Recommendations for GWJNF Old Growth Survey Protocol

Basic Changes from Current OG Protocol: an Executive Summary

1) Focus on remnant trees is eliminated.
2) Extensive variable radius plots are still the first screening – but more information and more specific information is gathered at this stage.
3) Determine the areal extent surrounding individual variable radius plots meeting all 4 operational criteria for OG.
4) All verified OG patches exceeding 1 acre are documented in FSVeg Spatial (in some fashion).
5) Training is provided to field personnel focusing on visual identification of old age trees and implementation of this protocol.

Protocol Detail

We will use the following conceptual dichotomous key to focus OG survey protocols on those areas where it is most important.

1. Is this clearly an old-growth forest with minimal signs of human disturbance?
   Yes…..Proceed to site description and add to old-growth inventory (no need to perform an extensive survey if the area is clearly OG.)
   No…... 2
2. Is this stand a plantation or stand that the Forest Service regenerated; the year of origin is relatively recent and well documented?
   Yes….Proceed to site description
   No…..3
3. Is the stand clearly even aged and younger than 80 or 100 years old (pine and hardwood types (respectively) – e.g. a former clearcut, old field succession, or stand replacement fire?
   Yes…..Perform standard Common Stand Exam and address age criterion.
   No……The stand is two aged or may be older than 80 or 100 years (pine and hardwood types (respectively) then complete the old-growth field protocol as described below.

Preliminary OG surveys will coincide with standard Common Stand Exam (CSE) surveys; 10 factor variable radius plots placed systematically with sufficient intensity to obtain 15% standard error for trees per acre. The tally form for the OG surveys has been altered to include: a latitude and longitude for each plot; replaces references to remnant trees with minimum old age trees when evaluating criterion 1; record the basal area of minimum old age trees; identify the type of disqualifying human disturbance if human if such disturbance is found; identify the plot, species, diameter and age of any trees cored; identify other OG characteristics; identify a range of TPA required to meet criterion 1; and space for a narrative site description summarizing important characteristics relating to the determination of OG status one way or the other (Tally sheet attached).

For the oldest age class, long lived species such as chestnut oak, white oak, black gum, yellow poplar, and hickory should be prioritized for coring over scarlet oak, black oak, northern red oak, and red maple if there is a choice. Cores of diffuse porous species like black gum, poplar, birches, and maples should be retained for sanding and counting in controlled conditions. The Eastern OLDLIST should be utilized as a reference when determining which trees to core to establish the age of the oldest age class (http://www.ldeo.columbia.edu/~adk/oldlisteast/).

In the event that no plots meeting the OG criteria are identified in the preliminary survey, then the area is not considered OG.

Plots that do meet all four operational criteria defining OG will be further investigated to determine the size of the potential OG area and/or verify the determination of the variable radius plot. This more in depth investigation will likely involve a combination of simply walking the area and visually determining where the concentration of old age trees occurs but may also include installing ¼ acre fixed radius plots to record species, diameter, and presence or absence of

minimum old age trees. This more detailed investigation could occur at a different time and be performed by personnel more familiar with old age tree and OG characteristics.

Once identified, any OG patch exceeding the minimum size of 1 acre will be documented (either as a discreet polygon (approx. 5 acres) or an inclusion in FSVeg Spatial as described below whether a treatment is proposed or not. The goal is to begin building a database of known, verified OG patches on the GWJ.

The FS will produce a photo guide depicting typical characteristics of old age trees such as "very" mature bark, heavily limbed or branched crowns, low stem taper, and stem sinuousity. Provide field exercises to train personnel in the visual identification of old age trees utilizing the photo guide described above, as well as the basic procedures for performing both variable and fixed radius plot surveys. Biologists would be encouraged to participate as well since they would provide another "pair of eyes" that may identify potential OG patches through different surveys methods. This session would also emphasize the importance of properly identifying small old age trees, especially in the variable radius plots, as well as provide guidance on when it is appropriate to identify human disturbance as a criterion that eliminates an otherwise OG stand (e.g. road/skid trails, stumps alone do not necessarily disqualify). Identification of which trees to core to determine age of the older age class(es) would also be presented. Identify potential barriers to historical logging that may aid in the confirmation of patches of OG (e.g. excessive rock often prevented animal logging, so those areas were avoided in the past leading to a present OG patch).

Training would also present appropriate or valuable items to note in the narrative site description. For example: "Large chestnut oaks and red oaks are present, with some poplars and red maple also filling in the canopy and some large snags present. Coring revealed that all large chestnut oaks were over 130 years, but red oaks and other species were under 90 years of age. I suspect that this stand was high-graded for valuable red oak and poplar, while chestnut oaks and defective trees were left behind. This stand is developing old-growth character but has not yet attained old-growth status."

OG patches greater than or equal to 5 acres are spatially delineated in FSVeg Spatial (e.g. they are a separate polygon with unique data). A "Y" would be entered in the Local Field titled Old Growth to indicate that the old growth status of these stands have been field verified. The Year of Origin for the oldest age class would be entered into The Local Land Class Qualifier field. OG patches less than 5 acres would be entered as inclusion acres in FSVeg Spatial and a note in the Remarks column would indicate that the inclusion is OG. Patches less than 5 acres are not spatially tracked. Additional training or re-training of District folks in the use of FSVeg Spatial will be necessary. This training could coincide with the field training discussed above, but may be more valuable as a one-on-one exercise between the Forest Silviculturist and appropriate District personnel.

Designation of OG does not necessarily eliminate active management; various management activities that maintain or enhance OG structure or types such as, creating late open canopy, eliminating NNIS, preventing forest type changes would be acceptable. The Forest Plans do allow for harvesting of old growth, including regeneration harvests, within specific community types and/or under certain conditions.

GEORGE WASHINGTON NATIONAL FOREST
OLD GROWTH FIELD TALLY SHEET

Project Name:_____

Comp/Stand: _____ Date: _____ Initials: _____

Individual Tree Tally															
Plot #															
Latitude															
Longitude															
DBH (2" Class)	TPA Equivalents	#	TPA	#	TPA	#	TPA	#	TPA	#	TPA	#	TPA	#	TPA
DBH 10"	18.4														
DBH 12"	12.7														
DBH 14"	9.4														
DBH 16"	7.2														
DBH 18"	5.7														
DBH 20"	4.6														
DBH 22"	3.8														
DBH 24"	3.2														
DBH 26"	2.7														
DBH 28"	2.3														
DBH 30"	2.0														
DBH 32"	1.8														
DBH 34"	1.6														
DBH 36"	1.4														
DBH 38"	1.3														
DBH 40"	1.1														

Stand Summary							
Forest Type							
Old-Growth Type							
Stand Age (Yrs.)							
Oldest Age Class in Plot (Yrs.)							
Min Old Age TPA: ***CRITERION 1***							
Min Old Age BA:							
Disqualifying Disturbance (y/n): ***CRITERION 2***							
Type of Disturbance							
Total BA (6"+): ***CRITERION 3***							
10"+ DBH TPA (OGT 24) ***C***							
14"+ DBH TPA (OGT 1) ***R***							
16"+ DBH TPA (OGT 22) ***I***							
19"+ DBH TPA (OGT 25) ***T***							
20"+ DBH TPA (OGT 2,21,24)							
30"+ DBH TPA (OGT 5) ***4***							
OG Criteria Met (Y/N)							

Trees Cored:

Plot No.	Species	DBH	Age

Other OG Characteristics:

No. Snags > 12"			
% of Canopy in Gaps			
No. Canopy Layers			
Coarse Woody Debris	Low	Med.	High
Fungi/Lichen	Low	Med.	High

Site Description (As appropriate for this stand: summarize such things as dominant species and sizes, coring results, description of differing age classes, presence of any barriers to historical logging, evidence of fire or other disturbance events, NNIS, etc. Conclude with a statement of why the stand/patch does or does not meet Region 8 OG Criteria.):

Forest Type to Old Growth Community Type Crosswalk

CISC Forest Type	**Old Growth Type (OGT)**
81	1
3,4,5,8,17	2
41,50,56,81(in part)	5
51,52 (in part),53,54,55,59 (in part),60 (in part)	21
52,57,59,60	22
12,15,16,20,32,33,38,39	24
10,12,13,16,31,32 (in part),33 (in part),42,44,45,47,48	25

Operational Definitions

OGT	**Minimum Old Age**	**TPA of Old Age**	**Minimum Basal Area**	**Minimum DBH**	**TPA of Min DBH**
1	100	20-30	40	14”+	6-10
2	140	6-10	40	20”+	6-10
5	140	20-30	40	30”+	6-10
21	130	20-30	40	20”+	6-10
22	110	20-30	10	16”+	4-10
24	100	6-10	20	10”+	4-10
25	120	20-30	40	19”+	6-10

These tables are adapted after Guidance for Conserving and Restoring Old-Growth Forest Communities on National Forests in the Southern Region, Forestry Report R8-FR 62, June 1997.