management recommendations for the GWNF.

RECOMMENDATIONS

Local drinking watersheds.

We recognize and approve of the decision that Source Water Protection Watersheds, as well as other types of watersheds, will be identified and mapped in the new Forest Plan. Given the amount of public interest and comment on drinking watersheds, they merit a higher degree of attention and protection than many other areas of the GWNF.

Communication between the GWNF staff and local communities regarding these watersheds should be improved and strengthened. Proposed projects and other activities within these watersheds should be coordinated with localities being served (adapted from Guideline SW27 of the 2006 Monongahela National Forest Land and Resource Management Plan).

Management within these watersheds should be more restrictive than most other areas of the GWNF. Road densities should be decreased, areas considered suitable for timber production should be limited, and greater riparian area protection is justified. All proposed projects and activities require greater scrutiny, and some should not be considered at all. New roads (including temporary roads and “reconstruction” of roads), wind energy development, mineral leasing, and grazing allotments are among the activities that should not be permitted.

Watershed management.

As we have stated previously, management of entire watersheds should be incorporated in the Forest Plan. Relying solely on riparian area management is inadequate for proper water resource management. There should be specific management objectives for Source Water Protection and other identified types of watersheds. Forest Service Manual 2520 has a practical structure for measuring and addressing watershed health. The Watershed Condition Assessments and Watershed Improvement measures in the Forest Service Manual can guide management in the GWNF.

Riparian areas.

Allowing timber harvest and vegetation management in portions of riparian zones, as described in the Draft Evaluation of the Need for Change, is problematic. Forest Plan language on riparian area management must be precise and detailed. We prefer a “hands off” approach in these critical areas to maximize benefits to water quality and biodiversity. Any potential active management, particularly involving ground disturbance, should be described in the Forest Plan and not developed at the project level with input from the Interdisciplinary Team.

We recommend wider riparian areas be identified than that needed strictly for water quality considerations. Again, an array of wildlife, including terrestrial species, amphibians, and aquatic species, will benefit. Viewpoint 1 in the Draft Evaluation of the Need for Change (page 33) describes the benefits of large, healthy riparian areas, including the need for large woody debris in streams and riparian areas to improve aquatic habitat.

We also recommend that riparian area zones be widened near impaired waters and trout streams. There is precedent for this in the Northwest Forest Plan, which included protecting and restoring salmon fisheries among its objectives. As discussed further below, there is a true need to address impaired waters in the GWNF.

Brook trout (*Salvelinus fontinalis*) would benefit from stronger riparian area protection. The Eastern Brook Trout Joint Venture (EBTJV) has documented the decline of brook trout and the streams and watersheds that support them. The EBTJV (2006) identifies high water temperature, poor land management, degraded riparian habitat, grazing, and stream fragmentation (e.g., roads and culverts) as the biggest threats to existing populations. Brook trout are vulnerable to the effects of climate change as well, particularly as water temperatures are impacted. Virginia is important to the long-term viability of native brook trout populations, as it has a greater number of watersheds with intact brook trout populations than any state south of New York (EBTJV 2006). The GWNF (along with Jefferson National Forest and Shenandoah National Park) is home to many of the remaining trout streams in the state, and should manage them very proactively.

Roads.

The large presence of roads in the GWNF creates a number of serious ecological and management issues, including negative impacts to water quality, watershed health, and forest health. Ambitious plans and goals for road closings and decommissionings should be part of the Forest Plan. At public Forest Planning meetings in 2009, a draft goal of 1 to 1.5 miles/year of road decommissioning was announced. A much higher goal (in terms of miles/year) should be established.

Sedimentation.

Sedimentation in streams should be monitored. As “the primary factor in water quality degradation” in national forests (page 19, USDA Forest Service 2007a), affecting both aquatic wildlife and drinking water resources, more information and monitoring of sedimentation is needed. All impaired waters are impacted by physical stresses, sometimes multiple stresses from multiple sources. Eliminating or minimizing stress will increase the resilience of these aquatic systems. Impaired waters, based on benthic macroinvertebrate assessments, can be related to or caused by sedimentation. Unfortunately, data from DEQ lacks sufficient detail to ascertain the role of sedimentation in the impaired waters of the GWNF.

Inventoried Roadless Areas and newly identified roadless areas.

All Inventoried Roadless Areas and all newly identified roadless areas (potential wilderness areas) identified in the current plan revision process should be managed in accordance with the 2001 Roadless Area Conservation Rule. By eliminating most ground-disturbing projects and activities in these areas, watershed and water quality protection will be greatly strengthened. Sedimentation rates will not be elevated, thus eliminating “the primary factor in water quality degradation” in national forests (Ibid).

Inventoried Roadless Areas have a large, positive impact on water quality within the GWNF. More than one third (approximately 36.7%) of the watersheds for the five drinking water reservoirs in the GWNF are within Inventoried Roadless Areas. More than one fourth (approximately 27.2%) of all local drinking watersheds combined, in the Virginia portion of the GWNF, are within Inventoried Roadless Areas (Wild Virginia 2008).

Impaired waters.

Many of the causes of impaired waters are beyond the control of the Forest Service. Though the agency is not responsible for actions and problems outside the GWNF, forest planning and management should take into account activities outside the GWNF that impact watersheds and water resources within the GWNF. The large presence of impaired waters (50 streams and 6 reservoirs) in the GWNF indicates that more should be done to protect water quality.

Grazing allotments.

As the draft Comprehensive Evaluation Report of February 2007 states, “*Efforts to fence cows out of Shenandoah River have failed and cows continue to cause bank erosion and resulting sedimentation in the grazing allotment(s).*” (USDA Forest Service 2007b, p. 28) Obviously, this situation is highly undesirable and needs to be resolved. Grazing allotments should not be permitted at all in public drinking watersheds. The revised Forest Plan should

minimize, if not eliminate, the use of grazing allotments forest-wide. Any allotments should meet all agricultural and forestry BMPs of the Commonwealth of Virginia.

Adopt measures from drinking water resolutions.

As described earlier in this document, forty localities and organizations have adopted resolutions calling on stronger protection of drinking water resources and watersheds in the GWNF. Five requests that are common and consistent among the resolutions are listed below. These requests should be met in the new Plan.

- The Plan should formally identify all watersheds that provide drinking water to local communities.
- Forest Service staff should communicate more effectively with communities obtaining drinking water from watersheds and reservoirs within the GWNF.
- Forest Service should improve data gathering and collection efforts in order to better describe and assess water quality and watershed conditions.
- Forest Service should establish management objectives for entire watersheds in order to maintain, protect, and enhance water quality.
- In coordination with local communities, other agencies, and the public, the Forest Service should develop policies and management plans for drinking watersheds.

CONCLUSION

Managing for watershed protection creates many benefits beyond drinking water protection. Improving watershed health helps produce a healthier and more resilient forest. Many aquatic species, terrestrial species, and natural communities benefit from sound ecological watershed management. Outdoor recreational opportunities, scenic resources, biological diversity, and other forest features are enhanced as well.

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REFERENCES

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Virginia Department of Environmental Quality. 2006. Final 2006 305(b)/303(d) Water Quality Assessment Integrated Report.

Wild Virginia. 2008. The State of Our Water: Managing and Protecting the Drinking Water Resources of the George Washington National Forest. 30 pp.

ATTACHMENT A

List of the 40 organizations (in alphabetical order) that have adopted resolutions calling for stronger protection of drinking water resources in the new Forest Plan for the George Washington National Forest. List is current through May 1, 2010. Localities are underlined.

Amherst County Board of Supervisors (BOS)
Amherst County Service Authority
Amherst Town Council
Augusta County BOS
Bedford County BOS
Bedford County Public Service Authority
Campbell County BOS
Campbell County Utilities and Service Authority
Central Shenandoah Planning District Commission
Central Virginia Land Conservancy
Clarke County BOS
Dayton Town Council
Friends of the North Fork Shenandoah River
Friends of the Shenandoah River
Harrisonburg City Council
Lynchburg City Council
Middletown Town Council
Page County BOS
Page County Water Quality Committee
Potomac Conservancy
Preserve Frederick
Pure Water Forum
Region 200 Local Government Council
Robert E. Lee Soil & Water Conservation District
Rockingham Community Alliance for Preservation (CAP)
Rockingham County BOS
Scenic 340 Project
Shenandoah County BOS
Shenandoah Forum
Shenandoah Riverkeeper
Shenandoah Valley Network
Shenandoah Valley Soil & Water Conservation District
Staunton City Council
Timberville Town Council
Trout Unlimited - Virginia Council
Valley Conservation Council
Virginia Conservation Network
Virginia Native Plant Society
Virginia Wilderness Committee
Warren County BOS