Guidance on How to Conduct the "Potential Wilderness Area Inventory" for the Revision to the Revised George Washington Forest Plan

Framework

36 CFR 219.7 (a)(6)(ii) identifies that all NFS lands possessing wilderness characteristics must be considered for recommendation as potential wilderness areas. The purpose is to identify all lands that meet the criteria for being evaluated for wilderness suitability and possible recommendation to Congress for wilderness designation.

The first step in the evaluation of potential wilderness is to identify and inventory all roadless, undeveloped areas that satisfy the definition of wilderness found in section 2(c) of the 1964 Wilderness Act.

Section 2(c) of the 1964 Wilderness Act states the following:

> *"An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which*
>
> *(1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable;*
>
> *(2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation;*
>
> *(3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and*
>
> *(4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value."*

Chapter 70 of the Land Management Planning Handbook (FSH 1909.12, Amendment No. 1909.12-2007-1, effective January 31, 2007) states the inventory criteria as follows:

71.1 – Inventory Criteria

Areas qualify for placement on the potential wilderness inventory if they meet the statutory definition of wilderness. Include areas that meet either criteria 1 and 3, or criteria 2 and 3 below. In addition, they may have improvements if they meet the criteria in section 71.11, and for areas east of the 100 meridian, they must also meet the criteria in 71.12.

1. *Area contains 5,000 acres or more.*

2. *Areas contain less than 5,000 acres but can meet one or more of the following criteria:*

    a. *Areas can be preserved due to physical terrain and natural conditions.*

    b. *Areas are self-contained ecosystems, such as an island, that can be effectively managed as a separate unit of the National Wilderness Preservation System.*

c. Areas are contiguous to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership, regardless of their size.

3. Areas do not contain forest roads (36 CFR 212.1) or other permanently authorized roads, except as permitted in areas east of the 100th meridian (sec. 71.12).

71.12 - Criteria for Potential Wilderness East of the 100th Meridian

National Forest System lands in the eastern United States (east of the 100th meridian) have been acquired over time from private ownership. Criteria for inventorying those lands that may have potential for wilderness recommendation recognize that much, if not all of the land, shows some signs of human activity and modification even though they have shown high recuperative capabilities. In addition to meeting the criteria in sections 71.1 and 71.11, areas east of the 100th meridian may qualify for inventory as lands that have potential for wilderness recommendation if:

1 The land is regaining a natural, untrammeled appearance.

2. Improvements existing in the area are being affected by the forces of nature rather than humans and are disappearing or muted.

3. The area has existing or attainable NFS ownership patterns, both surface and subsurface, that could ensure perpetuation of identified wilderness characteristics.

4. The location of the area is conducive to the perpetuation of wilderness values. Consider the relationship of the area to sources of noise, air, and water pollution, as well as unsightly conditions that would have an effect on the wilderness experience. The amount and pattern of Federal ownership is also an influencing factor.

5. Each area contains no more than a half mile of forest roads (36 CFR 212.1) under Forest Service jurisdiction for each 1,000 acres.

6. No more than 15 percent of the area is in non-native, planted vegetation.

7. Twenty percent or less of the area has been harvested within the past 10 years.

8. The area contains only a few dwellings on private lands and the location of these dwellings and their access needs insulate their effects on wilderness characteristics on NFS lands.

GWJ NF Guidance to Supplement the Handbook and May 19, 1995 Regional Forester's Letter to Identify Additional Areas for Further Evaluation

The GW revision effort will follow guidance contained in:

1) Chapter 70 of the Land Management Planning Handbook (FSH 1909.12, Amendment No. 1909.12-2007-1, effective January 31, 2007)
2) Southern Regional Forester's Guidance letter of May 19, 1995 (Criteria for Inventorying Roadless Areas) where that guidance has not be superceded by FSH 1909.12 above, and in particular, the guidance related to "Solitude or Primitive and Unconfined Recreation" starting on Enclosure Page 6.
3) GWJNF Guidance below that provides clarification based upon local knowledge of activities and features germane to the GW.

The guidance is set up to follow the wilderness definition and Forest Service Handbook criteria. Handbook guidance on identification and evaluation are intricately intertwined, necessitating this guidance to identify areas.

1. Identifying Areas That Generally Appear To Have Been Affected Primarily By The Forces Of Nature, With The Imprint Of Man's Work Substantially Unnoticeable

Key to this is how human "improvements" are considered when identifying areas. See next section.

How Improvements are to be handled

FSH 1909.12, chapter 71.1 (Inventory Criteria) says:

> *Areas qualify for placement on the potential wilderness inventory if they meet the statutory definition of wilderness. Include areas that meet either criteria 1 and 3, or criteria 2 and 3 below. In addition, they may have improvements if they meet the criteria in section 71.11, and for areas east of the 100 meridian, they must also meet the criteria in 71.12.*[1]
>
> *[1]The blue highlighted language above has been added from the previous version of the handbook. This means that improvements must be considered before an area can be added to the inventory of potential wilderness areas.*

Guidance: Given the word "may" in the above sentence, improvements "may" exist or they don't have to exist. Improvements are to be considered in determining whether to evaluate an area, but there is still discretion given the term "may" used in the handbook. Thus there is a need to document where that discretion is being exercised for determining what factors preclude an area being placed on the inventory.

The following guidance is what the GWJEFF shall use to determine how improvements shall affect whether an area qualifies for placement on the inventory of potential wilderness areas.

FSH 1909.12, chapter 71.11 (Criteria for Including Improvements) says:
Areas may qualify for the inventory of potential wilderness even though they include the following types of areas or features:

> *1. Airstrips and heliports.*

Guidance: Airports and heliports do not exist on the GWJEFF NF, so this feature is moot.

2. Cultural treatments involving plantations or plantings where the use of mechanical equipment is not evident.

Guidance: The common cultural treatments on the GWJNF are: a) site preparation using chainsaws after a regeneration harvest (i.e. clearcut, shelterwood, overstory removal); b) planting hardwoods with a dibble bar or handheld or hand-carried mechanical auger; or c) herbicide application with a backpack sprayer in seedling and sapling stands to control competing vegetation and release crop trees. The use of this type of mechanical equipment, by there very hand-held nature, leaves little to no evidence of their use. Therefore their use would not disqualify an area from being placed on the inventory.

Another treatment is the creation and maintenance of wildlife openings. This practice has gone on since the Federal government acquired land in the East. In cooperation with both the West Virginia and Virginia Game and Fish agencies, creation and mowing of wildlife clearings by these state organizations continues. This mowing may be evident yearly, being done sometimes twice a year on some existing clearings. These openings are generally small in size, but are very important to wildlife habitat diversity and to hunters. These features will generally not be used to disqualify an area from the inventory, but may be important factors in the evaluation of areas.

3. Electronic installations, such as cell towers, television, radio, and telephone repeaters, and the like, provided their impact is minimal.

Guidance: Electronic installations exist throughout the GWJEFF NF. These are all designated as multiple user sites, with almost all currently having multiple users or permittees. These sites provide valuable communication and service throughout the GWJEFF NF and the eastern United States. Thus their impacts are not considered minimal. The presence of electronic sites eliminates an area from being placed on the inventory, unless the boundary can be adjusted to remove the installation from the area following boundary adjustment guidelines elsewhere in this document.

4. Evidence of historic mining (50+ years ago). Do not include areas of significant current mineral activity, including prospecting with mechanical or motorized earthmoving equipment. The inventory may include areas where the only evidence of prospecting is holes that have been drilled without access roads to the site. Potential wilderness also may include:

a. Areas that otherwise meet inventory criteria if they are covered by mineral leases having a "no surface occupancy" stipulation.

b. Areas covered by mineral leases that otherwise meet inventory criteria only if the lessee has not exercised development and occupancy rights. If and when these rights are exercised, remove the area, or portion affected, from the inventory unless it is possible to establish specific occupancy provisions that would maintain the area in a condition suitable for wilderness.

Guidance: Evidence of historical mining exists throughout the GWJEFF NF. On the GW NF portion much of this is associated with the Civil War iron industry, over 145 years ago. Other areas were mined for manganese into the middle of the twentieth century. Areas of current

mining activity generally on the GW are associated with shale or borrow pits, these being not very large areas. These areas are very important in that they are rare shale areas and negate higher costs associated with transporting shale and borrow material from private quarries over long distances for maintaining the NFS road network.

The mere presence of these historical mine sites would not preclude the area from being placed on the inventory.

The presence of shale or borrow areas are often along roads and so the boundary of an area can be adjusted to remove the site from the inventory. Where boundaries cannot be adjusted, the presence of these areas will not be used to disqualify an area from the inventory, but may be an important factor in the evaluation of area.

Given the subsurface is federally owned and the area is under lease with a "No Surface Occupancy" (NSO) stipulation, the presence of this stipulation means that surface occupancy (roads, drill pads, and pipelines) by mechanical equipment would not occur. Therefore, an area shall still qualify for the inventory of the potential wilderness even if it has the presence of a Federal lease with a NSO stipulation.

Given the subsurface is federally owned and the area is under other lease stipulations such as "Controlled Surface Use" or standard lease stipulations, including an area depends on whether current on-the-ground activities are occurring. However, exercising of rights means that producing wells have been drilled, drilling is occurring, or the agency has authorized drilling after conclusion of the NEPA process.

If they are authorized, the agency would need to know the location and number of existing producing wells in an area and number and location of projects where oil and gas drilling is currently authorized. Thus, the presence of producing wells or authorized drilling projects negates an area from being on the inventory, unless the boundary can be adjusted to remove the site(s) from the area following boundary adjustment guidelines elsewhere in this document. The area could also be on the inventory if the area would still meet the requirement for road density with the current roads and approved roads.
Therefore, an area shall still qualify for evaluation as potential wilderness even if it has the presence of lease stipulations that allow surface occupancy, as long as those rights have not been exercised. This factor may be used to evaluate areas rather than to identify areas on the inventory. The acreage under stipulations that allow surface occupancy simply puts the agency, the public, and Congress on notice of potential conflicts between a existing subsurface federal lease with surface use provisions and potential wilderness designation.

5. Structures or evidence of vegetative manipulation resulting from past management practices in National grasslands and prairies. National Grassland and Prairie areas that contain the following features may qualify for the inventory:

a. Areas where vegetation type conversions are reverting to native vegetation with minimal evidence of cultivation.

b. Areas with less than one mile of interior fence per section.

Guidance: The GWJEF does not contain any grasslands or prairies, so this feature is moot.

6. Federal ownership of less than 70 percent if it is realistic to manage the Federal lands as wilderness, independent of the private land.

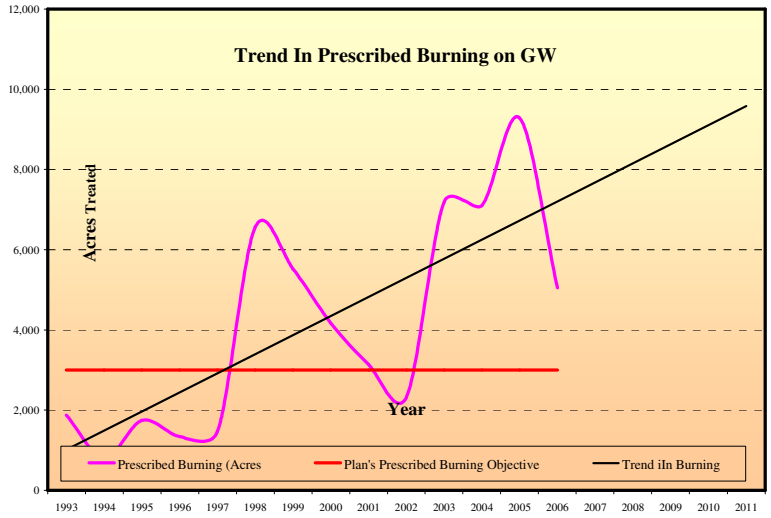
Guidance: "Realistic" in the above guidance is subjective term. The existence of private land, no matter how much, within a potential wilderness area brings into consideration private rights, including the private use of that land, something that county government's control through zoning, not this agency. With private land comes it inherent need for electrical power lines, telephone lines, water and sewer lines, and road access, all improvements that become permanent on the land and these improvements then come into conflict with potential wilderness designation. Small inholdings within potential wilderness could be addressed through boundary changes and some small inholdings could be "realistically" acceptable. Therefore, these features will generally not be used to disqualify an area from the inventory, but will be important factors in the evaluation of areas.

See also the subsurface ownership discussion elsewhere in this document.

7. Minor structural range improvements (FSM 2240.5), such as fences or water troughs. Exclude areas where nonstructural range improvements are readily visible and apparent. Areas with spray or burning projects are permissible if there is little or no evidence of the project.

Guidance: The GW NF has only about 250 acres where cattle or horses are grazed. These areas along the South Fork of the Shenandoah River and along Cedar Creek are isolated, small federal tracts. All of these are considered minor and would not preclude the area from being placed on the inventory.

Fences may exist throughout the forest, especially along the boundaries with private land. The fences may also occur within the NF. The mere presence of a fence would not preclude the area from being placed on the inventory.



The second part of the above paragraph is a little harder to deal with. The type of spraying typically done in the past on the GW NF has been for dealing with gypsy moth infestations or herbicide applications as previously mentioned. This pesticide spraying has been done aerially. There is little to no evidence of this spraying. Therefore, spraying for gypsy moth is moot and would not disqualify an area from being placed on the inventory.

Prescribed burning projects present a predicament to the agency similar to oil and gas leasing with surface stipulations. The agency does quite a bit of prescribed burning on the GW NF as presented in the graph above from the agency's draft Comprehensive Evaluation Report (dated 2/15/2007). However, the mere presence of prescribed burning would not be a reason for excluding an area from the inventory as a potential wilderness area. Prescribed burning's evidence lasts a very short time. During the evaluation phase, the presence of areas that have been or are planned to be burned provides the agency, the public, and Congress with knowledge of where investments have been made to manage the land for purposes (typically wildlife habitat or restoration of declining species such as table mountain pine) that may be contrary to those purposes for wilderness designation.

Areas that have been prescribed burned are not land that is "regaining a natural, untrammeled appearance" (Handbook at Chapter 71.12 (1)). Areas prescribed burn could be implied to be areas in conflict with the provisions found in Section 2(c) of the Wilderness Act in that they are not areas "where the earth and its community of life are untrammeled by man". So an option does exist that burned areas negate an area being on the inventory as a potential wilderness area. However, since normally the impacts from a fire are relatively short-term, it would be hard to argue that is a reason to disqualify it for possible wilderness designation. The Forest is not going to take that view. This factor may be used to evaluate areas rather than to identify areas on the inventory.

8. Recreation improvements such as occupancy spots or minor hunting or outfitter camps. As a general rule, do not include developed sites. Areas with minor, easily removable recreation developments may be included.

Guidance: "Easily removable" in the above guidance is subjective term, so it makes the agency open to criticism on differences in opinion between the agency and the public on what the term means. Developed recreation sites typically represent an investment in the facility, but the amount and type of features at the site determine whether they can be easily removed. Therefore, for purposes of this review, the Forest is going to say that no developed site as documented in the database named "INFRA" contains features that are easily removable. Easily removable term could mean the physical removal of a feature, but it could also mean the public involvement process used to close a site. The public, because of historical use of a developed recreation facility, might put up opposition to an agency proposal to remove a facility, thus redefining the term in a social context rather than just a physical context. Therefore, the presence of a developed site would preclude the area from being on the inventory, or in the alternative the boundary shall be moved to exclude the site.

There are hundreds, if not thousands of dispersed camping spots alongside roads on the GW NF. These sites do not contain any facilities managed by the agency. These spots would not warrant removal of the area from the inventory nor boundary modification to exclude these spots.

9. Timber harvest areas where logging and prior road construction are not evident, except as provided in Section 71.12 for areas east of the 100th meridian. Examples include those areas containing early logging activities related to historic settlement of the vicinity, areas where stumps and skid trails or roads are substantially unrecognizable, or areas where clearcuts have regenerated to the degree that canopy closure is similar to surrounding uncut areas.

Guidance: Where harvesting has occurred since the 1993 GW Plan was signed, and especially over the last 10 years (1997 to 2007), timber harvesting has established a pattern of use for wildlife and timber management purposes. Likewise, if an investment has been made to provide wood products and wildlife habitat in an area, then logging and the existence of the road should be "evident", particularly since passage of NFMA and the 1964 Wilderness Act. Important to this is that it is hard to argue that "the imprint of man's work is substantially unnoticeable"; or that an area is "regaining a natural, untrammeled appearance" when chainsaws and skidders are actively engaged in harvesting timber; the timber is under a legally-binding contract and is yet-to-be harvested; or the timber has been harvested, but there still remains agency work to be performed such as site preparation, wildlife plantings, and waterhole construction. These areas will not be generally affected by the forces of nature.

Timber sale areas are different than prescribe burning areas in that burns typically take place in one day and then nature takes over, while timber sale contracts typically last 4 years and then it takes another year or two to complete the post-sale activities. Thus, the imprint of man's work is noticeable and not regaining a untrammeled appearance for anywhere from 1 to 6 years.

In the East up to 20% of an area "may" (emphasis added) include young, recently (within the last 10 years) harvested stands. Therefore, timber harvest will generally not be used to disqualify an area from the inventory, but will be important factors in the evaluation of areas. In the evaluation consideration should be given to adjusting the boundary about one-half mile from the road that provides access to the historically harvested areas due to the established pattern of use. We believe one-half mile is generally the maximum length of any single temporary road constructed to access a cutting unit.

10. Ground-return telephone lines, electric lines, and powerlines if a right-of-way has not been cleared.

Guidance: No potential wilderness area shall contain utility rights-of-way that have a cleared corridor. All companies that have a special use authorization and have cleared rights-of-way maintain these ROW periodically by mowing or otherwise clearing encroaching vegetation. Thus, these areas are not "regaining a natural, untrammeled appearance". Follow the guidance for boundary modification in the handbook or at the end of this guidance.

11. Watershed treatment areas if the use of mechanical equipment is not evident. The inventory may include areas where minor watershed treatment has been accomplished manually such as small hand-constructed gully plugs.

Guidance: The National Forest knows of no definition of "watershed treatment areas" in agency manuals and handbooks. On the George Washington National Forest, all activities occur in some type of "watershed" and given that there are other criteria to consider since the GW is east of the 100th meridian, this criteria is moot and no further guidance is necessary.

On the other hand flood control dams are prevalent on the George Washington National Forest. The presence of these dams negates an area from being on the inventory, unless the boundary can be adjusted to remove the site(s) from the area following boundary adjustment guidelines elsewhere in this document.

2. Identifying Areas With Outstanding Solitude Or A Primitive And Unconfined Type Of Recreation

Freimund and Cole (2001) acknowledge that wilderness means different things to different people. However, they found that:

> *Virtually everyone would agree, however, that to be wilderness (in the context of public lands) a place must be relatively uncrowded. To use the particular words contained in the Wilderness Act, wilderness should provide "outstanding opportunities for solitude." Wilderness need not be completely deserted. There can be other people around—just not too many. If there are too many, those visitors who desire solitude, privacy, opportunities for contemplation, and so on, may have difficulty achieving these.*

*Freimund, Wayne A.; Cole, David N., comps. 2001. Visitor use density and wilderness experience: proceedings; 2000 June 1-3: Missoula. MT. Proc. RMRS-P-20. Ogden. UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain.

Public Law 93-622 (Known as the Eastern Wilderness Act) states at section 2(b) that

> *The Congress finds and declares that it is in the national interest that these and similar areas in the eastern half of the United States be promptly designated as wilderness within the national wilderness preservation system, in order to preserve such areas as an enduring resource of wilderness which shall be managed to promote and perpetuate the wilderness character of the land and its specific values of **solitude**, physical and mental challenge, scientific study, inspiration, and **primitive recreation** for the benefit of all of the American people of present and future generations. (Emphasis added)*

While the goal of the recreationists is to obtain satisfying experiences, the goal of the agency becomes one of providing the opportunities for obtaining these experiences. Difficulty exists in identifying existing physical conditions that could be used to identify "primitive and unconfined types of recreation".

> *Primitive is defined as "pertaining to an early age; characterized by simplicity" (Webster's Dictionary 1976). Primitive recreation in wilderness has largely been interpreted as travel by non-motorized and non-mechanical means (such as horse, foot, canoe) that reinforces the connection to our American heritage. However, primitive recreation also encompasses reliance on personal skills to travel and camp in an area, rather than reliance on facilities or outside help. (* From the **10-YEAR** WILDERNESS **STEWARDSHIP CHALLENGE ---- TOOLBOX** found at www.**wilderness**.net/toolboxes/documents/vum/Defining_Solitude.doc)

> *Unconfined means "not kept within limits" and encompasses attributes such as self-discovery, exploration, and freedom from societal or managerial controls (Lucas 1983, Nash 1996, Hendee and Dawson 2002). The idea here is to provide opportunities for the*

> *physical and mental challenges associated with adventure and self direction as well as the personal growth that results from facing and overcoming obstacles (Dustin and McAvoy 2000, Borrie 2000). . (* From the **10-YEAR** WILDERNESS **STEWARDSHIP CHALLENGE ---- TOOLBOX** found at www.**wilderness**.net/toolboxes/documents/vum/Defining_Solitude.doc)

In the Recreation Opportunity Spectrum (ROS), the "Primitive" experience is characterized by having essentially an unmodified natural environment of 5,000 or more acres. An area qualifies as providing a primitive experience only if it is located more than 3 miles from a road and contains 5,000 acres or more in the area. There are no areas on the Forest that meet this criterion, so no primitive experiences, according to ROS, occur on the Forest.

As an indicator of a primitive and unconfined recreation, the agency could consider the amount of trails and the use of those trails as another criterion on whether an area should be placed on the inventory. Logically, in considering the amount of trails, the assumption would be that the fewer the number of or density of trails, the greater the solitude and unconfined types of recreation. For example, hiking in a large undeveloped setting with difficult access and few facilities offers a sense of solitude, challenge, and self-reliance. In contrast, hiking in a setting having easy access and highly developed facilities offers more comfort, security, and social opportunities.

The agency could utilize the trails information available to it and determine whether existing trails allowed travel by motorized or mechanical means (see italicized paragraphs above). However, just knowing whether motorized or other forms of mechanical travel (i.e. mountain bikes) are allowed should not in and of itself, suffice as one criterion. Important to that criterion discussion would be if Ranger District personnel knew that the trails were actually used or promoted by recreationists who used motorized or other forms of mechanical travel. For example, if mountain biking community published maps marketing areas for a mountain biking recreational experience, then these types of trails could influence whether an area should be on the inventory as potential wilderness areas. However, the agency would prefer to confine itself to criteria with a physical attribute rather than a social attribute such as that dealing with usage of mechanical or motorized forms of travel on the agency's trail system.

Dawson (2004)* acknowledges that "*Since solitude is a distinguishing characteristic of wilderness, the various interpretations of its meaning have led to a substantial amount of management discussion and research to define or measure its important components*." Dawson states that solitude in the context of wilderness does not mean complete isolation; rather *it has been construed to mean separation from others and the influences of others*. The conditions necessary for solitude often refer to some degree of separation in sight, sound, and distance between visitor groups who are within the wilderness and from outside the wilderness. This is exactly what the semi-primitive ROS core discussed in the Regional Guidance is all about. This semi-primitive core (as defined through the ROS system) represents an indicator that can be used to measure solitude. The semi-primitive core, for the purposes of this review, is a way to measure the amount of area that is secluded from the influences of other people.

*Dawson, Chad P., Monitoring Outstanding Opportunities for Solitude, in International Journal of Wilderness. 2004. Volume 10, Number 3. Wilderness Stewardship, Monitoring wilderness character, December 2004

A semi-primitive ROS classification is an indicator of not only an opportunity for solitude, but also an ability to manage an area in its natural condition buffered from external influences, an important consideration in the Eastern United States.

To this end, this Forest is using the physical attributes that it feels are necessary to provide a quality "wilderness" experience, rather than existing social factors as noted in the discussion above on trail use.

Therefore, this Forest will identify those areas that contain a semi-primitive core greater than or equal to 2,500 acres to help determine those areas that could provide "opportunities for solitude or a primitive and unconfined type of recreation". This is in line with the agency's Recreation Opportunity Spectrum Classes (See 1990 ROS Primer and Field Guide) on identifying those areas that contain a semi-primitive nonmotorized and/or semi-primitive motorized areas that together total 2,500 acres or more. See also Regional Forester's letter.

3a. Identifying Areas Greater Than 5,000 acres in Size

Areas greater than 5,000 acres in size that could be considered as potential wilderness are identified by identifying all of the roads on the Forest Road system and all utility lines on the Forest. The acreage of the polygons of National Forest System lands defined by these features was determined and those greater than 5,000 acres in size were reviewed for the other criteria.

3b. Identifying Areas Less Than 5,000 Acres In Size Of Sufficient Size As To Make Practicable Its Preservation And Use In An Unimpaired Condition (*That Can Be Preserved Due To Physical Terrain And Natural Conditions*)

Size is an important factor on this Forest since all of the Forest is strongly impacted by human activities. Air pollution impacts have been documented across the Forest. There is much private land interspersed with National Forest System lands, so activities on private lands have a strong influence on the resources and experiences on the National Forest. As described below, the development of lands around the Forest are expected to increase substantially. Larger areas have a much greater potential to provide the best wilderness experiences and allow for the greatest benefits of creating areas where natural processes dominate the landscape. Therefore, areas less than 5,000 acres in size need to have very compelling rationale to be included in the inventory.

There are no solid criteria that clearly define when a small area can be preserved due to physical terrain and natural conditions. However, a number of factors help indicate where an area could be preserved. These include: the shape of the area, the type of land adjoining the area, and where the area lays on the landscape.

Long, narrow areas are more difficult to preserve since activities in adjoining lands will have a much greater influence on the area itself. A more circular area would maximize the proportion of the area where solitude would be experienced and would minimize impacts from adjacent lands. Irregular borders of an area would also make it much more difficult to preserve.

An issue that the agency needs to consider is adjacent lands. Long wilderness boundaries, particularly where the boundaries are relatively flat (less than 30-40% slope), that adjoin private land is a physical terrain feature that makes preserving wilderness character more difficult. This is especially important on the GW since it is projected to have the most area of increases in housing density on adjacent lands of all national forests or grasslands, with projected changes on more than 1.4 million adjacent private rural acres. (Stein et al, 2007*).

> *Stein, Susan M.; Alig, Ralph J.; White, Eric M.; Comas, Sara J.; Carr, Mary; Eley, Mike; Elverum, Kelly; O'Donnell, Mike; Theobald, David M.; Cordell, Ken; Haber, Jonathan; Beauvais, Theodore W. 2007. National forests on the edge: development pressures on America's national forests and grasslands. Gen. Tech. Rep. PNWGTR-728. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 26 p.

In addition to adjacent development, these types of boundaries often result in illegal ATV use and development of other types of user-created trails.

Areas with well defined cores of semi-primitive class recreation experiences are located further from roads and further from many activities that could detract from wilderness characteristics. These areas would be easier to preserve.

If these smaller areas encompassed entire watersheds, they would be easier to preserve. Areas that are located along the side of ridge would be much harder to preserve.

4. Identifying Areas That May Also Contain Ecological, Geological, Or Other Features Of Scientific, Educational, Scenic, Or Historical Value

These features will be used to evaluate areas rather than to identify areas on the inventory.

5. Identifying Areas Less Than 5,000 Acres In Size That Are Self-Contained Ecosystems, Such As An Island, That Can Be Effectively Managed As A Separate Unit Of The National Wilderness Preservation System

We have no areas that meet this criterion.

6. Identifying Areas Less Than 5,000 Acres In Size That Are Contiguous To Existing Wilderness, Primitive Areas, Administration-Endorsed Wilderness, Or Potential Wilderness In Other Federal Ownership, Regardless Of Their Size

We will identify smaller areas that are contiguous to existing Congressionally-designated wilderness.

7. Criteria For Areas East Of The 100th Meridian

FSH 1909.12, chapter 71.12 (Criteria for Potential Wilderness East of the 100th Meridian) says:

> *National Forest System lands in the eastern United States (east of the 100th meridian) have been acquired over time from private ownership. Criteria for inventorying those lands that may have potential for wilderness recommendation recognize that much, if not all of the land, shows some signs of human activity and modification even though they have shown high recuperative capabilities. In addition to meeting the criteria in sections*

71.1 and 71.11, areas east of the 100th meridian may qualify for inventory as lands that have potential for wilderness recommendation if:

1. The land is regaining a natural, untrammeled appearance.

Guidance: See earlier guidance on timber sales, prescribed burning, and cleared rights-of-way.

2. Improvements existing in the area are being affected by the forces of nature rather than humans and are disappearing or muted.

Guidance: See earlier guidance of "improvements" in previous sections.

3. The area has existing or attainable NFS ownership patterns, both surface and subsurface, that could ensure perpetuation of identified wilderness characteristics.

Guidance: There are subsurface outstanding and reserved private rights throughout the George Washington National Forest.

Every private land, either held as an outstanding or reserved subsurface right, or is a surface right, is attainable if the Federal Government is willing to buy it and the private land owner is willing to sell it. Otherwise, this National Forest has no intention of condemning private land for the purposes of recommending an area for Congressional Wilderness designation. However, the Government Accounting Office (GAO) discussed wilderness and private mineral rights and warns to use caution when private mineral rights are involved with eastern wilderness designation. The GAO report (Report GAO/RCED-84-101) on July 26, 1984 titled "Private Mineral Rights Complicate the Management Of Eastern Wilderness Areas" summarized that:

> *Since 1975, the Congress has expanded the National Wilderness Preservation System to areas of eastern national forest lands Many of these eastern lands contain significant amounts of private mineral rights, as a result, the Department of Agriculture's Forest Service experienced management and legal problems In trying to preserve these lands and control private mineral development In addition, recent attempts by the federal government to acquire private mineral rights III eastern wilderness areas have caused considerable controversy and congressional debate because of the high costs associated with these purchases These problems could Increase because many other areas under consideration for wilderness designation In the east contain private mineral rights.*
>
> *GAO believes that consideration of private mineral rights IS Important in deciding whether other eastern lands should be designated as Wilderness.*

Thus, this Forest concludes that private subsurface rights lend themselves better to being avoided in any consideration of potential wilderness areas. Therefore, areas with less than 70 percent federal ownership of surface or subsurface rights will not be included in the inventory. Areas with some surface or subsurface private mineral rights (but less than 30 percent), can be included in the inventory. Areas of private subsurface mineral rights should be eliminated (as much as possible) from areas during the evaluation process through boundary adjustments. This factor may be used to evaluate areas rather than to identify areas on the inventory.

4. The location of the area is conducive to the perpetuation of wilderness values. Consider the relationship of the area to sources of noise, air, and water pollution, as well as unsightly conditions that would have an effect on the wilderness experience. The amount and pattern of Federal ownership is also an influencing factor.

Guidance: This criteria is considered through the semi-primitive core attribute discussed earlier. This semi-primitive core helps to separate the sights, sounds, sources of pollution and other activities originating outside an area and thus provides an indicator for solitude and unconfined recreation.

In addition, areas that have greater lengths of boundary adjacent to private lands have greater opportunities to be affected by non-conforming uses. This factor may be used during evaluation of areas.

5. Each area contains no more than a half mile of forest roads (36 CFR 212.1) under Forest Service jurisdiction for each 1,000 acres.

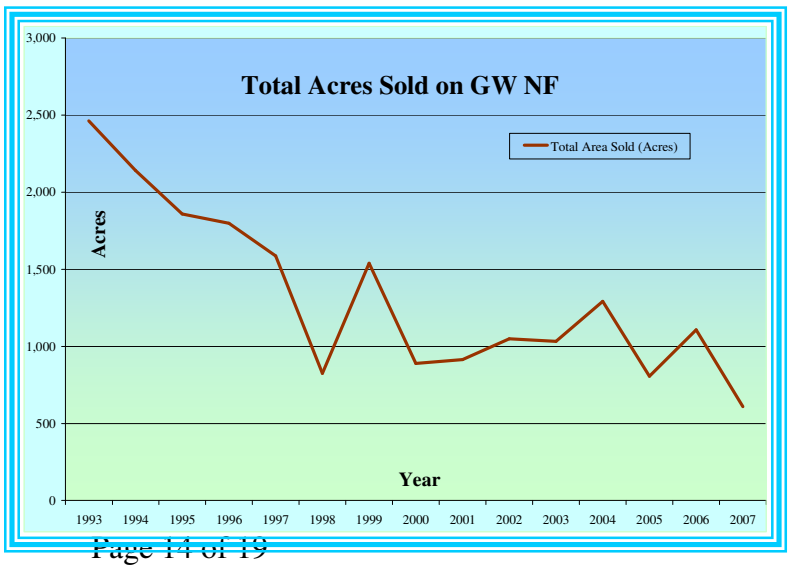
Guidance: This guidance has changed since the Regional Forester issued his letter. It is self-explanatory and no further guidance is necessary at this time. Follow this guidance rather than the Regional Forester's letter since guidance was updated by the Chief.

6. No more than 15 percent of the area is in non-native, planted vegetation.

Guidance: It is impossible to define the size of the "area" by which the 15% limitation would be applied. For simplicity sake, the GW NF shall use this as applied to the total area that has been identified after applying all the other criteria. It is known that there are areas that were planted to what the agency would now consider to be "non-native" vegetation. Yet, these are small pockets of some individually planted species that may occupy wildlife clearings rather than be a "stand" of non-native planted vegetation. Laurel Fork area does contain red pine plantations covering a number of acres, but this acreage is small. There may be other small pockets throughout the GW, yet it is unlikely that any "potential wilderness area" would be eliminated from the inventory due to this criteria. This factor may be used to evaluate areas rather than to identify areas on the inventory.

7. Twenty percent or less of the area has been harvested within the past 10 years.

Guidance: It is impossible to define the size of the "area" by which the 20% limitation would be applied. It could be interpreted for instance, that 20% of a timber sale area as defined by the Sale Area Map could be used to determine the 20% limitation. For simplicity sake, the GW NF shall use this as applied to the total area that has been identified after



applying all the other criteria. As the acres sold decreases as noted in the graph, then the area where this guidance applies decreases. This factor may be used to evaluate areas rather than to identify areas on the inventory.

> *8. The area contains only a few dwellings on private lands and the location of these dwellings and their access needs insulate their effects on wilderness characteristics on NFS lands.*

Guidance: See earlier discussions about Federal surface and subsurface ownership.

Boundary Adjustment Guidance

See FSH 1909.12, See Regional Office Letter, and use boundaries that would be easy to manage should the area later become wilderness. However, the following are not appropriate:

1. Narrow elongated, gerrymandered areas.
2. The "cherry-stemming" of boundaries around roads into sites.
3. Narrow fingers or appendages into the sites.

If redrawing the boundary leads to any of the above, the area shall be removed.

Importance of Boundary Identification in Determining Potential Wilderness Areas

Kevin Marsh*, in his book "Drawing lines in the forest: creating wilderness areas in the Pacific Northwest" (2007) makes two important disclosures about congressionally designated wilderness. First, "By prohibiting most mechanized transportation and industrial development, wilderness is the strictest classification of American land use" and "(W)ilderness boundaries are both the crux of these debates and their most significant legacy".

In the Forward to Marsh's Book by William Cronon, Cronon states that Marsh's book recognizes that all land conservation is inherently local. Cronon points out "*No matter how broad or abstract our ideas of land or wilderness might be, no matter how far-reaching the economic forces or political pressures that influence creation of a given wilderness area, in the end, it all comes down to drawing very particular boundaries on very particular maps representing very particular lands relating to very particular communities and constituencies*." Additionally, Cronon makes clear that "*Laws protecting wilderness areas are not passed in the abstract. They are the products of intricate negotiations among diverse parties with divergent views about whether a given acre of land should or should not fall within the legal boundaries of wilderness*." Furthermore, *"(T)he creation of wilderness, in other words, is a deeply political process involving myriad negotiations and compromises among a host of competing interests. Drawing a boundary on a map is hardly a simple act*."

What seems to be common between competing interests in Marsh's analysis is succinctly stated by Cronon in that both sides in a wilderness debate "*shared a desire for defined boundaries so as to diminish uncertainty about what they could and could not count on doing in a given landscape*" and, as an added bonus, "*the net result of an agreed-upon wilderness boundary was to constrain quite significantly the freedom of agency managers to change their mind about what could or could not happen on a given tract of land*." However "*Just as opponents exaggerate its*

threats, often it seems that advocates have asked for or demanded too much of wilderness; it cannot solve our national problems." (Marsh, 2007).

Cronon also points out that one of Marsh's insights was that the process of wilderness designation "*was essentially a form of land-use zoning*". Designation is as Marsh says: "*akin to municipal zoning ordinances; as political methods of establishing land use boundaries, wilderness designation and zoning ordinances have many similarities*." "*Although quite distinct, both sides of the line reflect human decisions and values." "Wilderness and nonwilderness lands on the national forests represent different patterns of land use. The boundaries themselves, however, are a joint product of competing interest groups, …*" (Marsh, 2007).

Cronon makes one last point that real wilderness laws and boundaries "*rarely turned on the question of whether the land was or was not pristine. Instead, the designation of a given wilderness area has less to do with nature then with politics and history*." "*The mountains have their own myriad mix of boundaries dividing flora, fauna, climate, and water flow, but on top of these, humans have long instituted their own distinct political and economic lines*" (Marsh, 2007).

In Marsh's Epilogue he sums it up pointedly: "The central lesson of wilderness debates in the Oregon and Washington Cascades – one that applies nationwide – is that boundaries matter." Marsh concludes *"(T)he line is not a simple demarcation between good and evil or human and natural, and was never meant to be. Basically, it is a division between two broad patterns of land use. The significance of wilderness preservation in modern U.S. history rests in the boundaries of wilderness areas, where they lie, and who placed them there*."

For the bottom line, the wilderness designation debate with the GW Plan revision process is likely to "*come from the heated, increasingly democratic process that allow growing numbers to get involved in the decision-making process on public lands. And a lot rides on the outcome, for these are not abstract debates. The resulting boundaries will determine vast differences in the land itself and the way people use that land for generations to come*." (Marsh, 2007).

*Marsh, Kevin R. Drawing lines in the forest: creating wilderness areas in the Pacific Northwest. Seattle: University of Washington Press, 2007: 227 p.

Congressional Designations

While several of the above criteria are very clear, many allow for interpretation. There is a need to define:

- where areas can be preserved due to physical terrain and natural conditions;
- where land is regaining a natural, untrammeled appearance;
- where improvements existing in the area are being affected by the forces of nature rather than humans and are disappearing or muted; and
- where the location of an area is conducive to the perpetuation of wilderness values.

Congress is solely responsible for designation of wilderness. On the George Washington and Jefferson National Forest wilderness has been designated in three separate bills with a fourth bill pending in the Senate, having passed the House. Therefore, it is appropriate to evaluate the areas

previously designated to illuminate how Congress has interpreted these criteria on the George Washington and Jefferson National Forests. It is important to note that this evaluation is specific to the wilderness bills on the George Washington and Jefferson National Forests and so is not applicable to other national forests.

Criteria 1 and 2 relate to the total size of the area. Of the seventeen wilderness areas on the George Washington and Jefferson National Forests, eleven are greater than 5,000 acres in size and six are less than 5,000 acres in size. In addition, five of the six wilderness areas and the wilderness study area in the current wilderness bill are less than 5,000 acres. So it is clear that Congress believes that areas less than 5,000 acres on this Forest can be preserved due to physical terrain and natural conditions. The smallest wilderness is Thunder Ridge with 2,344 acres indicating that wilderness areas can be substantially less than 5,000 acres on this Forest.

In regard to the criteria for wilderness in the east, the first two require that the land is regaining a natural, untrammeled appearance and that improvements existing in the area are being affected by the forces of nature rather than humans and are disappearing or muted. It is clear that in the opinion of Congress, once any human management activity is halted, areas on this Forest quickly regain a natural, untrammeled appearance and that the improvements quickly disappear or are muted. Current wilderness areas were designated that had been actively mined for manganese, and other minerals within 50 years of designation (James River Face, St. Mary's). Current wilderness areas were designated that had CCC camps within 50 years of designation (Ramseys Draft). Many of the areas contained railroads and substantial roads. The areas in the current bill are no different. Hunting Camp Creek had mineral operations and the Kimberling Creek Addition is a recent Forest Service acquisition that had been nearly completely harvested within the past 10 years.

A number of factors can be considered in the eastern criteria for an area to be conducive to the perpetuation of wilderness values. These specifically include the relationship of the area to sources of noise, air, and water pollution, as well as unsightly conditions that would have an effect on the wilderness experience and the amount and pattern of Federal ownership. Methods to evaluate these factors include the evaluation of the recreation opportunity spectrum, particularly identifying the ability of the area to provide a semi-primitive experience. Sizes and shapes of the areas are often considered to avoid small, narrow areas where it is difficult to get away from adjacent noises. The boundary of the area is often considered since boundaries with private lands constitute areas where there is little ability to manage encroachments, illegal access and activities not conducive to wilderness. The types of developments and potential for development on private lands are also considered in this criterion.

Sixteen of the seventeen wilderness areas have a core of semi-primitive recreation experience. However, none of the Thunder Ridge Wilderness has a semi-primitive recreation experience. This is a very narrow wilderness and much of it is within one-half mile of a heavily used highway (the Blue Ridge Parkway). Brush Mountain also does not have a core of semi-primitive recreation experience, but the other areas in the Virginia Ridge and Valley Act do.

Rich Hole is bordered by a state highway and is very close to an interstate highway. Many of the existing wilderness areas have over half of their boundaries with private lands (Kimberling Creek, Little Wilson Creek, Rough Mountain, Three Ridges and The Priest). This is also true of

Lynn Camp Wilderness Study area in the current bill. Hunting Camp Creek and Stone Mountain in the current bill are almost entirely bordered by private lands.

In regard to outstanding and reserved mineral rights the existing wilderness areas have very little land underlain by private minerals. Lewis Fork has 80 acres and Beartown has 552 acres. For the newly proposed wilderness areas, Brush Mountain has 144 acres and Raccoon Branch has 150 acres.

A core of semi-primitive recreation appears to be an important factor in wilderness designation. In addition, the absence of outstanding and reserved mineral rights also appears to be a very important factor. The actions of congress indicate that the 5,000 acre size is often an important factor in wilderness designation, but is not a requirement.

However, it is also clear that the presence or absence of an area on an inventory is of little concern to Congress. In the current bill before Congress, Stone Mountain was not part of the Jefferson Roadless Inventory, but was recommended for wilderness in the Forest Plan and is proposed as wilderness. Lynn Camp Creek was not included in the Jefferson Roadless Inventory, was not recommended for wilderness, but is proposed as a Wilderness Study Area. James River Face Wilderness Addition was in the Jefferson Roadless Inventory, was recommended for wilderness in the Forest Plan, but is not included for wilderness designation in the bill.

In addition, Judge James C. Turk's August 17, 1998 ruling in Shenandoah Ecosystems Defense Group et al. (Case Number 98-0388-R in Western District of Virginia) on whether a Wilderness Society's area qualifies as roadless, as follows:

> *(1) the decision to omit the project areas from a roadless inventory was correct, because no legal consequences will flow from the compilation of the preliminary roadless inventory, the plan revision process is ongoing, and no wilderness recommendations have been made; and the agency reasonably concluded that the areas did not meet the criteria for inclusion into the roadless inventory, and (2) for Virginia, Congress has provided that potential wilderness areas will not be afforded special protection based solely on their status as potential wilderness areas until they are recommended for wilderness designation in a Final Revised Forest Plan, accordingly, no legal consequences will flow from an area's inclusion or exclusion from a preliminary roadless inventory.*

The purpose of this review is to identify areas for potential recommendation to Congress for designation as wilderness. The Forest will follow the Forest Service Handbook as interpreted previously in this paper. This seems to generally follow the previous intent of Congress, and Congress will include any additional areas as it desires.

All of the areas in the Roadless Inventory completed with the 1993 Forest Plan Revision (about 251,000 acres) have been evaluated as potential additions to the National Wilderness Preservation System. Any areas identified through this new process will be evaluated in a similar manner.

Conclusion

The following screens will be used to identify areas to include in the inventory of potential wilderness areas.

FSH 1909.12 Chapter 70 Reference	Potential Wilderness Screens
71.1 Par. (1)	1) Areas contain 5,000 acres or more.
71.1 Par. (2)	2) Areas contain less than 5,000 acres, but can meet one or more of the following criteria: a. Areas can be preserved due to physical terrain and natural conditions; b. Areas are self-contained ecosystems, such as an island, that can be effectively managed as a separate unit of the National Wilderness Preservation System; c. Areas are contiguous to existing wilderness, primitive areas, Administration-endorsed wilderness, or potential wilderness in other Federal ownership, regardless of their size.
71.1 Par. (3)	3) Areas do not contain forest roads (36 CFR 212.1) or other permanently authorized roads, except as permitted in areas east of the 100th meridian (sec. 71.12), (Less than 1/2 mile of system road per 1000 acres).
71.12 Par. (4) (1995 R8 Guidance)	4) Areas have semi-primitive (SP) core solitude greater than 2500 acres on NFS lands or otherwise provide solitude (e.g. topography). Eliminates smaller and/or narrower areas with small SP cores (limited solitude). Smaller or narrower SP core areas often indicate private land influenced core.
71.11 Par. (6)	5) Areas are not excessively fragmented by interior private land. (Greater than 70% NFS land).
71.11 Par. (6)	6) Areas are not excessively fragmented by interior private mineral rights. (Greater than 70% NFS mineral rights and not currently leased).