WHITE PAPER

USDA Forest Service Pacific Northwest Region Umatilla National Forest

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Potential Vegetation Mapping Chronology[1]

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INTRODUCTION

A distant summer view of the Blue Mountains shows a dark band of coniferous forest occurring above a lighter-colored grassland zone. Each of the two contrasting areas seems to be homogeneous, and the border between them appears sharp (Powell 2000).

A closer view reveals great diversity within each zone and borders that are poorly defined: herbaceous communities and stands of deciduous trees are scattered throughout the coniferous forest, and the species of dominant conifer changes from one site to another. At the foot of the Blue Mountains, fingers of forest and stands of tall deciduous shrubs invade the grassland zone for varying distances before becoming progressively less common and eventually disappearing altogether (Powell 2000).

This vegetation pattern demonstrates that the Blue Mountains are broken up into a myriad of small units, many of which repeat in an intricate, changing pattern. Making sense of this landscape mosaic is possible by using a concept called potential vegetation (PV) (Powell 2000).

Potential vegetation implies that over long periods and in the absence of disturbance, similar types of plant communities (potential vegetation types, or PVTs) will develop on similar sites. Knowing which PVT will develop is useful because it

[1] White papers are internal reports; they receive only limited review. Viewpoints expressed in this paper are those of the author – they may not represent positions of USDA Forest Service.

indicates ecological site potential and helps predict ecosystem response to disturbance processes such as wildfire and invasive species.

Forest managers need to be able to recognize and understand ecological site potential because the potential vegetation of an area greatly affects management for livestock grazing, wildlife, timber, fire and fuels, watershed, and recreational values. Physical site conditions – a 'biophysical environment' for plant life – provide clues about ecological site potential, a potential vegetation type, for an area.

Influences of potential vegetation on resources and values is known as 'management implications' because implications of silviculture and forest management practices vary as potential vegetation changes. How can we understand the vegetation of a site? Have the trees, shrubs, or herbs been there for a long time (e.g., are they a 'climax' vegetation), or are the plants temporary and soon to be succeeded by a different type of vegetation (e.g., are they are a successional stage, either early or mid)?

Much of silviculture and forest management relies on practitioners being able to interpret the potential vegetation context of a site. For this reason, forestry and silviculture education emphasize instruction in a 'vegetational approach' (Daniel et al. 1979) to ecological site quality determination. A vegetational approach allows managers to interpret site quality by using potential vegetation (plant association; habitat type) instead of alternative approaches such as site index or normal yield tables.

Existing vegetation (EV) differs from PV because it represents conditions as they exist today – what a land manager finds on the ground and deals with daily. Historically, natural resource management was based on classifications of existing vegetation. Although maps displaying existing vegetation provide valuable information about current composition and structure, they supply little insight about site productivity and management implications.

This means that the two classification approaches – potential vegetation and existing vegetation – tend to be used in different ways and for different purposes: existing vegetation is well suited for meeting day-to-day needs because it represents "what is" (current conditions), whereas potential vegetation is ideally suited for planning and assessment processes because it represents "what could be" (ecological site potential).

Land managers need maps pertaining to both types of vegetation, existing and potential, but the two types vary in at least one important aspect: EV maps are typically ephemeral because existing conditions can change rapidly – an existing vegetation map is only accurate until the next extensive wildfire or insect outbreak causes widespread change. In this context, EV maps should perhaps have a 'Best By' date, just as many commodities at the supermarket do!

In contrast to EV maps, potential vegetation mapping can be viewed as 'permanent,' except when considering possible changes in biophysical potential relating to climate change. Barring extremely unusual circumstances, a wildfire or insect outbreak will not change the PV of an area – if a site has a grand fir/twinflower site potential before a disturbance event, then it will also have a grand fir/twinflower site potential after the event.

Due to their relative permanence, PV maps are extremely useful for a wide range of natural resource management purposes, especially for any purpose requiring an estimate of biophysical site potential. In fact, one objective of PV mapping is to delineate relatively homogeneous units of biophysical environment; map units are characterized as potential vegetation types (PVTs), and PVT names or symbols are used as map-unit labels for the resulting map.

The information presented in this white paper describes how a potential vegetation map was prepared for the Umatilla National Forest (NF). The Forest compiled many iterations of existing vegetation maps over the years (often in conjunction with a Forest-wide timber inventory, and inventories were generally completed on a 10- to 20-year cycle beginning in the 1940s), but a PV map prepared in the late 1990s was the first, and only (to this point), map depicting potential vegetation conditions for the Forest.

Since PV mapping gets high use and is expected to have a long 'shelf life,' this white paper provides a chronological description of how a PV map was prepared for the Umatilla NF, and why (i.e., it provides background information and context for most of the map-preparation steps).

Early listings in the chronology describe development of a potential vegetation hierarchy. These hierarchical units are provided in the map's metadata because the map describes not only fine-scale units (e.g., PVTs), but also mid-scale aggregation units such as plant association groups (PAGs) and potential vegetation groups (PVGs). And, the early steps demonstrate that a map is basically just a logical product of a comprehensive PV process – without the early process steps, it is uncertain whether a useful map could have been produced.

May 1994	Charlie Johnson, Area Ecologist for the Blue Mountains, assigns Blue Mountains potential vegetation (PV) types to temperature/moisture matrices for the Interior Columbia Basin Ecosystem Management Project (ICBEMP). This step is completed by respective Area Ecologists for each portion of the ICBEMP assessment area. Results are described in Jensen et al. 1997 for the ICBEMP area. Note: In the mid-1990s, a broad-scale scientific assessment was conducted to examine ecological, biophysical,

	social, and economic conditions for an area encompassing 145 acres in portions of eight western states – this was the Interior Columbia Basin Ecosystem Management Project (ICBEMP). The ICBEMP assessment area includes U.S. portions of the interior Columbia River basin east of the crest of the Cascade Mountains in Oregon, Washington, Idaho, and western Montana, along with adjacent portions of Wyoming, Nevada, California, and Utah (some of the adjoining area includes portions of the Klamath and Great Basins).
November 1995	Representatives from all three Blue Mountains national forests (Malheur, Umatilla, Wallowa-Whitman) met in Baker City, where Area Ecologist Charlie Johnson distributed his May 1994 material and explains the ICBEMP temperature/moisture approach. Charlie attempts to persuade the Forest representatives to adopt the temperature/moisture groups as their “biophysical environments,” which relates to a requirement from the Ecosystem Screen of the Eastside Screens amendment to Blue Mountains Forest Plans (USDA Forest Service 1995) (the Screens were initially released in August 1993, by the Regional Office, and were required to be used by all Eastside national forests).
January-May 1996	Umatilla NF explored options to prepare a PV map by making contacts with the Ochoco NF; Jan Henderson, Area Ecologist for northwest Washington (relating to Jan’s PV modeling approach initially developed for northwest Washington), and the Deschutes NF (they had recently used a contract to complete PV mapping for 1.6 million acres).
August 1996	Umatilla NF (Dave Powell) awards a contract to an ecologist (Ayn Shlisky) to complete plant association determinations for the 70,000-acre Desolation Creek watershed on the North Fork John Day Ranger District. Ayn Shlisky, Assistant Area Ecologist for a Westside ecological area, had just finished her assignment to the ICBEMP project in Walla Walla, and she had recent Umatilla NF experience when working on a forest health assessment for the North Fork John Day River basin in the early 1990s.

October 1996	Ayn Shlisky is snowed out, and her contract is modified to allow her to 'model' missing plant association determinations based on what she learned from her field examinations during the field season. Ayn had also been evacuated from the Desolation watershed during the 1996 wildfires, specifically for the Bull fire, and this was another reason that she had not been able to complete the contract work when anticipated.
December 1996	The Umatilla NF forms a PV working group consisting of Charlene Bucha, Les Holsapple, John Keersemaker, Dave Powell, and Karl Urban. The group's objective was to establish consistent plant association groups (PAGs) and potential vegetation groups (PVGs) for use in watershed analysis and forest planning.
Dec. 1996-Jan. 1997	1. Vegetation databases (CVS, MSS, EVG, etc.) were queried to determine which PV codes had been used on the Forest historically. Over 12,000 field surveys supplied a plant association or plant community type code (mostly for forested sites; little nonforest coding was available). 2. Karl Urban reviews Johnson and Clausnitzer (1992), and Crowe and Clausnitzer (1997), and then decides which of the nonforest and riparian PV types occur on the Umatilla NF.
Early January 1997	The PV working group met to assign upland-forest PV types found on the Umatilla NF to a temperature/moisture PAG. Initial assignments were based on matrices that Charlie Johnson submitted to ICBEMP in May 1994.
Late January 1997	The PV working group met with Charlie Johnson in Pendleton to discuss his assignments of PV types to PAGs. As a result of this meeting, some types were moved from one PAG to another. In some instances, Umatilla NF personnel convinced Charlie to move a PV type from one matrix cell to another; in others, Charlie refused to agree to a proposed move. ***No PV types were moved in the matrix without Charlie's approval or concurrence!*** One type, PSME/HODI, Douglas-fir/oceanspray, was provisionally moved into the Warm Dry Upland Forest PAG, in the Dry Upland Forest PVG, pending further field review, by Charlie, in the Elbow Creek and Grande Ronde

	River portions of the Walla Walla RD. After Charlie completed field review over the next year, he decided to move this PVT back into its original matrix cell (e.g., Warm Moist Upland Forest PAG in the Moist Upland Forest PVG).
January-Feb. 1997	A cross-section of Tri-Forest employees was asked to review the upland-forest temperature/moisture matrix. Charlie Johnson compiled a list of employees that were selected for this review.
March 1997	Blue Mountains PV working group met to finalize assignment of upland-forest PVTs to PAGs, based on results from the Tri-Forest review, and to make initial assignments of PAGs to PVGs (e.g., dry, moist, cold forest).
June 26, 1997	At a meeting in the SO (Pendleton), results of the PV working group were presented to Umatilla NF representatives from every Ranger District. Some of these employees were also involved with the Tri-Forest review during January and February 1997.
June to Sept. 1997	The Umatilla NF PV working group met with representatives from the Malheur and Wallowa-Whitman national forests at a series of meetings in John Day and Baker City. At these meetings, the Umatilla's matrix assignments were refined for the whole Blue Mountains ecological province.
November 1997	A Tri-Forest PV group met in Baker City to assign the woodland (juniper), upland shrubland, upland herbland, riparian forest, riparian shrubland, and riparian herbland PV types to temperature/moisture PAGs, and to aggregate these PAGs into PVGs.
December 16, 1997	A draft 'process document' was circulated to Umatilla NF employees for review. It described the process for assigning PV types to both PAGs and PVGs. This process document was designed to function as a 'user guide' for the new PV classification approach.
Early 1998	Special funding is received from RO Planning to initiate a PV map for the Umatilla NF. The Wallowa-Whitman NF also received this funding (unknown if the Malheur NF also did, but I assume they did).

May 28, 1998	Karl Urban, Forest Botanist, begins work on a PV map for the Umatilla NF. He uses the 1990 EVG (existing vegetation) polygons as a starting point, occasionally splitting large polygons if necessary (less than 10 splits occurred, on average, per 7½ minute quadrangle map). The draft "Potential Natural Vegetation" report (see December 1997 listing) was also intended to help support this mapping effort. *Appendix 1 (page 12) provides detailed comments from Karl about this PV map and its preparation*.
June 1998	"Potential Natural Vegetation of the Umatilla National Forest" was published (31 pages). This document provides a series of tables showing how PV types were assigned to PAGs and PVGs for upland, riparian, and woodland physiognomic classes. This document was a final version of the draft guide circulated in December 1997. Note that this document is provided in its entirety as white paper F14-SO-WP-SILV-29. It also formed the basis for a much longer, and more detailed, version published as General Technical Report PNW-GTR-709 by the Pacific Northwest Research Station in June of 2007 (Powell et al. 2007).
November 30, 1998	Karl Urban goes on extended medical leave after completing PV mapping for approximately 80% of the Umatilla National Forest.
January 1999	Unfortunately, Karl passes away. Scott Riley, Karl's assistant, assumes responsibility for the PV mapping project by fixing errors and making PV assignments for incomplete polygons.
June 1999	Scott Riley completes PV map updates by fixing errors and making PV assignments for incomplete or missing polygons.
August-Sept. 1999	Charlie Johnson completes a 3-week reconnaissance review of the Umatilla's PV map, visiting a total of 1,032 polygons across all four Ranger Districts.
December 1999	Charlie's reconnaissance data was keypunched into a Paradox database, checked for accuracy (including a spatial accuracy check using the 1994 DOQs), and then summarized. A total of 810 of the original 1,032 polygons were considered usable for comparison purposes, and

	his field review results for these polygons yielded the following accuracy percentages: Umatilla PV map was correct 28% of the time at the plant association level, 54% of the time at the PAG level, and 63% of the time at the PVG level. *Appendix 2 (page 17) provides Charlie's "Summary of Findings" for the PV verification effort, including detailed lists showing the portions of each of the four Ranger Districts that were visited during the review.*
January 18, 2000	Delanne Ferguson, Natural Resources Staff Officer for the Umatilla NF, briefs the Umatilla FLT about the PV map. Her briefing paper explores several strategies for fixing the Forest's PV map, and raises questions about whether the PV map should be 'officially' released for unrestricted use (in GIS) before any updates are completed. *Appendix 3 (page 55) provides Delanne's 7-page PV Briefing Paper.*
May-October 2000	Umatilla NF hires two seasonal employees with high botany skills to prototype a field reconnaissance process to 'fix' (update) the Forest's PV map (one of these employees was Mark Darrach, who eventually was hired as a botanist for the Umatilla NF). Approximately 500 polygons are reviewed in the field. Cost for this reconnaissance process ran about $0.85 per acre.
August 2001	Umatilla NF uses 'lessons learned' from prototype reconnaissance effort (May-October 2000) to prepare and advertise a multi-year contract for field verification of plant associations.
November 2001	PV field verification contract is awarded to Columbia Environmental Services, Inc. of Pasco, Washington. (Also see September 2002 listing below.)
January-March 2002	Scott Riley initiates a 'data funnel' process to assess the usability of historical stand exams and other field surveys as one option for updating the Forest's PV map. Exams that make it through the data funnel represent areas that do not have to be reviewed in the field – PV coding associated with these high-quality exams are used verbatim.
August 19, 2002	All three of the Blue Mountains national forests (Malheur, Umatilla, Wallowa-Whitman) formally agree to adopt a

potential vegetation hierarchy approach for forest planning and ecosystem assessments. The reason for approving this agreement is to ensure consistency among the Blue Mountains national forests in terms of how they apply PV concepts during implementation of historical range of variability analyses required by the Eastside Screens, and how the three Forests characterize PV during "ecosystem analysis at the watershed scale" (e.g., watershed analysis). The hierarchy approach is the same as one described in a publication called "Potential Natural Vegetation of the Umatilla National Forest" (see June 1998 listing in this white paper; note that white paper F14-SO-WP-SILV-29 provides this publication in its entirety), and as derived from a PV characterization process developed and implemented by the Interior Columbia Basin Ecosystem Management Project. The 20-page agreement was in the form of a "Forest Planning Decision Document," and it was signed by all three Forest planning staff officers (William Supulski for Malheur NF; David Hatfield for Umatilla NF; Dee Hines for Wallowa-Whitman NF) and by all three Forest Supervisors (Roger Williams for Malheur NF; Jeff Blackwood for Umatilla NF; Karyn Wood for Wallowa-Whitman NF).

Appendix 4 (page 62) provides a Tri-Forest agreement approved in August 2002 by Forest planning staff officers, and by Forest Supervisors, for the Malheur, Umatilla, and Wallowa-Whitman national forests.

September 2002

CESI completes the first year of the contract, completing fieldwork on both the Umatilla and Wallowa-Whitman national forests.

Note: I am unaware of how this contract work ultimately turned out. I believe the contract was prepared as an IDIQ (Indefinite Delivery, Indefinite Quantity) solicitation, which, if true, means that the contractor was not guaranteed a specific amount of work during each fiscal year (FY). If funding was limited for fiscal years after the contract award FY, then limited amounts of additional verification work may have occurred. Contact Don Justice in the Supervisor's Office, or refer to the PV map's metadata, for information about PV verification work completed under contract by CESI.

April 2005	Dave Powell works with an analyst from Utah State University (Alison Kelly) and a wildlife biologist from Boise Cascade Corporation (Bob Riggs) to examine whether a usable PV map could be developed by predictively modeling PV occurrence in a geographic information system (GIS) framework (Kelly et al. 2005). Soils and geology data, along with other biophysical information including precipitation and topographic moisture indices, was integrated with a wide variety of high-quality PV plot data (much of which was screened with help from Charlie Johnson, Area Ecologist for Blue Mountains) and then analyzed by using a specialized statistical technique called Classification and Regression Trees (CART). Overall model accuracy ranged from 30% at the plant association level to 63% at the plant series level (such as the grand fir series, which includes all grand fir plant associations).
Mid to late 2000s	Major updates were made to the PV map by incorporating PVT codes from historical field surveys such as stand examinations. Generally, survey sources used for these updates were not involved in the 'Data Funnel' process implemented by Scott Riley during January to March, 2002. Specifically, the following update sources were used for updates: CVS ecoclass codes – CVS (Current Vegetation System) involves a grid-based inventory system where some plots are spaced 1.7 miles apart (for lands outside of Wilderness) or 3.4 miles apart (within Wilderness). Desolation watershed ecoclass codes – this source primarily involves field determinations of plant associations completed by Ayn Shlisky while working as a contractor for the Umatilla NF (see August and October 1996 listings for more information about this work). Johnson field review ecoclass codes – this is the data collected by Charlie Johnson, Area Ecologist, while reviewing the Forest's PV map prepared by Urban and Riley (August thru December 1999 listings describe this source). Kelly plot data ecoclass codes – this data was collected by Alison Kelly while she was completing a Master's degree and associated thesis by sampling PV in the North

Fork John Day Wilderness (Kelly 1999).

Historical ecoclass codes for NFJD District – when the North Fork John Day RD prepared a map showing polygons for which a stand examination had been completed, the map attribute included the survey's ecoclass code. The polygon boundaries and ecoclass codes were used for PV map updates.

Pomeroy field surveys of Asotin and Tucannon watersheds – between 1993 and 1995, well-trained and experienced Pomeroy RD employees visited all of the EVG polygons in two large watersheds, and they recorded a 'best fit' ecoclass code to represent the predominant plant association found in the polygon.

Tucannon fire study ecoclass codes – Emily Heyerdahl sampled four watersheds across the Blue Mountains (Tucannon River, Imnaha River, Baker City watershed, and Dugout Creek) during her Ph.D. study (Heyerdahl and Agee 1996, Heyerdahl 1997). She provided her data for the Tucannon River watershed sample area, and the ecoclass codes were used for an update.

[Note: Heyerdahl's Ph.D. work is described in detail in two other silviculture white papers: WP-6, Blue Mountains Fire Regimes; and WP-21, Historical Fires in Headwaters Portion of Tucannon River Watershed.]

June 2007

A general technical report (GTR) is published by the Pacific Northwest Research Station; it is entitled "Potential Vegetation Hierarchy for the Blue Mountains Section of Northeastern Oregon, Southeastern Washington, and West-Central Idaho" (PNW-GTR-709; 87 p.). The report was authored by David C. Powell, Charles G. Johnson, Jr., Elizabeth A. Crowe, Aaron Wells, and David K. Swanson. In some respects, this publication is based in the "Potential Natural Vegetation" report (see June 1998 listing and white paper F14-SO-WP-Silv-29, Potential Natural Vegetation of Umatilla National Forest), along with associated work described in a Tri-Forest agreement approved by planning staff officers and Forest Supervisors of Malheur, Umatilla, and Wallowa-Whitman national forests in August of 2002 (see appendix 4). The GTR, however, is greatly expanded to provide more back-

ground material about PV concepts and hierarchical approaches, and it puts our local (Blue Mountains) PV hierarchy in the context of a national hierarchy of terrestrial ecological units by demonstrating how it was applied specifically to the Blue Mountains section. Since its publication, this GTR has become a de facto standard for PV characterization for vegetation management project planning, ecosystem assessments, and similar activities for Blue Mountains national forests.

APPENDIXES

APPENDIX 1: COMMENTS ABOUT POTENTIAL VEGETATION MAP

Prepared by Karl Urban, Forest Botanist, Umatilla National Forest
November, 1998

I will be on medical leave beginning November 30 and wish to provide the following information about a long-term project that I have been working on diligently since May 28, 1998 – the potential vegetation map of the Umatilla National Forest.

STATUS OF THE MAP

First assignments: All of the Forest's quad maps have been subjected to "first" coverage and submitted to Ella Warner in GIS. As Ella Warner and Kim Jones enter the new polygon ID tags, they discover polygons that I missed in the first coverage. They highlight the "missing" polygons and return the maps to me for "second" assignments. I do not have access to the GIS room today to do an actual "map count," so I'll do my best to guess the status:

a) 40 quads have gone through first and second assignments and are usable (i.e., they are "in the system"). These include the Desolation and Umatilla-Meacham watershed quad maps. I believe all of the Middle Grande Ronde maps also fall into this category.
[Powell's comment: the PV mapping was considered a crucial data source for the Umatilla NF's ongoing watershed analysis process. For this reason, Karl was asked to complete PV mapping for watershed analysis areas first.]

b) I have completed first and second assignments for ten additional quads. The "second" assignments for these quads still need to be entered into "the system."

c) 40 quads have gone through "first assignments" and await input into GIS. The next step for these quads is "second assignments" and "second system inputs."
[Powell's comment: the proclaimed Umatilla NF is contained within approximately 100 U.S. Geological Survey 7.5-minute quadrangle maps (app. 95 maps). At the time the EVG database and map layer was developed, 7.5-minute quads were used as a primary base map system for all resource mapping and assessment. For this reason, Karl decided to stay with the existing quad map system when developing the PV map. Plus, Karl referred frequently to his field notes collected during many years of sensitive plant surveys in the Blue Mountains, and most of his notes were recorded on 7.5-minute quadrangle maps.]

WHAT THE MAP IS AND WHAT IT IS NOT

1) The potential vegetation is based upon the existing vegetation polygons as drawn in the 1996 EVG layer. Although the objective of this project was *not* to delineate new vegetative polygons, in some cases (fewer than 10 per quad) there were some discrepancies that were corrected by drawing or deleting polygon lines.
[Powell's comment: in a 'perfect world,' PV mapping would generate its own

polygons, so that polygon boundaries reflect changes from one potential vegetation type to another. For existing vegetation maps, such as the Forest's EVG layer, polygon lines reflect changes in existing vegetation conditions, such as transitions from one size class to another (poletimber to sawtimber) or from one cover type to another (grand fir to ponderosa pine). Karl decided to use the EVG polygon lines at least partly for expediency (drawing new PV polygon lines would have added substantial additional time to the process), and because he reviewed the EVG lines and believed they represented a reasonable starting point, recognizing that future updates would occur for many reasons and polygon lines could be adjusted then. Also, see Karl's comment in #3 below.]

2) Because potential vegetation *should focus on climax associations* rather than seral (in the ecological, not structural, sense), almost all of the associations assignments were climax rather than seral. Consequently, *most of the seral associations do not appear in the final product*. One notable exception occurs with the grasslands. In many instances, there is insufficient soil remaining on grasslands to enable full recovery to what the anticipated climax association should be. Consequently, some of the grassland associations were assigned a potential *seral* association rather than a climax association.
3) Each polygon was given a "primary" or "average" plant association assignment based primarily on the Blue-Ochoco ecological classification (Johnson and Clausnitzer 1992). *This was the most difficult part of the project because an 80-acre polygon can conceivably support up to ten or more plant associations*. It was obvious that the EVG polygons were drawn on the basis of the overstory vegetation (or cover types) and did not reflect the understory associates which are key to plant associations and successional schemes.
4) Primary plant association assignments for the potential veg polygons was based on the mapper's familiarity with the *relative* locations of understory indicator species across the Umatilla National Forest. This part of the project was *most enjoyable* since it entailed a mental "revisit" spanning some 30 years of walking these remarkable Blue Mountains. There were two notable "holes" in this exercise of recalling where I'd been and what I remembered about the plant life. I did my best to piece together the potential vegetation of the *northwestern one-third of the Wenaha-Tucannon Wilderness Area* and the *eastern half of the Mill Creek Watershed* – places where my boots have left no footprints. Assignments in these two areas were done by integrating elevation, aspect, slope, and information from the SRI GIS layer.
5) Each plant association is given a "map-link" code which enables it to be aggregated upward to the Plant Association Group (PAG) level and onward to the Potential Vegetation Group (PVG) level. *This upward aggregation is truly the value of the potential vegetation map*. The map-link code is 5 characters. The first letter

codes N or R for non-riparian or riparian. The second letter codes for F (forest), W (woodland), S (shrubland), G (grassland), R (rock or sparsely vegetated rock), or W (impounded water). The third character (number) codes the temperature regime (1 = cold; 2 = cool; 3 = warm; 4 = hot). The fourth character (number) codes the moisture regime (1 = wet; 2 = very moist; 3 = moist; 4 = dry). The fifth character (letter Z or number) is essential in separating riparian associations on the basis of soil moisture (1 = high soil moisture; 2 = moderate soil moisture; 3 = low soil moisture). Non-riparian associations have the letter "Z" in this field. The map link code field should be useful in allowing rapid calculations of non-riparian forest acres (NF…), riparian forest acres (RF…), grasslands (NG…), etc., once all the polygons are entered in the system.
[Powell's comment: The "Potential Natural Vegetation" report (December 1997 and June 1998 listings in this white paper, and white paper F14-SO-WP-SILV-29, provides additional information and examples of the map-link coding scheme. As noted above, the report was developed not only to explain PV concepts and the PV hierarchy approach, but also to support development of a PV map.]

6) Because of the extreme complexity of riparian vegetation and because the riparian classification is not yet complete, assignments of plant associations within a 75-foot buffer (total 150 feet) on either side of class 1, class 2, and class 3 streams *were not made*. The width of this buffer was determined to be representative through conferences with fellow botanists on the Umatilla National Forest (i.e., Kari Yanskey and Scott Riley).

7) In some cases, riparian associations were found outside the 150-foot buffer for class 1, 2, and 3 streams. If the ecoclass code for the assigned association was given as "none" (in the classification), the closest fitting association that would put the polygon into the appropriate PAG and PVG was assigned. This imprecise assignment was deliberate and applies particularly to meadowlands where exact sedge species matches could not be made.

8) I have tried to make the map as useful as possible while staying within the constraints of the Blue-Ochoco classification (I did use a couple of Wallowa-Snake associations (Johnson and Simon 1987) for the canyonlands of Pomeroy, and at least one "association" from Hall's (1973) treatment of the plant communities of the Blues. This association is ponderosa pine/blue wildrye (CPM111)). *It is especially important that users of the potential vegetation map consider the "management implications" field* in the data table supporting the GIS polygons. There are real problems in using the Blue-Ochoco classification when considering that lodgepole pine is perhaps a long term (make that *long* term) seral species. My treatment of this problem is consistent with that of Ayn Shlisky, a contractor who "ground-truthed" the majority of veg polygons in the Desolation Watershed. This treatment is also supported by the paleontological records published recently by Mehringer (1997). While trying to use the Blue-Ochoco classification as *the*

standard and yet realizing that potential vegetation should be *climax* vegetation, I elected to code the "long term seral" (perhaps climax???) status of lodgepole pine in appropriate polygons by entering a "PICO" in the management implications field. Thus, a polygon that is coded as CWS811 (ABGR/VASC) in the ecoclass code field and which has "PICO" in the management implication field will probably support lodgepole pine and grouse huckleberry forever.

9) Other codes in the management implications include: PIMO (potential to support western white pine based on my observations of PIMO in these polygons); POTR (potential to support quaking aspen based on my observations of POTR – sometimes one wimpy whip – in these polygons usually very close to a water source or course); POBA (potential to support galleries of black cottonwood); JUOC (potential for fire suppression, etc., to allow juniper encroachment into other-than-woodland associations); PIPO (potential to use prescribed fire to maintain ponderosa pine providing the duff layer is raked away from the feeder root zones of PIPO prior to the fire so that root-steaming does not kill the otherwise fire-resistant ponderosas); TACA (potential for grassland resources loss and accompanying depletion of wildlife/rangeland forage attributable to imminent invasion of medusahead rye; VEDU (potential for grassland resource loss and accompanying wildlife/rangeland forage attributable to imminent invasion of Ventenata grass); and, finally, CESO (potential for imminent invasion by yellow starthistle). The PIPO situation mentioned above implies that we *do* have a fuels-loading problem thanks to fire suppression.

If I had more time to spend on the project, more cells in the management implications field would have been filled.

WHAT I HAVE LEARNED FROM THIS EXERCISE

1) The most ecologically imbalanced quad (existing vegetation compared with potential vegetation) is probably Lehman Springs on North Fork John Day Ranger District. Warm, dry vegetation should be much more prevalent in this quad than it actually is at the present time. No wonder so many historic railroad beds course up the creek bottoms in this part of the Umatilla National Forest.
2) Lodgepole pine is a weed! Weeds have their places in space and time. Lodgepole can be found in practically all of the forest associations and can potentially dominate many of those associations.
3) Lodgepole pine should be considered as *climax* on perhaps one third to one-fifth of the Umatilla. Since not all of the "second" round of polygon assignments are in the database and the GIS map is not complete at this time, I am only guessing at the total acreage for which "PICO" is entered in the management implication field (see discussion #8, above). Long-term occupation by lodgepole probably reflects an edaphic limitation (i.e., the soil is probably too shallow to support other than small-

statured stagnant lodgepole). This is consistent with some of the findings of soil scientist Bob Ottersburg.

[Powell's comment: Bob Ottersburg (deceased) was a private consultant and contractor (his company was called Cordilleran Services, Inc.) who was retained to delineate and describe landtype associations (LTAs) for the Blue Mountains section. The LTAs are occasionally used when conducting ecological analyses. Blue Mountains LTAs are described in Sasich (2006).]

ON TO COMPLETION

I hope to be able to complete this project as quickly as I can after my hospitalization and truly regret that I could not finish everything before hitting this medical obstacle on November 10. The doctor has indicated that I can possibly return to "light" work after December 15. I regard the map project as "light" work although my eyes tell me differently! If the December 15 date doesn't work out, perhaps I can do the remaining "second" assignments at home or in the hospital.

Despite frustrations and delays in launching, it has been a privilege to serve the Umatilla National Forest through this project. The project has been a wonderful way for me to revisit this place I have called home for the last thirty years.

Special appreciation to Dave Powell for championing the temperature-moisture matrix for classifying plant associations into plant association groups and potential vegetation groups. We spent oh-so-many hours trying to come up with an ecologically-sound scheme that would work at the tri-forest level. These efforts are captured in the guidebook that Dave compiled (Potential Natural Vegetation of the Umatilla National Forest). Since I started on the maps (May 28), Dave has had to deal with all the arguments that invariably go along with any type of standardization effort. I wish him luck!

Appendix 2

Summary of Findings
Umatilla NF Potential Natural Vegetation (PNV) Mapping Project

Results - After 15 days of field verification over major transects (roads) across all four Ranger Districts a pattern emerged regarding the accuracy of the PNV map as provided. Almost 1000 polygons (997) were bisected by the route of travel which encompassed 40 forested plant association and 15 shrubland, grassland and wetland plant associations. The field verification matched the mapped plant series 53% of the time (527 mapped units visited were correctly assigned the proper series). The field verification matched the mapped plant association 24% of the time (241 mapped units were correctly assigned the proper plant association).

Approach - To maximize the amount of field verification that could be attained across the entire National Forest, primary roads were selected that bisected key portions of the four Districts. The time was evenly spent on each District to lend balance to the effort. Maps showing the roads and the segments employed in the verification are submitted with this report. A field form was devised to use on each transect and columns provided to enter the polygon number (shown on GIS maps submitted with this report). A column was provided for entering the plant association code given in the mapped polygon. Then a column was provided where the actual plant association call was entered from the field verification. A remarks column was used to enter pertinent information for the reviewer of this report. These field forms are submitted with this report organized by Ranger District and labeled as to road segment used for the transects of the field survey.

Findings - This map was devised using a high degree of recollection as to what kind of vegetation occurred across the landscape of the National Forest. Unfortunately the employment of actual field data was not used to assist the "office" effort. Examples of key information helpful to the assignments of plant association calls in the office would have been stand exam data, ecoplots, C&T data. There were many areas visited where the series used in the office calls were based on dominant tree species and potential tree species were missed. This resulted in the first level of error when the climax dominant species was missed (eg. - ponderosa pine dominated sites where the subordinate trees were either Douglas-fir or grand fir). Next the subordinate vascular union was also often missed when the dominant shrub or forb was employed for indicating the type (plant association) and the subordinate shrub or forb indicating the microenvironment was missed (eg.- the call was subalpine fir/big huckleberry and the beadlilly beneath was missed).

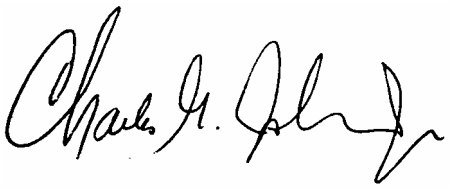
Recommendations - The current map is correct to the series level only 50% of the time. The desire to map to the plant association level has been our goal and need. This map currently is accurate only 25% of the time to that plant association level. This is unacceptable for planning at the landscape and stand levels. We must rectify the polygon calls and improve the utility to a much higher level of confidence.

I suggest we employ others in this effort to add known data point information for making "office" calls to override those polygon codes not checked yet in the field. Then I propose the Forest prioritize the conclusion of this mapping exercise by funding teams of employees working at the District level to follow a network of assigned roads and trails assigned to intercept 75-80% of the polygons for to verify the plant associations in the field. For the most part there is no reason to change the polygons at the "office". When and if field investigators deem a polygon to be inaccurate, or too encompassing, they should be given the prerogative to change it in the field.

Appendix 2

This summer I had occasion to use the Ochoco NF PNV map created to the plant association level. Its accuracy and reliability was about 80%. This was created using point data with field verification by teams of trained District employees walking transects on the ground to a minimum of 5-chain widths and la-acres. The effort took a field season, and a third of another, utilizing up to 11 per District. That committment was made by the Ochoco FLT as part of their Viable Ecosystems effort. For more information as to how they did it - contact Rob Rawlings at Big Summit RD for the District perspective and Mike Simpson at the SO for the overall leadership perspective.

I offer my services and time to train others in plant association identification, field verification procedures, and to physically perform more on-site verification to help improve the accuracy of the PNV map. I personally believe we have come too far with this effort to scuttle it and I believe an accurate PNV map will be mandatory for future planning efforts at the landscape level.



Charles G. Johnson Jr. *t/*
Area Ecologist
Malheur, Umatilla and Wallowa-Whitman NF

Appendix 2

Umatilla PNV Mapping Project
CG Johnson, Jr. (8/17 to 9/4, 1999)

Ranger District: Summary

Ranger District	Polygons Visited Total No.	Correct Calls to Series No. (%)	Correct Calls to P.A. No. (%)	Comments
North Fork John Day	227	133 (59)	70 (31)	
Heppner	210	108 (51)	44 (21)	
Walla Walla	351	197 (56)	80 (23)	
Pomeroy	209	89 (43)	47 (22)	
Totals	997	527 (53)	241 (24)	

Umatilla PNV Mapping Project
CG Johnson, Jr. (8/17 to 9/4, 1999)

Ranger District: Walla Walla RD

Road Segment	Polygons Visited Total No.	Correct Calls to Series No. (%)	Correct Calls to P.A. No. (%)	Comments
Rd. 31 (I84 →Green Mtn.)	32	16 (50)	9 (28)	
Rd. 31 (Green Mtn. →Hwy. 204)	66	29 (44)	9 (14)	
Hwy. 204 (Tollgate →Rd. 31)	13	12 (92)	3 (23)	
Rd. 64 + 6403 (Tollgate →Mottet)	20	12 (60)	5 (25)	
Rd. 64 (Mottet→ Tiger Cr. Jct.)	25	20 (60)	13 (52)	
Rd. 64 (Tiger Cr. Jct. →Deadman Pk. Jct.)	42	27 (64)	21 (50)	
Rd. 65 (Rd. 64 →Tiger Cr. →West Bdy)	26	12 (46)	4 (15)	
Rd. 6437 + Rd. 64 (Chase Mountain)	30	17 (57)	3 (10)	Too many CE calls for CW Vegetation
Rd. 6415 + 6413 + Rd. 62 (Mottet →Elk Flats)	43	25 (58)	2 (05)	Too many ABLA/VASC calls for ABLA2/ VAME
Rd. 62 (Elk Flats →Troy)	44	26 (59)	10 (23)	
Rd. 6213 (Long Meadows →Elbow Pt.)	10	1 (10)	1 (10)	Far too many CD calls for CW vegetation
Totals	351	197 (56)	80 (23)	

Appendix 2

Umatilla PNV Mapping Project
CG Johnson, Jr. (8/17 to 9/4, 1999)

Ranger District: North Fork John Day RD

Road Segment	Polygons Visited Total No.	Correct Calls to Series No. (%)	Correct Calls to P.A. No. (%)	Comments
Rd. 52 (West Boundary →N.Fk. John Day Cmpgrnd)	72	38 (53)	34 (47)	High CW calls for CE veg. High % of Climax Lodgepole (PICO/VASC Not Classified in Blues)
Rd. 73 (N.Fk. John Day Campgrnd →Granite)	16	5 (31)	3 (19)	High % of CW → CE
Rd. 54 (N. Bdy; Jct. 5427 →Hwy. 244)	28	21 (75)	12 (43)	
Rd. 5226 (Frazier →Tower Mt.→ Rd. 52)	31	21 (68)	11 (35)	High % of shifts from CD→ CW and CW →CE
Rd. 10 (Granite →Olive Lake)	21	13 (62)	4 (19)	High % of shifts from CE →CW and CD →CW
Rd. 53 (Herren Mdw. →Ukiah)	45	28 (62)	2 (4)	High % ABGR/VASC →ABGR/LIBO2
Rd. 5312 (Rd. 53 →Rd. 5320)	14	7 (50)	4 (29)	
Totals	227	133 (59)	70 (31)	

Umatilla PNV Mapping Project
CG Johnson, Jr. (8/17 to 9/4, 1999)

Ranger District: Heppner RD

Road Segment	Polygons Visited Total No.	Correct Calls to Series No. (%)	Correct Calls to P.A. No. (%)	Comments
Hwy. 207 (Porter Cr. → Kahler Cr.)	29	15 (52)	6 (21)	
Rd. 2406 (Tamarack Creek)	11	8 (73)	4 (36)	
Rd. 24 (Hwy. 207 →Tamarack Spg.→ Rd. 22)	47	25 (53)	5 (11)	Very high CD office calls for CW vegetation!
Rd. 2128 (Wilson Creek)	20	6 (30)	4 (20)	Very high CP→CD; CW→CD (A lot of CD!)
Rd. 23 (Hwy. 207 →Wilson Cr. →East Bdy.)	25	9 (36)	2 (8)	Very high CP→CD; CW→CD (Very poor!)
Rd. 22 (S. Bdy. →Sunflower Flat →N. Bdy.)	22	15 (68)	10 (45)	
Rd. 25 (Hwy. 207 →Wineland)	25	16 (64)	7 (28)	
Rd. 21 (Wineland →North Bdy.)	23	11 (48)	5 (22)	Very high CD →CW
Rd. 2100-420 (Rd. 21→North Bdy.)	8	3 (38)	1 (13)	
Totals	210	108 (51)	44 (21)	

Appendix 2

Umatilla PNV Mapping Project
CG Johnson, Jr. (8/17 to 9/4, 1999)

Ranger District: Pomeroy RD

Road Segment	Polygons Visited Total No.	Correct Calls to Series No. (%)	Correct Calls to P.A. No. (%)	Comments
Rd. 46 (Jct. Rd. 64 →Chase Mtn. Jct.→ Godman)	26	6 (23)	3 (12)	
Rd. 46 (Godman →Mountaintop)	23	8 (35)	3 (13)	
Rd. 40 (North Bdy. → Clearwater L.O.)	23	7 (30)	6 (26)	
Rd. 40 (Clearwater L.O.→ Misery Spg.)	15	9 (60)	4 (27)	
Rd. 40 (Troy→Misery Spg.)	28	14 (50)	5 (18)	
Rd. 43 + 4304 (Misery Spg. →E.Bdy.Anatone)	46	24 (52)	14 (30)	
Rd. 44 (Smoothing Iron Ridge)	12	8 (67)	5 (42)	
Rd. 4622 (Clearwater L.O. →the Wheatfield)	19	4 (21)	3 (16)	Too many CD calls for CW vegetation.
Rd. 43 (Clearwater L.O. → Peola)	17	9 (53)	4 (24)	
Totals	209	89 (43)	47 (22)	

Appendix 2: Field Review of Umatilla NF Potential Vegetation Map by Charlie Johnson (8/17 to 9/4/1999)

RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
HP	1	1	1417474	CPG111	Hot Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	1	2	1417478	CJS41	Hot Moist UW	Moist UW	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	1	3	1417434	CDG121	Warm Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	Y	Y
HP	1	4	1417438	GB9111	Hot Dry US	Dry US	SD9111	Hot Dry US	Dry US	N	Y	Y
HP	1	5	1417469	CPG112	Hot Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	N	Y
HP	1	6	1417443	CPG111	Hot Dry UF	Dry UF	CPS525	Warm Dry UF	Dry UF	N	N	Y
HP	1	7	1417437	CJS41	Hot Moist UW	Moist UW	CPG111	Hot Dry UF	Dry UF	N	N	N
HP	1	8	1417436	MM2912	Hot Dry MSM RH	Mod SM RH	MM2912	Hot Dry MSM RH	Mod SM RH	Y	Y	Y
HP	1	9	IGNORED	SD2911	Warm Moist US	Moist US	CPG222	Warm Dry UF	Dry UF	N	N	N
HP	1	10	1417631	CJS41	Hot Moist UW	Moist UW	CJG111	Hot Moist UW	Moist UW	N	Y	Y
HP	1	11	1417630	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	1	12	1421380	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	1	13	1421381	CDG121	Warm Dry UF	Dry UF	CPS525	Warm Dry UF	Dry UF	N	Y	Y
HP	1	14	IGNORED	CPG221	Warm Dry UF	Dry UF	CW	NONE	NONE	N	N	N
HP	1	15	IGNORED	CPG221	Warm Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	Y	Y
HP	1	16	1417500	CPG111	Hot Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	N	Y
HP	1	17	1417499	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	1	18	1417464	CWC811	Cool Wet UF	Moist UF	CWG111	Warm Dry UF	Dry UF	N	N	N
HP	1	19	1417501	CDS622	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	Y	Y	Y
HP	1	20	1417578	CDG111	Warm Dry UF	Dry UF	CWS321	Warm Dry UF	Dry UF	N	Y	Y
HP	1	21	1417572	CJS41	Hot Moist UW	Moist UW	CJS41	Hot Moist UW	Moist UW	Y	Y	Y
HP	1	22	1421390	CDS622	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	Y	Y	Y
HP	1	23	1417591	CDS622	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	Y	Y	Y
HP	1	24	IGNORED	CJS41	Hot Moist UW	Moist UW	CJS41	Hot Moist UW	Moist UW	Y	Y	Y
HP	1	25	1417573	CPS222	Warm Dry UF	Dry UF	CJS41	Hot Moist UW	Moist UW	N	N	N
HP	1	26	1417571	CWF311	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	1	27	1417570	CPG221	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	1	28	1421419	CDG111	Warm Dry UF	Dry UF	CPS234	Hot Dry UF	Dry UF	N	N	Y
HP	1	29	1421418	CPG111	Hot Dry UF	Dry UF	CPS234	Hot Dry UF	Dry UF	N	Y	Y
HP	1	30	1421415	CWF311	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	2	1	1417570	CPG221	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	2	2	1421417	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y

Appendix 2: Field Review of Umatilla NF Potential Vegetation Map by Charlie Johnson (8/17 to 9/4/1999)

RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
HP	2	3	1417569	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
HP	2	4	IGNORED	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
HP	2	5	1417568	CWG111	Warm Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	N	N	Y
HP	2	6	1417515	CWF311	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	2	7	1417516	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	2	8	1421406	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	2	9	1417530	CWG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	2	10	IGNORED	CWG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	2	11	IGNORED	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
HP	3	1	IGNORED	CPG111	Hot Dry UF	Dry UF	CPG112	Hot Dry UF	Dry UF	N	Y	Y
HP	3	2	IGNORED	GB41	Hot Dry UG	Dry UG	CJS8	Hot Dry UW	Dry UW	N	N	N
HP	3	3	IGNORED	GB9111	Hot Dry US	Dry US	CJS8	Hot Dry UW	Dry UW	N	N	N
HP	3	4	IGNORED	CDG111	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	3	5	1417503	CPG222	Warm Dry UF	Dry UF	CPS525	Warm Dry UF	Dry UF	N	Y	Y
HP	3	6	IGNORED	CDG111	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	3	7	1417463	CWC811	Cool Wet UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	3	8	1417500	CPG111	Hot Dry UF	Dry UF	CDS625	Warm Dry UF	Dry UF	N	N	Y
HP	3	9	1417446	CPG111	Hot Dry UF	Dry UF	CDS625	Warm Dry UF	Dry UF	N	N	Y
HP	4	1	1417520	GB59	Warm Moist UG	Moist UG	MD	Warm Wet LSM RH	Low SM RH	N	N	N
HP	4	1	1417518	CPG221	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	4	2	1417532	CPG111	Hot Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	N	Y
HP	4	3	IGNORED	CDG121	Warm Dry UF	Dry UF	CWG111	Warm Dry UF	Dry UF	N	Y	Y
HP	4	4	IGNORED	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	4	5	IGNORED	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	4	6	1417312	CPG111	Hot Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	4	7	1417233	CDG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	4	8	1417324	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
HP	4	8	1417325	CWS211	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	4	9	1417310	CPG111	Hot Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	N	Y
HP	4	10	1421275	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	4	11	1417231	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	4	12	1417328	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y

Appendix 2: Field Review of Umatilla NF Potential Vegetation Map by Charlie Johnson (8/17 to 9/4/1999)

RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
HP	4	13	1417329	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	4	14	1417242	CWF311	Cool Moist UF	Moist UF	CWS321	Warm Dry UF	Dry UF	N	N	N
HP	4	15	1417327	CPG221	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	4	16	1421289	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	4	17	1417297	CWS211	Cool Moist UF	Moist UF	CPS522	Warm Dry UF	Dry UF	N	N	N
HP	4	17	IGNORED	CPG222	Warm Dry UF	Dry UF	CPS234	Hot Dry UF	Dry UF	N	N	Y
HP	4	18	1417393	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	4	19	IGNORED	GB41	Hot Dry UG	Dry UG	CPS525	Warm Dry UF	Dry UF	N	N	N
HP	4	20	1418864	CDS622	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	Y	Y	Y
HP	4	21	1418863	CDS622	Warm Dry UF	Dry UF	CPS234	Hot Dry UF	Dry UF	N	N	Y
HP	4	22	1417398	CPG111	Hot Dry UF	Dry UF	CPS234	Hot Dry UF	Dry UF	N	Y	Y
HP	4	23	1417367	CDG121	Warm Dry UF	Dry UF	CWF421	Cool Moist UF	Moist UF	N	N	N
HP	4	24	1417368	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
HP	4	25	1417266	CDS622	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	Y	Y	Y
HP	5	26	1417369	CWG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	5	27	1417295	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
HP	5	27	1417223	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
HP	5	28	1717225	CPG221	Warm Dry UF	Dry UF	CWG111	Warm Dry UF	Dry UF	N	Y	Y
HP	5	29	1417294	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	5	30	1417336	GB41	Hot Dry UG	Dry UG	GB41	Hot Dry UG	Dry UG	Y	Y	Y
HP	5	31	IGNORED	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	5	32	1421294	CWF311	Cool Moist UF	Moist UF	CWG111	Warm Dry UF	Dry UF	N	N	N
HP	5	33	IGNORED	CWF311	Cool Moist UF	Moist UF	CWG111	Warm Dry UF	Dry UF	N	N	N
HP	5	34	1417262	CWF311	Cool Moist UF	Moist UF	CWG111	Warm Dry UF	Dry UF	N	N	N
HP	5	35	1417258	CPG221	Warm Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	N	N	Y
HP	5	36	1417283	CWF311	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	5	37	1417227	CPG222	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	5	38	1417292	CJS41	Hot Moist UW	Moist UW	CPG111	Hot Dry UF	Dry UF	N	N	N
HP	6	1	1417014	CDG111	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	Y	Y	Y
HP	6	2	1416997	CPG222	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	6	3	1421249	CPG222	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	6	4	1417005	CDS622	Warm Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	Y	Y

Appendix 2: Field Review of Umatilla NF Potential Vegetation Map by Charlie Johnson (8/17 to 9/4/1999)

RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
HP	6	5	1421325	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
HP	6	6	1421324	CWF421	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	6	7	IGNORED	CWF421	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	6	8	IGNORED	CWF421	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	6	9	1421323	CWF421	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	6	10	IGNORED	CWF421	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	6	11	1417010	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
HP	6	12	IGNORED	CWF421	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	6	13	1417011	CWF311	Cool Moist UF	Moist UF	CDG111	Warm Dry UF	Dry UF	N	N	N
HP	6	14	1421322	CPG221	Warm Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	N	N	Y
HP	6	15	1417028	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
HP	6	16	IGNORED	CWF421	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	6	17	1417008	CPG221	Warm Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	N	N	Y
HP	6	18	1421313	CWF421	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	6	19	IGNORED	CWF421	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	6	20	1417083	CJS41	Hot Moist UW	Moist UW	CPS234	Hot Dry UF	Dry UF	N	N	N
HP	7	1	1417149	CPG221	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	7	2	1417155	CDG121	Warm Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	N	N	Y
HP	7	3	1417092	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
HP	7	4	1421270	CWF311	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	7	5	1421269	CWF311	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	7	6	1417114	CPS222	Warm Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	N	N	Y
HP	7	7	1417136	CPG111	Hot Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	N	Y
HP	7	8	1417134	CPG222	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	7	9	1417101	CPG221	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	7	10	1421251	CWF421	Cool Moist UF	Moist UF	CWG111	Warm Dry UF	Dry UF	N	N	N
HP	7	11	1417122	CDG121	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	N	Y	Y
HP	7	12	IGNORED	CWF421	Cool Moist UF	Moist UF	CWG111	Warm Dry UF	Dry UF	N	N	N
HP	7	13	1417489	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
HP	7	14	IGNORED	CWS211	Cool Moist UF	Moist UF	CWG111	Warm Dry UF	Dry UF	N	N	N
HP	7	15	1417488	CJS41	Hot Moist UW	Moist UW	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	7	16	1417599	CPG111	Hot Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N

Appendix 2: Field Review of Umatilla NF Potential Vegetation Map by Charlie Johnson (8/17 to 9/4/1999)

RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
HP	7	17	IGNORED	CDG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
HP	7	18	1421393	CPG111	Hot Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	7	19	IGNORED	CWF311	Cool Moist UF	Moist UF	NONE	NONE	NONE	NA	NA	NA
HP	7	20	1417483	CDG121	Warm Dry UF	Dry UF	CWG111	Warm Dry UF	Dry UF	N	Y	Y
HP	8	1	1417143	CPS222	Warm Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	Y	Y
HP	8	2	1417200	CWF311	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	8	3	1417288	CWF311	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	8	4	1417287	CWF311	Cool Moist UF	Moist UF	CDS622	Warm Dry UF	Dry UF	N	N	N
HP	8	5	1417147	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	8	6	1417090	CPS222	Warm Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	Y	Y
HP	8	7	IGNORED	CDG121	Warm Dry UF	Dry UF	NONE	NONE	NONE	NA	NA	NA
HP	9	1	1417077	CJS41	Hot Moist UW	Moist UW	CPS234	Hot Dry UF	Dry UF	N	N	N
HP	9	2	1421360	CPG221	Warm Dry UF	Dry UF	CPS234	Hot Dry UF	Dry UF	N	N	Y
HP	9	3	1417079	CPG111	Hot Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	N	Y
HP	9	4	1417080	CJS41	Hot Moist UW	Moist UW	CJS41	Hot Moist UW	Moist UW	Y	Y	Y
HP	9	5	1417078	CWG111	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	9	6	1417076	CPG111	Hot Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	N	Y
HP	9	7	1417040	CPG111	Hot Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	N	Y
HP	9	8	1417032	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	9	9	1417039	CDS622	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	Y	Y	Y
HP	9	10	1417037	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
HP	9	11	1416993	CDG121	Warm Dry UF	Dry UF	CPG112	Hot Dry UF	Dry UF	N	N	Y
HP	9	12	1417075	CPG221	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	9	13	1416983	GB59	Warm Moist UG	Moist UG	GB59	Warm Moist UG	Moist UG	Y	Y	Y
HP	9	14	1416981	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
HP	9	15	1416982	GB59	Warm Moist UG	Moist UG	GB59	Warm Moist UG	Moist UG	Y	Y	Y
HP	9	16	1416973	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
HP	9	17	1416955	CPG111	Hot Dry UF	Dry UF	CPG112	Hot Dry UF	Dry UF	N	Y	Y
HP	9	18	1416945	GB59	Warm Moist UG	Moist UG	GB59	Warm Moist UG	Moist UG	Y	Y	Y
HP	9	19	1416954	CDG111	Warm Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	N	N	Y
HP	9	20	1416966	CPG221	Warm Dry UF	Dry UF	CPG112	Hot Dry UF	Dry UF	N	N	Y
HP	9	21	1416953	CDS622	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	Y	Y	Y

Appendix 2: Field Review of Umatilla NF Potential Vegetation Map by Charlie Johnson (8/17 to 9/4/1999)

RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
HP	9	22	1416967	CDS622	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	Y	Y	Y
HP	10	1	IGNORED	CPG221	Warm Dry UF	Dry UF	CWG112	Warm Dry UF	Dry UF	N	Y	Y
HP	10	2	IGNORED	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	10	3	1417443	CPG111	Hot Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	N	Y
HP	10	4	1417662	CWG111	Warm Dry UF	Dry UF	CWG111	Warm Dry UF	Dry UF	Y	Y	Y
HP	10	5	1417623	CDS622	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	Y	Y	Y
HP	10	6	1417442	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	10	7	1417444	CPG111	Hot Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	N	Y
HP	10	8	1417712	CDG121	Warm Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	Y	Y
HP	10	9	IGNORED	CDS622	Warm Dry UF	Dry UF	NONE	NONE	NONE	NA	NA	NA
HP	10	10	1417713	CDG121	Warm Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	Y	Y
HP	10	11	1421462	CDG121	Warm Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	N	N	Y
HP	10	12	1417767	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
HP	10	13	1417762	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
HP	10	14	1417760	CPG111	Hot Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	N	Y
HP	10	15	1417750	CDS622	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	Y	Y	Y
HP	10	16	1417761	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	11	26	1417738	CPG111	Hot Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	N	N	Y
HP	11	32	1418010	CPG111	Hot Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	N	Y
HP	11	33	1417992	CPG222	Warm Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	Y	Y
HP	11	33	IGNORED	CPG222	Warm Dry UF	Dry UF	CWG111	Warm Dry UF	Dry UF	N	Y	Y
HP	11	34	1417991	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	11	35	1417958	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
HP	11	36	1418043	CDG111	Warm Dry UF	Dry UF	CWG211	Warm Moist UF	Moist UF	N	N	N
HP	11	37	1417956	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
HP	11	38	1417997	CWF311	Cool Moist UF	Moist UF	CWG211	Warm Moist UF	Moist UF	N	N	Y
HP	11	39	1417999	CWF311	Cool Moist UF	Moist UF	CWG111	Warm Dry UF	Dry UF	N	N	N
HP	12	1	1417984	CDS622	Warm Dry UF	Dry UF	CWS321	Warm Dry UF	Dry UF	N	Y	Y
HP	12	2	1417888	CDG121	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
HP	12	3	1417852	CDS622	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	12	4	1421437	CDS622	Warm Dry UF	Dry UF	CWG211	Warm Moist UF	Moist UF	N	N	N
HP	12	5	1417829	CDG111	Warm Dry UF	Dry UF	CWG112	Warm Dry UF	Dry UF	N	Y	Y

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
HP	12	6	1417828	CDG121	Warm Dry UF	Dry UF	CDG121	Warm Dry UF	Dry UF	Y	Y	Y
HP	12	7	1417868	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	12	8	1417869	CDG121	Warm Dry UF	Dry UF	CWG112	Warm Dry UF	Dry UF	N	Y	Y
HP	12	9	1417839	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
HP	12	10	IGNORED	GB59	Warm Moist UG	Moist UG	GB59	Warm Moist UG	Moist UG	Y	Y	Y
HP	12	11	1417870	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
HP	12	12	1421450	GB59	Warm Moist UG	Moist UG	MM	NONE	NONE	N	N	N
HP	12	13	1417823	CWC811	Cool Wet UF	Moist UF	CWG211	Warm Moist UF	Moist UF	N	N	Y
HP	12	14	1417788	CDG121	Warm Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	N	N	Y
HP	12	15	1417820	CWC811	Cool Wet UF	Moist UF	CWG211	Warm Moist UF	Moist UF	N	N	Y
HP	12	16	1417703	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
HP	12	17	1417815	CPG221	Warm Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	Y	Y
HP	12	18	1417806	CPG221	Warm Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	Y	Y
HP	12	19	1417800	GB9111	Hot Dry US	Dry US	CWG211	Warm Moist UF	Moist UF	N	N	N
HP	12	20	1421453	CDG121	Warm Dry UF	Dry UF	CWG112	Warm Dry UF	Dry UF	N	Y	Y
HP	12	21	1421454	CDG121	Warm Dry UF	Dry UF	CWG112	Warm Dry UF	Dry UF	N	Y	Y
HP	12	22	1417801	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
HP	12	23	1417794	CPG222	Warm Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	Y	Y
HP	13	1	1417804	CDG121	Warm Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	Y	Y
HP	13	2	1417805	CPG111	Hot Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	N	Y
HP	13	3	IGNORED	GB59	Warm Moist UG	Moist UG	MM	NONE	NONE	N	N	N
HP	13	4	IGNORED	CDG121	Warm Dry UF	Dry UF	NONE	NONE	NONE	NA	NA	NA
HP	13	5	1417826	CPG221	Warm Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	N	N	Y
HP	13	6	1417825	GB9111	Hot Dry US	Dry US	SD9111	Hot Dry US	Dry US	N	Y	Y
HP	13	7	1417924	CPG221	Warm Dry UF	Dry UF	CPG221	Warm Dry UF	Dry UF	Y	Y	Y
HP	13	8	1417911	GB9111	Hot Dry US	Dry US	SD9111	Hot Dry US	Dry US	N	Y	Y
HP	13	9	1417940	CPG111	Hot Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	N	Y
NF	1	1	1412912	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
NF	1	2	1412913	CDG111	Warm Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	Y	Y
NF	1	3	IGNORED	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
NF	1	4	1412915	CDG111	Warm Dry UF	Dry UF	CDG121	Warm Dry UF	Dry UF	N	Y	Y
NF	1	5	1412919	CDG111	Warm Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	Y	Y

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
NF	1	6	1412722	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
NF	1	7	1412747	CWF311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
NF	1	8	1412840	CDG121	Warm Dry UF	Dry UF	CDG121	Warm Dry UF	Dry UF	Y	Y	Y
NF	1	9	1412876	GB9111	Hot Dry US	Dry US	GB41	Hot Dry UG	Dry UG	N	N	N
NF	1	10	1412875	CDG111	Warm Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	Y	Y
NF	1	11	1412879	CDG111	Warm Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	Y	Y
NF	1	12	1412745	CDG111	Warm Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	Y	Y
NF	1	13	1412771	CPG221	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
NF	1	14	1413240	CDG111	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	Y	Y	Y
NF	1	15	1412818	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
NF	1	16	1412810	CDG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	1	17	1412808	CDG111	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	Y	Y	Y
NF	1	18	1420657	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
NF	1	19	IGNORED	CDG121	Warm Dry UF	Dry UF	NONE	NONE	NONE	NA	NA	NA
NF	1	20	IGNORED	CDG111	Warm Dry UF	Dry UF	NONE	NONE	NONE	NA	NA	NA
NF	1	21	1412807	CJS41	Hot Moist UW	Moist UW	CDG111	Warm Dry UF	Dry UF	N	N	N
NF	2	22	1412354	CWS811	Cold Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	N	N	Y
NF	2	23	1412382	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
NF	2	24	1412351	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
NF	2	25	1412378	CDG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	2	26	1413759	CLS416	Cool Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	Y	Y	Y
NF	2	27	1420135	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	2	28	1413626	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
NF	2	29	1413760	CDG111	Warm Dry UF	Dry UF	CLS416	Cool Dry UF	Cold UF	N	N	N
NF	2	30	1413633	CLS416	Cool Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	Y	Y	Y
NF	2	31	1420137	CDG111	Warm Dry UF	Dry UF	CLS416	Cool Dry UF	Cold UF	N	N	N
NF	2	32	1413630	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	2	33	1413627	CWS811	Cold Dry UF	Cold UF	CWS811	Cold Dry UF	Cold UF	Y	Y	Y
NF	2	34	1420141	CLS416	Cool Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	Y	Y	Y
NF	2	35	1413766	CLS416	Cool Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	Y	Y	Y
NF	2	36	1413632	CLS416	Cool Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	Y	Y	Y
NF	2	37	1413647	CWS811	Cold Dry UF	Cold UF	CWS811	Cold Dry UF	Cold UF	Y	Y	Y

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
NF	2	38	1413886	CLS416	Cool Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	Y	Y	Y
NF	2	39	1413887	CLS416	Cool Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	Y	Y	Y
NF	2	40	1413915	CDG111	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	Y	Y	Y
NF	2	41	1420308	CLS416	Cool Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	Y	Y	Y
NF	2	42	1420307	CLS416	Cool Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	Y	Y	Y
NF	2	43	1413909	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	2	44	IGNORED	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	2	45	1413918	CDG121	Warm Dry UF	Dry UF	CES411	Cold Dry UF	Cold UF	N	N	N
NF	3	46	1413913	CDG121	Warm Dry UF	Dry UF	CES411	Cold Dry UF	Cold UF	N	N	N
NF	3	47	IGNORED	CWF311	Cool Moist UF	Moist UF	NONE	NONE	NONE	NA	NA	NA
NF	3	48	1420303	CDG121	Warm Dry UF	Dry UF	CES414	Cool Moist UF	Moist UF	N	N	N
NF	3	49	1413889	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	3	50	1413934	CWS811	Cold Dry UF	Cold UF	CES414	Cool Moist UF	Moist UF	N	N	N
NF	3	51	1413935	CWS811	Cold Dry UF	Cold UF	CES414	Cool Moist UF	Moist UF	N	N	N
NF	3	52	1413938	CWS811	Cold Dry UF	Cold UF	CES414	Cool Moist UF	Moist UF	N	N	N
NF	3	53	1413937	CWS811	Cold Dry UF	Cold UF	CES414	Cool Moist UF	Moist UF	N	N	N
NF	3	54	1413936	CWS811	Cold Dry UF	Cold UF	CES414	Cool Moist UF	Moist UF	N	N	N
NF	3	55	1413962	CWS211	Cool Moist UF	Moist UF	CES414	Cool Moist UF	Moist UF	N	Y	Y
NF	3	56	1413961	CWS211	Cool Moist UF	Moist UF	CLS416	Cool Dry UF	Cold UF	N	N	N
NF	3	57	1413954	CDG121	Warm Dry UF	Dry UF	CLS416	Cool Dry UF	Cold UF	N	N	N
NF	3	58	1413967	CWS811	Cold Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	N	N	Y
NF	3	59	1413969	CWS811	Cold Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	N	N	Y
NF	3	60	IGNORED	CWS811	Cold Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	N	N	Y
NF	3	61	1413950	CWS811	Cold Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	N	N	Y
NF	3	62	1413893	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	3	63	1420312	CWS811	Cold Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	N	N	Y
NF	3	64	1420313	CWS811	Cold Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	N	N	Y
NF	3	65	1413899	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	3	66	IGNORED	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	3	67	IGNORED	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	3	68	IGNORED	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	3	69	1413901	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y

Appendix 2: Field Review of Umatilla NF Potential Vegetation Map by Charlie Johnson (8/17 to 9/4/1999)

RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
NF	3	70	IGNORED	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	3	71	IGNORED	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	3	72	IGNORED	GS10	Cool Moist UG	Cold UG	NONE	NONE	NONE	NA	NA	NA
NF	3	73	1413975	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	3	74	1413977	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	3	75	1413981	CWS812	Cool Moist UF	Moist UF	CES414	Cool Moist UF	Moist UF	N	Y	Y
NF	3	76	1414005	CWS811	Cold Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	N	N	Y
NF	3	77	IGNORED	CDG121	Warm Dry UF	Dry UF	NONE	NONE	NONE	NA	NA	NA
NF	4	1	1414008	CWS812	Cool Moist UF	Moist UF	CLS416	Cool Dry UF	Cold UF	N	N	N
NF	4	2	1414013	CWS811	Cold Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	N	N	Y
NF	4	3	1414010	CWS811	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	N	Y	Y
NF	4	4	1413988	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	4	5	1414014	CWS811	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	N	Y	Y
NF	4	6	1413989	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	4	7	1414084	CWS811	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	N	Y	Y
NF	4	8	1414090	CWS811	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	N	Y	Y
NF	4	9	1414016	CWS811	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	N	Y	Y
NF	4	10	1414103	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	4	11	1414337	CWS811	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	N	Y	Y
NF	4	12	1414121	CDG111	Warm Dry UF	Dry UF	CWS811	Cold Dry UF	Cold UF	N	N	N
NF	4	13	1414100	CWS812	Cool Moist UF	Moist UF	CWS811	Cold Dry UF	Cold UF	N	N	N
NF	4	14	1414104	CDG111	Warm Dry UF	Dry UF	CWS811	Cold Dry UF	Cold UF	N	N	N
NF	4	15	1414102	CWF311	Cool Moist UF	Moist UF	CES411	Cold Dry UF	Cold UF	N	N	N
NF	4	16	1414101	CDG121	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	N	Y	Y
NF	5	1	1411312	CDG121	Warm Dry UF	Dry UF	CWS912	Warm Very Moist UF	Moist UF	N	N	N
NF	5	2	IGNORED	SM3111	Warm Moist US	Moist US	NONE	NONE	NONE	NA	NA	NA
NF	5	3	1411390	CDG121	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	N	Y	Y
NF	5	4	1411317	CDG121	Warm Dry UF	Dry UF	CWS912	Warm Very Moist UF	Moist UF	N	N	N
NF	5	5	1411344	SM1111	Warm Moist US	Moist US	CDS711	Warm Dry UF	Dry UF	N	N	N
NF	5	6	IGNORED	CPG211	NONE	NONE	NONE	NONE	NONE	NA	NA	NA
NF	5	7	1411090	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
NF	5	8	1411089	CDG111	Warm Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	N	N	Y

Appendix 2: Field Review of Umatilla NF Potential Vegetation Map by Charlie Johnson (8/17 to 9/4/1999)

RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
NF	5	9	IGNORED	CWS811	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
NF	5	10	IGNORED	CWS811	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
NF	5	11	1411615	GB41	Hot Dry UG	Dry UG	GB9111	Hot Dry US	Dry US	N	N	N
NF	5	12	IGNORED	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	5	13	1411684	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
NF	5	14	1411686	GB4911	Hot Dry UG	Dry UG	GB4911	Hot Dry UG	Dry UG	Y	Y	Y
NF	5	15	1411825	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
NF	5	16	1411697	CDG111	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	Y	Y	Y
NF	5	17	1411698	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
NF	5	18	1411793	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
NF	5	19	IGNORED	CPG221	Warm Dry UF	Dry UF	NONE	NONE	NONE	NA	NA	NA
NF	5	20	1411817	CDG121	Warm Dry UF	Dry UF	CDG121	Warm Dry UF	Dry UF	Y	Y	Y
NF	5	21	1420879	CDG111	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	Y	Y	Y
NF	5	22	1411687	GB9111	Hot Dry US	Dry US	GB41	Hot Dry UG	Dry UG	N	N	N
NF	5	23	1411753	CDG111	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	Y	Y	Y
NF	5	24	1411688	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
NF	5	25	IGNORED	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
NF	6	26	1411774	CDG111	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	Y	Y	Y
NF	6	27	1411927	CWS211	Cool Moist UF	Moist UF	CWS812	Cool Moist UF	Moist UF	N	Y	Y
NF	6	28	1411752	CPG221	Warm Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	Y	Y
NF	6	29	1411763	CDG111	Warm Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	Y	Y
NF	6	30	1411750	CDG111	Warm Dry UF	Dry UF	CWG112	Warm Dry UF	Dry UF	N	Y	Y
NF	6	31	1411760	CPG111	Hot Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	N	Y
NF	7	1	1412077	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
NF	7	2	1412059	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
NF	7	3	1412072	CDG111	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	Y	Y	Y
NF	7	4	1412081	CDG121	Warm Dry UF	Dry UF	CWG112	Warm Dry UF	Dry UF	N	Y	Y
NF	7	5	1412066	CWF421	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
NF	7	6	1412062	CJS41	Hot Moist UW	Moist UW	CJG111	Hot Moist UW	Moist UW	N	Y	Y
NF	7	7	1412086	CJS41	Hot Moist UW	Moist UW	CJG111	Hot Moist UW	Moist UW	N	Y	Y
NF	7	8	1412102	CPG111	Hot Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	7	9	1412117	CPG221	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
NF	7	10	1412301	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
NF	7	11	1412303	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	7	12	IGNORED	SD4111	Hot Moist US	Moist US	NONE	NONE	NONE	NA	NA	NA
NF	7	13	1412217	CWF311	Cool Moist UF	Moist UF	CWS812	Cool Moist UF	Moist UF	N	Y	Y
NF	7	14	1412228	CWS211	Cool Moist UF	Moist UF	CES411	Cold Dry UF	Cold UF	N	N	N
NF	7	15	1412226	CWS811	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	N	Y	Y
NF	7	16	1412234	CWS211	Cool Moist UF	Moist UF	CWG112	Warm Dry UF	Dry UF	N	N	N
NF	7	17	1412268	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
NF	7	18	IGNORED	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
NF	7	19	1412246	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
NF	7	20	1412236	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
NF	7	21	1412237	SD2915	Warm Moist US	Moist US	SD2915	Warm Moist US	Moist US	Y	Y	Y
NF	7	22	1412241	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
NF	7	23	1412239	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
NF	7	24	1412238	GS10	Cool Moist UG	Cold UG	CDG111	Warm Dry UF	Dry UF	N	N	N
NF	7	25	1412326	CDG111	Warm Dry UF	Dry UF	CES411	Cold Dry UF	Cold UF	N	N	N
NF	7	26	1412321	CWS211	Cool Moist UF	Moist UF	CWG112	Warm Dry UF	Dry UF	N	N	N
NF	7	27	1412387	CWS211	Cool Moist UF	Moist UF	CWG112	Warm Dry UF	Dry UF	N	N	N
NF	7	28	1412390	CDG111	Warm Dry UF	Dry UF	CWS811	Cold Dry UF	Cold UF	N	N	N
NF	8	32	1412360	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
NF	8	33	1412357	CDG121	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
NF	8	34	IGNORED	CWS211	Cool Moist UF	Moist UF	NONE	NONE	NONE	NA	NA	NA
NF	8	35	1412347	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	8	36	1412346	CLS416	Cool Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	Y	Y	Y
NF	9	1	1414166	CDS625	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	N	Y	Y
NF	9	2	IGNORED	CDS625	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	N	Y	Y
NF	9	3	IGNORED	CPS222	Warm Dry UF	Dry UF	NONE	NONE	NONE	NA	NA	NA
NF	9	4	IGNORED	CPG221	Warm Dry UF	Dry UF	NONE	NONE	NONE	NA	NA	NA
NF	9	5	1414178	CDG111	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	Y	Y	Y
NF	9	6	1414345	CDG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
NF	9	7	1414185	CDG121	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
NF	9	8	1400352	CDG111	Warm Dry UF	Dry UF	CWG112	Warm Dry UF	Dry UF	N	Y	Y

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
NF	9	9	1414223	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	9	10	IGNORED	GB41	Hot Dry UG	Dry UG	NONE	NONE	NONE	NA	NA	NA
NF	9	11	1420197	CWF311	Cool Moist UF	Moist UF	CWS811	Cold Dry UF	Cold UF	N	N	N
NF	9	12	IGNORED	CWF311	Cool Moist UF	Moist UF	CWS811	Cold Dry UF	Cold UF	N	N	N
NF	9	13	IGNORED	CWF311	Cool Moist UF	Moist UF	CWS811	Cold Dry UF	Cold UF	N	N	N
NF	9	14	1400350	CES311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
NF	9	15	1400152	CWG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	9	16	1400331	CES411	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	9	17	1400347	CES411	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	9	18	1400348	CES411	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	9	19	1400346	CES411	Cold Dry UF	Cold UF	CES414	Cool Moist UF	Moist UF	N	N	N
NF	9	20	1415237	CWS811	Cold Dry UF	Cold UF	CES414	Cool Moist UF	Moist UF	N	N	N
NF	9	21	1400330	CES411	Cold Dry UF	Cold UF	CES414	Cool Moist UF	Moist UF	N	N	N
NF	9	22	1400234	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
NF	9	23	1400236	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
NF	9	24	1400216	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
NF	10	1	1415621	CWS811	Cold Dry UF	Cold UF	CWG211	Warm Moist UF	Moist UF	N	N	N
NF	10	2	1415608	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	3	1420377	CLS416	Cool Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	3	1415609	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	4	1415645	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	5	1415627	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	6	1415625	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	6	1415711	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
NF	10	7	1420376	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	8	1415629	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	9	1415595	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	10	1415558	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
NF	10	11	1415638	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	12	1415557	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	13	1415592	CWF311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
NF	10	14	1415329	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
NF	10	14	1415325	CLS416	Cool Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
NF	10	15	1415300	CPG221	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
NF	10	16	1415193	CPG221	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	N	Y	Y
NF	10	17	1415264	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	18	1415460	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	19	1415274	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	20	1415440	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	21	1415124	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	22	1415277	CDG121	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
NF	10	23	1415128	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	24	1415126	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	10	25	1415127	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	11	26	1415454	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	11	27	1415455	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	11	28	1415456	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	11	29	1415163	CDG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	11	30	1415102	CDG121	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	N	Y	Y
NF	11	31	1415162	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	11	32	IGNORED	GB9111	Hot Dry US	Dry US	CPG111	Hot Dry UF	Dry UF	N	N	N
NF	11	33	1415153	CWS811	Cold Dry UF	Cold UF	CLS416	Cool Dry UF	Cold UF	N	N	Y
NF	11	34	IGNORED	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	11	35	1414985	CPG221	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	11	36	IGNORED	CDG121	Warm Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	N	N	Y
NF	11	37	1414960	CWS811	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
NF	11	38	1414871	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
NF	11	39	1415012	CDG121	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
NF	11	40	1414964	CWS811	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
NF	11	41	1414927	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
NF	11	42	1414995	CDG121	Warm Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	N	N	Y
NF	12	1	IGNORED	CDG121	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	N	Y	Y
NF	12	2	1415014	CWS811	Cold Dry UF	Cold UF	CPG222	Warm Dry UF	Dry UF	N	N	N
NF	12	3	1415015	CWS811	Cold Dry UF	Cold UF	CPG222	Warm Dry UF	Dry UF	N	N	N

Appendix 2: Field Review of Umatilla NF Potential Vegetation Map by Charlie Johnson (8/17 to 9/4/1999)

RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
NF	12	4	1414986	CPG221	Warm Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	Y	Y
NF	12	5	1415021	CDG111	Warm Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	Y	Y
NF	12	6	1415022	CPG111	Hot Dry UF	Dry UF	CPG222	Warm Dry UF	Dry UF	N	N	Y
NF	12	7	1415156	CWS811	Cold Dry UF	Cold UF	CWS811	Cold Dry UF	Cold UF	Y	Y	Y
NF	12	8	1415040	CWS811	Cold Dry UF	Cold UF	CWS811	Cold Dry UF	Cold UF	Y	Y	Y
NF	12	9	1415158	CDG111	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	Y	Y	Y
NF	12	10	IGNORED	NONE	NONE	NONE	NONE	NONE	NONE	NA	NA	NA
NF	12	11	1415852	CDG121	Warm Dry UF	Dry UF	CPG112	Hot Dry UF	Dry UF	N	N	Y
NF	12	12	1415879	CPG221	Warm Dry UF	Dry UF	CDG111	Warm Dry UF	Dry UF	N	Y	Y
NF	12	13	1415849	CDG121	Warm Dry UF	Dry UF	CWG112	Warm Dry UF	Dry UF	N	Y	Y
NF	12	14	1415808	CPG111	Hot Dry UF	Dry UF	CPG111	Hot Dry UF	Dry UF	Y	Y	Y
NF	12	15	1415813	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	1	1	IGNORED	GB9111	Hot Dry US	Dry US	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	1	2	IGNORED	SM20	Cold Very Moist US	Cold US	NONE	NONE	NONE	NA	NA	NA
PM	1	3	IGNORED	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	1	4	1408414	SM20	Cold Very Moist US	Cold US	GB9111	Hot Dry US	Dry US	N	N	N
PM	1	5	IGNORED	SM20	Cold Very Moist US	Cold US	NONE	NONE	NONE	NA	NA	NA
PM	1	6	IGNORED	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	1	7	1408416	CAG111	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	1	8	1408419	GS10	Cool Moist UG	Cold UG	GB41	Hot Dry UG	Dry UG	N	N	N
PM	1	9	1415177	CES411	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	1	10	IGNORED	SM20	Cold Very Moist US	Cold US	NONE	NONE	NONE	NA	NA	NA
PM	1	11	1419578	CES411	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	1	12	1408292	GB41	Hot Dry UG	Dry UG	GB9111	Hot Dry US	Dry US	N	N	N
PM	1	13	1408171	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
PM	1	14	1408454	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	1	14	IGNORED	GS10	Cool Moist UG	Cold UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	1	15	1408369	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	1	16	1408291	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	1	17	IGNORED	GS10	Cool Moist UG	Cold UG	NONE	NONE	NONE	NA	NA	NA
PM	1	18	1408369	CES411	Cold Dry UF	Cold UF	CWS912	Warm Very Moist UF	Moist UF	N	N	N
PM	1	19	1419537	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
PM	1	20	IGNORED	GB59	Warm Moist UG	Moist UG	NONE	NONE	NONE	NA	NA	NA
PM	1	21	IGNORED	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	1	22	IGNORED	GS10	Cool Moist UG	Cold UG	NONE	NONE	NONE	NA	NA	NA
PM	1	23	IGNORED	SM1111	Warm Moist US	Moist US	NONE	NONE	NONE	NA	NA	NA
PM	1	24	IGNORED	GS10	Cool Moist UG	Cold UG	NONE	NONE	NONE	NA	NA	NA
PM	1	25	1408298	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
PM	2	1	1410842	CDG121	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	2	26	1419543	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	2	27	IGNORED	GS10	Cool Moist UG	Cold UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	2	28	1408314	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	2	29	1408339	CES131	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	2	30	IGNORED	GS10	Cool Moist UG	Cold UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	2	31	1408324	CEF331	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	2	32	1410589	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	2	33	1410442	GB41	Hot Dry UG	Dry UG	GB41	Hot Dry UG	Dry UG	Y	Y	Y
PM	2	34	1410443	CWF421	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	2	35	IGNORED	CDG111	Warm Dry UF	Dry UF	NONE	NONE	NONE	NA	NA	NA
PM	2	36	1410576	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	2	37	1410580	CPG221	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	2	38	1410452	CDG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	2	39	1410456	CWF421	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	2	40	IGNORED	GB9111	Hot Dry US	Dry US	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	2	41	IGNORED	CDS611	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	N	Y	Y
PM	2	42	IGNORED	GB41	Hot Dry UG	Dry UG	CDS711	Warm Dry UF	Dry UF	N	N	N
PM	2	43	1410587	CDG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	2	44	IGNORED	CDS611	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	2	45	1410536	GB59	Warm Moist UG	Moist UG	GB41	Hot Dry UG	Dry UG	N	N	N
PM	2	46	1418954	CDG121	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	N	Y	Y
PM	2	47	1410615	CDG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	2	48	1410614	GB59	Warm Moist UG	Moist UG	CDS711	Warm Dry UF	Dry UF	N	N	N
PM	2	49	1410620	CPG221	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	N	Y	Y
PM	3	2	IGNORED	GB59	Warm Moist UG	Moist UG	DISCLIMAX	NONE	NONE	NA	NA	NA

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
PM	3	3	1410840	CDG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	3	4	1410861	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
PM	3	5	IGNORED	GB41	Hot Dry UG	Dry UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	3	6	IGNORED	GB59	Warm Moist UG	Moist UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	3	7	IGNORED	NONE	NONE	NONE	NONE	NONE	NONE	NA	NA	NA
PM	3	8	IGNORED	GB41	Hot Dry UG	Dry UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	3	9	1410852	CPG221	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	3	10	1410844	CDS625	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	3	11	1410845	CDG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	3	12	1410847	CDG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	3	13	1410018	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
PM	3	14	1410050	CDS611	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	3	15	IGNORED	GB59	Warm Moist UG	Moist UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	3	16	1410002	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
PM	3	17	1410046	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	3	18	1419974	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
PM	3	19	IGNORED	GB41	Hot Dry UG	Dry UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	3	20	1419072	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
PM	3	21	1409975	CWF421	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
PM	3	22	IGNORED	GB9111	Hot Dry US	Dry US	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	3	23	1409930	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	3	24	IGNORED	GS10	Cool Moist UG	Cold UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	4	1	1409837	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	4	2	1409835	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	4	3	1409830	CWF421	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
PM	4	4	1409903	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
PM	4	5	1409831	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	4	6	1409747	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	4	7	IGNORED	GB41	Hot Dry UG	Dry UG	MOSAIC	NONE	NONE	NA	NA	NA
PM	4	8	1409764	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
PM	4	9	1409770	CES414	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
PM	4	10	1409771	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
PM	4	11	1409488	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
PM	4	12	1409682	CAG4	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
PM	4	13	1409374	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
PM	4	14	1409055	CAG111	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	N	Y	Y
PM	4	15	IGNORED	GS10	Cool Moist UG	Cold UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	5	1	1408726	CPG221	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	N	Y	Y
PM	5	2	1408718	CDS611	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	N	Y	Y
PM	5	3	1408717	CDS611	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
PM	5	4	IGNORED	GB41	Hot Dry UG	Dry UG	GB41	Hot Dry UG	Dry UG	Y	Y	Y
PM	5	5	1408846	CDG111	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	N	Y	Y
PM	5	6	1408733	CPG221	Warm Dry UF	Dry UF	CWS412	Warm Moist UF	Moist UF	N	N	N
PM	5	7	1408772	CDG111	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	N	Y	Y
PM	5	8	1408732	GB41	Hot Dry UG	Dry UG	GB41	Hot Dry UG	Dry UG	Y	Y	Y
PM	5	9	1408937	CDS611	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	N	Y	Y
PM	5	10	1408939	CDS711	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	Y	Y	Y
PM	5	11	1408936	CDG121	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	N	Y	Y
PM	5	12	IGNORED	CWC811	Cool Wet UF	Moist UF	MOSAIC	NONE	NONE	NA	NA	NA
PM	5	13	1408940	CWF421	Cool Moist UF	Moist UF	CDS711	Warm Dry UF	Dry UF	N	N	N
PM	5	14	1408934	CWF421	Cool Moist UF	Moist UF	CDS711	Warm Dry UF	Dry UF	N	N	N
PM	5	15	1419324	CDS622	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	N	Y	Y
PM	5	16	IGNORED	CJS41	Hot Moist UW	Moist UW	MOSAIC	NONE	NONE	NA	NA	NA
PM	5	17	IGNORED	CDG121	Warm Dry UF	Dry UF	MOSAIC	NONE	NONE	NA	NA	NA
PM	5	18	1408953	GB41	Hot Dry UG	Dry UG	GB41	Hot Dry UG	Dry UG	Y	Y	Y
PM	5	19	1408932	CWS211	Cool Moist UF	Moist UF	CWS412	Warm Moist UF	Moist UF	N	N	Y
PM	5	20	IGNORED	CWG111	Warm Dry UF	Dry UF	MOSAIC	NONE	NONE	NA	NA	NA
PM	5	21	1408942	CWF612	Cool Very Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	N	Y
PM	5	22	IGNORED	CAG111	Cold Dry UF	Cold UF	MOSAIC	NONE	NONE	NA	NA	NA
PM	5	23	1409017	CES131	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	5	24	IGNORED	GB59	Warm Moist UG	Moist UG	MOSAIC	NONE	NONE	NA	NA	NA
PM	5	25	1409040	CDG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	5	26	IGNORED	CAG4	Cold Dry UF	Cold UF	MOSAIC	NONE	NONE	NA	NA	NA
PM	5	27	1419334	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
PM	5	28	1409029	GS10	Cool Moist UG	Cold UG	GB41	Hot Dry UG	Dry UG	N	N	N
PM	6	1	1409069	CAG111	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
PM	6	2	IGNORED	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	6	3	IGNORED	GS10	Cool Moist UG	Cold UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	6	4	1409493	CES221	Cold Moist UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
PM	6	5	1419251	CES221	Cold Moist UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
PM	6	6	IGNORED	GS10	Cool Moist UG	Cold UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	6	7	IGNORED	CES221	Cold Moist UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
PM	6	8	IGNORED	SM32	Warm Moist US	Moist US	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	6	9	1409461	CES414	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
PM	6	10	1419242	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	6	11	1419241	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	6	12	1419240	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	6	13	IGNORED	GS12	Cold Moist UG	Cold UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	6	14	1419472	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	6	15	IGNORED	GB41	Hot Dry UG	Dry UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	6	16	1419215	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	6	17	IGNORED	CES411	Cold Dry UF	Cold UF	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	6	18	IGNORED	SD4111	Hot Moist US	Moist US	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	6	19	1419237	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	6	20	1409044	CES131	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	6	21	1409060	GB41	Hot Dry UG	Dry UG	GB59	Warm Moist UG	Moist UG	N	N	N
PM	6	22	1409111	CES411	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	6	23	1409112	CDG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	6	24	1409083	CWS321	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	6	25	1409144	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	7	26	IGNORED	SM1111	Warm Moist US	Moist US	MOSAIC	NONE	NONE	NA	NA	NA
PM	7	27	1409164	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	7	28	1409199	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	7	29	1409206	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	7	30	IGNORED	GB59	Warm Moist UG	Moist UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	7	31	1409142	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
PM	7	32	1409136	CDG121	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	7	33	IGNORED	SM1111	Warm Moist US	Moist US	CWS912	Warm Very Moist UF	Moist UF	N	N	N
PM	7	34	1409141	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
PM	7	35	1409174	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
PM	7	36	1408976	GB41	Hot Dry UG	Dry UG	GB41	Hot Dry UG	Dry UG	Y	Y	Y
PM	7	37	1409180	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
PM	7	38	1409196	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	7	39	1409092	GB59	Warm Moist UG	Moist UG	GB41	Hot Dry UG	Dry UG	N	N	N
PM	7	40	1409194	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	7	41	1409124	CPG222	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	7	42	1409140	GB59	Warm Moist UG	Moist UG	GB59	Warm Moist UG	Moist UG	Y	Y	Y
PM	7	43	1409125	CDS622	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	7	44	1409193	CDS622	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	7	45	IGNORED	GB41	Hot Dry UG	Dry UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	7	46	1419271	CDS622	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	8	1	IGNORED	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	8	2	1409474	CES414	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
PM	8	3	1419243	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
PM	8	4	1409396	CWF311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
PM	8	5	1409541	CDS622	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	N	Y	Y
PM	8	6	1409544	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	8	7	IGNORED	CPG222	Warm Dry UF	Dry UF	MOSAIC	NONE	NONE	NA	NA	NA
PM	8	8	1409531	GB59	Warm Moist UG	Moist UG	GB59	Warm Moist UG	Moist UG	Y	Y	Y
PM	8	9	1409382	GB59	Warm Moist UG	Moist UG	GB59	Warm Moist UG	Moist UG	Y	Y	Y
PM	8	10	IGNORED	CPG222	Warm Dry UF	Dry UF	CDS625	Warm Dry UF	Dry UF	N	Y	Y
PM	8	11	1409547	CPG222	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
PM	8	12	1409381	GB59	Warm Moist UG	Moist UG	GB59	Warm Moist UG	Moist UG	Y	Y	Y
PM	9	1	IGNORED	GS10	Cool Moist UG	Cold UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	9	2	1410014	CAG111	Cold Dry UF	Cold UF	CWS321	Warm Dry UF	Dry UF	N	N	N
PM	9	3	1419102	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	9	4	1409992	CDS625	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	9	5	1419103	CDS622	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N

Appendix 2: Field Review of Umatilla NF Potential Vegetation Map by Charlie Johnson (8/17 to 9/4/1999)

RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
PM	9	6	IGNORED	GB59	Warm Moist UG	Moist UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	9	7	1410037	CAG111	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	9	8	1410316	CDG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	9	9	1410353	CDG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	9	10	1409860	GB59	Warm Moist UG	Moist UG	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	9	11	1410354	CDG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	9	12	1410350	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	9	13	1410344	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
PM	9	14	1410346	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	9	15	1410263	CDS611	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	9	16	1410349	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	9	17	IGNORED	CDS622	Warm Dry UF	Dry UF	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	9	18	1410029	CWF421	Cool Moist UF	Moist UF	CDS711	Warm Dry UF	Dry UF	N	N	N
PM	9	19	IGNORED	CPG221	Warm Dry UF	Dry UF	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	10	1	1410988	CDG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	10	2	1409834	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
PM	10	3	1410060	CWS211	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
PM	10	4	1410065	CAG111	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	10	5	1409946	CWF311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
PM	10	6	IGNORED	GB59	Warm Moist UG	Moist UG	DISCLIMAX	NONE	NONE	NA	NA	NA
PM	10	7	1409697	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
PM	10	8	1409696	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
PM	10	9	1410868	CDG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	10	10	1410907	CPG221	Warm Dry UF	Dry UF	CPS522	Warm Dry UF	Dry UF	N	Y	Y
PM	10	10	IGNORED	CPG221	Warm Dry UF	Dry UF	CPG112	Hot Dry UF	Dry UF	N	N	Y
PM	10	11	1410906	CDG111	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
PM	10	12	1410867	CPG221	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
PM	10	13	1410866	GB41	Hot Dry UG	Dry UG	GB41	Hot Dry UG	Dry UG	Y	Y	Y
PM	10	14	1410987	CDS622	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
PM	10	15	1410958	GB41	Hot Dry UG	Dry UG	GB59	Warm Moist UG	Moist UG	N	N	N
PM	10	16	1418926	CDS622	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	Y	Y	Y
WW	1	1	1402081	CPG222	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
WW	1	2	1402069	GB9111	Hot Dry US	Dry US	GB59	Warm Moist UG	Moist UG	N	N	N
WW	1	2	1402083	CDS622	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	Y	Y	Y
WW	1	3	1418441	CWG111	Warm Dry UF	Dry UF	CDG121	Warm Dry UF	Dry UF	N	Y	Y
WW	1	4	1404638	CWS211	Cool Moist UF	Moist UF	CWG112	Warm Dry UF	Dry UF	N	N	N
WW	1	4	IGNORED	CWS211	Cool Moist UF	Moist UF	CWG112	Warm Dry UF	Dry UF	N	N	N
WW	1	5	1404620	GB41	Hot Dry UG	Dry UG	GB41	Hot Dry UG	Dry UG	Y	Y	Y
WW	1	6	1404637	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
WW	1	7	1404640	GB59	Warm Moist UG	Moist UG	GB59	Warm Moist UG	Moist UG	Y	Y	Y
WW	1	8	1404616	GB41	Hot Dry UG	Dry UG	GB59	Warm Moist UG	Moist UG	N	N	N
WW	1	9	1418443	CPG221	Warm Dry UF	Dry UF	CDS622	Warm Dry UF	Dry UF	N	Y	Y
WW	1	10	1418444	CDG121	Warm Dry UF	Dry UF	CDG121	Warm Dry UF	Dry UF	Y	Y	Y
WW	1	11	1418437	CDG121	Warm Dry UF	Dry UF	CDG121	Warm Dry UF	Dry UF	Y	Y	Y
WW	1	12	1404641	CWF421	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
WW	1	13	1404635	CDG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
WW	1	14	1418416	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
WW	1	15	1404665	CPG222	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
WW	1	16	1418415	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
WW	1	17	1404642	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
WW	1	18	1404648	CPG222	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
WW	1	19	1404643	CDG111	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
WW	1	20	1404684	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
WW	1	21	1404689	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
WW	1	22	1404690	CWF421	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
WW	1	23	1404708	CLS58	Cool Very Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	N	Y
WW	1	24	1404707	CLS58	Cool Very Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	N	Y
WW	1	25	1404709	CWS211	Cool Moist UF	Moist UF	CWF421	Cool Moist UF	Moist UF	N	Y	Y
WW	1	26	1404713	CES411	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	1	27	1404714	CES411	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	1	28	IGNORED	GB9111	Hot Dry US	Dry US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	1	29	1404716	CES415	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	1	30	IGNORED	CLS58	Cool Very Moist UF	Moist UF	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	2	1	1402774	CES311	Cool Moist UF	Moist UF	CES131	Cool Moist UF	Moist UF	N	Y	Y

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
WW	2	2	IGNORED	CAG4	Cold Dry UF	Cold UF	SD2911	Warm Moist US	Moist US	N	N	N
WW	2	3	IGNORED	GB41	Hot Dry UG	Dry UG	CES131	Cool Moist UF	Moist UF	N	N	N
WW	2	4	1403100	CES415	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	2	5	1402784	CES411	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	2	6	1403079	GB59	Warm Moist UG	Moist UG	GB59	Warm Moist UG	Moist UG	Y	Y	Y
WW	2	7	1418372	SD2917	Warm Moist US	Moist US	SD2911	Warm Moist US	Moist US	N	Y	Y
WW	2	8	1418373	CES415	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	2	9	IGNORED	CEF411	Cold Dry UF	Cold UF	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	2	10	IGNORED	CAG4	Cold Dry UF	Cold UF	NONE	NONE	NONE	NA	NA	NA
WW	2	11	1403095	CEF411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	2	12	IGNORED	SD2917	Warm Moist US	Moist US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	2	13	IGNORED	GB41	Hot Dry UG	Dry UG	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	2	14	1402811	CES415	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	2	14	1418338	CES415	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	2	15	1402813	CWF421	Cool Moist UF	Moist UF	CES131	Cool Moist UF	Moist UF	N	Y	Y
WW	2	16	1402820	GB41	Hot Dry UG	Dry UG	SD2911	Warm Moist US	Moist US	N	N	N
WW	2	17	1403129	CES411	Cold Dry UF	Cold UF	CES131	Cool Moist UF	Moist UF	N	N	N
WW	2	18	1402819	CDS625	Warm Dry UF	Dry UF	CWF421	Cool Moist UF	Moist UF	N	N	N
WW	2	19	IGNORED	GB41	Hot Dry UG	Dry UG	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	2	20	1402827	CDS625	Warm Dry UF	Dry UF	CWF421	Cool Moist UF	Moist UF	N	N	N
WW	2	21	1402823	GB4911	Hot Dry UG	Dry UG	CWF421	Cool Moist UF	Moist UF	N	N	N
WW	2	22	IGNORED	GB41	Hot Dry UG	Dry UG	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	2	23	1402924	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
WW	2	24	1402922	CPG222	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	2	25	1402846	GB4911	Hot Dry UG	Dry UG	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	3	26	1402939	CPG222	Warm Dry UF	Dry UF	CWC812	Cool Wet UF	Moist UF	N	N	N
WW	3	27	IGNORED	GB41	Hot Dry UG	Dry UG	NONE	NONE	NONE	NA	NA	NA
WW	3	28	1403016	CPG221	Warm Dry UF	Dry UF	CWF421	Cool Moist UF	Moist UF	N	N	N
WW	3	29	IGNORED	GB59	Warm Moist UG	Moist UG	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	3	30	IGNORED	GB41	Hot Dry UG	Dry UG	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	3	31	1403071	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
WW	3	32	1403897	GB41	Hot Dry UG	Dry UG	GB4911	Hot Dry UG	Dry UG	N	Y	Y

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
WW	3	33	1403066	CPG222	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	3	34	1403070	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
WW	3	35	1403978	CWS211	Cool Moist UF	Moist UF	CWF421	Cool Moist UF	Moist UF	N	Y	Y
WW	3	36	1403896	GB4911	Hot Dry UG	Dry UG	GB4911	Hot Dry UG	Dry UG	Y	Y	Y
WW	3	37	1403894	CWC811	Cool Wet UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	N	Y
WW	3	38	1403998	CWF311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	3	39	1404016	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
WW	3	40	1404017	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
WW	3	41	IGNORED	GB4911	Hot Dry UG	Dry UG	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	3	42	1403770	CWF421	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	3	43	1403754	CDS611	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	3	44	1403758	CWC811	Cool Wet UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	N	Y
WW	3	45	IGNORED	SD2911	Warm Moist US	Moist US	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	3	46	1403756	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
WW	3	47	1403757	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
WW	3	48	1403745	CWG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	3	49	1403730	CDS611	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	3	50	IGNORED	SD2917	Warm Moist US	Moist US	CWF421	Cool Moist UF	Moist UF	N	N	N
WW	3	51	1403361	CWS211	Cool Moist UF	Moist UF	CWF421	Cool Moist UF	Moist UF	N	Y	Y
WW	3	52	1418676	CDS711	Warm Dry UF	Dry UF	CWF421	Cool Moist UF	Moist UF	N	N	N
WW	3	53	1403404	CWS211	Cool Moist UF	Moist UF	CWF421	Cool Moist UF	Moist UF	N	Y	Y
WW	3	54	IGNORED	CWF311	Cool Moist UF	Moist UF	CES131	Cool Moist UF	Moist UF	N	Y	Y
WW	3	55	IGNORED	CWF311	Cool Moist UF	Moist UF	CWF512	Cool Very Moist UF	Moist UF	N	N	Y
WW	4	56	IGNORED	SM32	Warm Moist US	Moist US	NONE	NONE	NONE	NA	NA	NA
WW	4	57	IGNORED	SM32	Warm Moist US	Moist US	NONE	NONE	NONE	NA	NA	NA
WW	4	58	1403722	CES311	Cool Moist UF	Moist UF	CEF311	Cool Wet UF	Moist UF	N	N	Y
WW	4	59	1418677	CDG111	Warm Dry UF	Dry UF	CWF512	Cool Very Moist UF	Moist UF	N	N	N
WW	4	60	1403564	CES414	Cool Moist UF	Moist UF	CES131	Cool Moist UF	Moist UF	N	Y	Y
WW	4	61	1403708	CES411	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	4	62	1403703	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	4	63	1403705	CES411	Cold Dry UF	Cold UF	CWF421	Cool Moist UF	Moist UF	N	N	N
WW	4	64	1403707	CES411	Cold Dry UF	Cold UF	CWF421	Cool Moist UF	Moist UF	N	N	N

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
WW	4	65	1403596	CES411	Cold Dry UF	Cold UF	CES131	Cool Moist UF	Moist UF	N	N	N
WW	5	1	1404820	CES411	Cold Dry UF	Cold UF	CEF331	Cool Moist UF	Moist UF	N	N	N
WW	5	2	1404774	CEF331	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	Y	Y	Y
WW	5	3	IGNORED	NONE	NONE	NONE	NONE	NONE	NONE	NA	NA	NA
WW	5	4	1404738	CES131	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	N	Y	Y
WW	5	5	1403460	CES411	Cold Dry UF	Cold UF	CES131	Cool Moist UF	Moist UF	N	N	N
WW	5	6	IGNORED	CES414	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	N	Y	Y
WW	5	7	1403419	CES311	Cool Moist UF	Moist UF	CES131	Cool Moist UF	Moist UF	N	Y	Y
WW	5	8	1403418	CES411	Cold Dry UF	Cold UF	CES131	Cool Moist UF	Moist UF	N	N	N
WW	5	9	1403422	CEF331	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	Y	Y	Y
WW	5	10	1403515	CES411	Cold Dry UF	Cold UF	CEF331	Cool Moist UF	Moist UF	N	N	N
WW	5	11	IGNORED	SM1111	Warm Moist US	Moist US	CEF331	Cool Moist UF	Moist UF	N	N	N
WW	5	12	1403516	CEF331	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	Y	Y	Y
WW	5	13	1403414	CES411	Cold Dry UF	Cold UF	CES131	Cool Moist UF	Moist UF	N	N	N
WW	5	14	1403667	CEF311	Cool Wet UF	Moist UF	CEF331	Cool Moist UF	Moist UF	N	N	Y
WW	6	1	IGNORED	CES411	Cold Dry UF	Cold UF	NONE	NONE	NONE	NA	NA	NA
WW	6	2	IGNORED	GB59	Warm Moist UG	Moist UG	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	6	3	1404775	CES411	Cold Dry UF	Cold UF	CES131	Cool Moist UF	Moist UF	N	N	N
WW	6	4	IGNORED	CES311	Cool Moist UF	Moist UF	CES131	Cool Moist UF	Moist UF	N	Y	Y
WW	6	4	IGNORED	CES311	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	N	Y	Y
WW	6	5	IGNORED	SD2917	Warm Moist US	Moist US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	6	6	IGNORED	GB41	Hot Dry UG	Dry UG	NONE	NONE	NONE	NA	NA	NA
WW	6	7	1404802	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	6	7	1404804	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	6	8	IGNORED	GB9111	Hot Dry US	Dry US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	6	9	1404805	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	6	10	1404848	CES411	Cold Dry UF	Cold UF	CES131	Cool Moist UF	Moist UF	N	N	N
WW	6	11	IGNORED	CWS211	Cool Moist UF	Moist UF	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	6	12	1404851	CES131	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
WW	6	13	1405026	CES414	Cool Moist UF	Moist UF	CES131	Cool Moist UF	Moist UF	N	Y	Y
WW	6	14	1405648	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	6	15	1405380	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
WW	6	16	IGNORED	GB9111	Hot Dry US	Dry US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	6	17	1405615	CWS812	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
WW	6	18	1405478	CES131	Cool Moist UF	Moist UF	CES131	Cool Moist UF	Moist UF	Y	Y	Y
WW	6	19	1405482	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	6	20	1405604	CES411	Cold Dry UF	Cold UF	CES131	Cool Moist UF	Moist UF	N	N	N
WW	7	1	IGNORED	GB41	Hot Dry UG	Dry UG	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	7	2	1406831	GB9111	Hot Dry US	Dry US	GS11	Cool Moist UG	Cold UG	N	N	N
WW	7	3	1419955	CES311	Cool Moist UF	Moist UF	CES131	Cool Moist UF	Moist UF	N	Y	Y
WW	7	4	1406848	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	7	5	IGNORED	CES311	Cool Moist UF	Moist UF	NONE	NONE	NONE	NA	NA	NA
WW	7	6	1406872	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	7	7	IGNORED	CES411	Cold Dry UF	Cold UF	NONE	NONE	NONE	NA	NA	NA
WW	7	8	1407081	CES414	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
WW	7	9	1409622	GS10	Cool Moist UG	Cold UG	GS10	Cool Moist UG	Cold UG	Y	Y	Y
WW	7	10	1406918	SD2917	Warm Moist US	Moist US	GS10	Cool Moist UG	Cold UG	N	N	N
WW	7	11	1406903	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	7	12	1406915	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	7	13	IGNORED	CDS611	Warm Dry UF	Dry UF	NONE	NONE	NONE	NA	NA	NA
WW	7	14	1406916	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	7	15	1406917	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
WW	7	16	1406856	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
WW	7	17	1407158	CES414	Cool Moist UF	Moist UF	CES411	Cold Dry UF	Cold UF	N	N	N
WW	7	18	1407157	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
WW	7	19	1407182	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
WW	7	20	IGNORED	NONE	NONE	NONE	NONE	NONE	NONE	NA	NA	NA
WW	7	21	1407181	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	7	22	1406940	GS10	Cool Moist UG	Cold UG	GS10	Cool Moist UG	Cold UG	Y	Y	Y
WW	7	23	1419911	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	7	24	1407179	GS10	Cool Moist UG	Cold UG	GS10	Cool Moist UG	Cold UG	Y	Y	Y
WW	7	25	1407044	GS10	Cool Moist UG	Cold UG	GS10	Cool Moist UG	Cold UG	Y	Y	Y
WW	7	26	1419903	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
WW	7	27	1419902	CWF311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
WW	7	28	1407169	CAG111	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	7	29	1407064	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	8	1	1407249	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	8	2	IGNORED	GS10	Cool Moist UG	Cold UG	NONE	NONE	NONE	NA	NA	NA
WW	8	3	1407283	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	8	4	1407282	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	8	5	1407061	GS10	Cool Moist UG	Cold UG	GS10	Cool Moist UG	Cold UG	Y	Y	Y
WW	8	6	1407060	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
WW	8	7	1407059	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	8	8	1407276	GS10	Cool Moist UG	Cold UG	SS4911	Cold Moist US	Cold US	N	N	N
WW	8	9	1407236	SS4911	Cold Moist US	Cold US	SS4911	Cold Moist US	Cold US	Y	Y	Y
WW	8	10	1407275	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	8	11	1407243	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	8	12	1407828	CES411	Cold Dry UF	Cold UF	CES411	Cold Dry UF	Cold UF	Y	Y	Y
WW	8	13	IGNORED	GS10	Cool Moist UG	Cold UG	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	8	14	IGNORED	GS10	Cool Moist UG	Cold UG	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	8	15	IGNORED	SM20	Cold Very Moist US	Cold US	CES311	Cool Moist UF	Moist UF	N	N	N
WW	8	16	1407804	GS12	Cold Moist UG	Cold UG	GB41	Hot Dry UG	Dry UG	N	N	N
WW	8	17	1407823	SM20	Cold Very Moist US	Cold US	SM20	Cold Very Moist US	Cold US	Y	Y	Y
WW	8	18	1419695	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	8	19	IGNORED	SM20	Cold Very Moist US	Cold US	SM20	Cold Very Moist US	Cold US	Y	Y	Y
WW	8	20	1407830	SM20	Cold Very Moist US	Cold US	SM20	Cold Very Moist US	Cold US	Y	Y	Y
WW	8	21	1407824	CES311	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	N	Y	Y
WW	8	22	IGNORED	CES411	Cold Dry UF	Cold UF	SM20	Cold Very Moist US	Cold US	N	N	N
WW	8	23	1407883	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	8	24	1407888	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	8	25	IGNORED	SD2917	Warm Moist US	Moist US	NONE	NONE	NONE	NA	NA	NA
WW	9	26	IGNORED	GS12	Cold Moist UG	Cold UG	NONE	NONE	NONE	NA	NA	NA
WW	9	27	1408082	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	9	28	1408081	CES414	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
WW	9	29	1407821	GB41	Hot Dry UG	Dry UG	GB41	Hot Dry UG	Dry UG	Y	Y	Y
WW	9	30	1408080	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
WW	9	31	1407916	CES131	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
WW	9	32	IGNORED	SM20	Cold Very Moist US	Cold US	CES311	Cool Moist UF	Moist UF	N	N	N
WW	9	33	IGNORED	GS39	Cold Dry UG	Cold UG	NONE	NONE	NONE	NA	NA	NA
WW	9	34	IGNORED	GS10	Cool Moist UG	Cold UG	NONE	NONE	NONE	NA	NA	NA
WW	9	35	IGNORED	GS12	Cold Moist UG	Cold UG	NONE	NONE	NONE	NA	NA	NA
WW	9	36	IGNORED	GS12	Cold Moist UG	Cold UG	NONE	NONE	NONE	NA	NA	NA
WW	9	37	1408058	CEF331	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	Y	Y	Y
WW	9	38	1408057	SM20	Cold Very Moist US	Cold US	SM20	Cold Very Moist US	Cold US	Y	Y	Y
WW	9	39	IGNORED	SM20	Cold Very Moist US	Cold US	CEF331	Cool Moist UF	Moist UF	N	N	N
WW	9	40	1407946	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	9	41	1419599	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	9	42	1407949	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	10	1	IGNORED	GS10	Cool Moist UG	Cold UG	NONE	NONE	NONE	NA	NA	NA
WW	10	2	IGNORED	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	10	3	1407218	CEF331	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	Y	Y	Y
WW	10	4	1407039	CAG111	Cold Dry UF	Cold UF	CEF331	Cool Moist UF	Moist UF	N	N	N
WW	10	5	1419879	CWF311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
WW	10	6	1407219	CES414	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
WW	10	7	1407165	CES414	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
WW	10	8	IGNORED	FW5121	Warm Wet MSM RH	Mod SM RH	NONE	NONE	NONE	NA	NA	NA
WW	10	9	1407032	CWS211	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	N	Y	Y
WW	10	10	1407285	CES311	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	N	Y	Y
WW	10	11	1407034	CES414	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	N	Y	Y
WW	10	12	IGNORED	NONE	NONE	NONE	NONE	NONE	NONE	NA	NA	NA
WW	10	13	1419738	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	10	14	1407669	CES411	Cold Dry UF	Cold UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	10	15	1407469	SM20	Cold Very Moist US	Cold US	SM20	Cold Very Moist US	Cold US	Y	Y	Y
WW	10	16	IGNORED	NONE	NONE	NONE	NONE	NONE	NONE	NA	NA	NA
WW	10	17	1407693	CAG111	Cold Dry UF	Cold UF	CWS912	Warm Very Moist UF	Moist UF	N	N	N
WW	10	18	1419741	CDG111	Warm Dry UF	Dry UF	CWS912	Warm Very Moist UF	Moist UF	N	N	N
WW	10	19	1407360	CWF421	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	10	20	1407667	CES131	Cool Moist UF	Moist UF	CWS912	Warm Very Moist UF	Moist UF	N	N	Y

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
WW	10	21	1407692	CES411	Cold Dry UF	Cold UF	CWS912	Warm Very Moist UF	Moist UF	N	N	N
WW	10	22	1407579	CES131	Cool Moist UF	Moist UF	CWS912	Warm Very Moist UF	Moist UF	N	N	Y
WW	10	23	IGNORED	SM32	Warm Moist US	Moist US	CWS912	Warm Very Moist UF	Moist UF	N	N	N
WW	11	24	1407564	CWF421	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	11	25	IGNORED	SM1111	Warm Moist US	Moist US	CDS711	Warm Dry UF	Dry UF	N	N	N
WW	11	26	IGNORED	CWF612	Cool Very Moist UF	Moist UF	NONE	NONE	NONE	NA	NA	NA
WW	11	27	IGNORED	SM1111	Warm Moist US	Moist US	CDS711	Warm Dry UF	Dry UF	N	N	N
WW	11	28	1407573	CDS711	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	Y	Y	Y
WW	11	29	1407361	GB41	Hot Dry UG	Dry UG	GB59	Warm Moist UG	Moist UG	N	N	N
WW	11	30	IGNORED	CWF612	Cool Very Moist UF	Moist UF	NONE	NONE	NONE	NA	NA	NA
WW	12	1	1407967	GB9111	Hot Dry US	Dry US	GB9111	Hot Dry US	Dry US	Y	Y	Y
WW	12	2	IGNORED	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	12	3	1408032	CES414	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
WW	12	4	IGNORED	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	12	5	1408034	CWF421	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	12	6	1408412	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	12	7	1408282	CWF421	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	12	8	IGNORED	GS10	Cool Moist UG	Cold UG	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	12	9	1408410	CDG111	Warm Dry UF	Dry UF	CWS912	Warm Very Moist UF	Moist UF	N	N	N
WW	12	10	1408285	CES411	Cold Dry UF	Cold UF	CWS912	Warm Very Moist UF	Moist UF	N	N	N
WW	12	11	1408408	CES311	Cool Moist UF	Moist UF	CWS912	Warm Very Moist UF	Moist UF	N	N	Y
WW	12	12	1408036	GB41	Hot Dry UG	Dry UG	GB59	Warm Moist UG	Moist UG	N	N	N
WW	12	13	1408381	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	12	14	1408384	CEF331	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	Y	Y	Y
WW	12	15	IGNORED	GB41	Hot Dry UG	Dry UG	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	12	16	1419559	CES414	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
WW	12	17	1408385	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	12	18	1408386	CEF331	Cool Moist UF	Moist UF	CWS912	Warm Very Moist UF	Moist UF	N	N	Y
WW	12	19	1410480	CWF421	Cool Moist UF	Moist UF	CWS912	Warm Very Moist UF	Moist UF	N	N	Y
WW	12	20	1410507	CDS625	Warm Dry UF	Dry UF	CWS912	Warm Very Moist UF	Moist UF	N	N	N
WW	12	21	1410405	CWF421	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	12	22	1410419	CWF311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
WW	12	23	1410418	CWF311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	12	24	1410420	CWF311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	12	25	1410417	CWF311	Cool Moist UF	Moist UF	CWF512	Cool Very Moist UF	Moist UF	N	N	Y
WW	13	26	1418966	CES414	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	13	27	1410421	CWF311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	13	28	1418967	CES311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	13	29	1410422	CWF311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	13	30	IGNORED	SM1111	Warm Moist US	Moist US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	14	1	1405604	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	14	2	1405485	GS11	Cool Moist UG	Cold UG	GS11	Cool Moist UG	Cold UG	Y	Y	Y
WW	14	3	1405598	CES414	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	14	4	1405565	CDG111	Warm Dry UF	Dry UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	14	5	1405491	CES311	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	Y	Y	Y
WW	14	6	1405489	CES311	Cool Moist UF	Moist UF	CWF421	Cool Moist UF	Moist UF	N	Y	Y
WW	14	7	1405603	CES311	Cool Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	N	Y	Y
WW	14	8	1405636	CES411	Cold Dry UF	Cold UF	CES131	Cool Moist UF	Moist UF	N	N	N
WW	14	9	1405877	CES311	Cool Moist UF	Moist UF	CES131	Cool Moist UF	Moist UF	N	Y	Y
WW	14	10	1405860	CES411	Cold Dry UF	Cold UF	CES131	Cool Moist UF	Moist UF	N	N	N
WW	14	11	1405890	CES414	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
WW	14	12	1406549	CES414	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
WW	14	13	1405887	CES414	Cool Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	Y	Y
WW	14	14	IGNORED	GB9111	Hot Dry US	Dry US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	14	15	1405829	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	14	16	1405819	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	14	17	1405958	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	14	18	1405833	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	14	19	1405781	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	14	20	1405782	CWS811	Cold Dry UF	Cold UF	CES131	Cool Moist UF	Moist UF	N	N	N
WW	14	20	IGNORED	NONE	NONE	NONE	CES311	Cool Moist UF	Moist UF	NA	NA	NA
WW	14	21	IGNORED	SM1111	Warm Moist US	Moist US	NONE	NONE	NONE	NA	NA	NA
WW	14	22	1405934	CES411	Cold Dry UF	Cold UF	CES131	Cool Moist UF	Moist UF	N	N	N
WW	14	23	1405936	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N

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RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
WW	14	24	1406567	CLS58	Cool Very Moist UF	Moist UF	CEF331	Cool Moist UF	Moist UF	N	N	Y
WW	14	25	IGNORED	GS10	Cool Moist UG	Cold UG	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	15	26	1405953	CES411	Cold Dry UF	Cold UF	CWF311	Cool Moist UF	Moist UF	N	N	N
WW	15	27	1406646	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	15	28	IGNORED	SD4111	Hot Moist US	Moist US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	15	29	1406575	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	15	30	1406650	CES411	Cold Dry UF	Cold UF	CES131	Cool Moist UF	Moist UF	N	N	N
WW	15	31	1406651	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	15	32	1421154	CLS58	Cool Very Moist UF	Moist UF	CES311	Cool Moist UF	Moist UF	N	N	Y
WW	15	33	IGNORED	CES411	Cold Dry UF	Cold UF	CES311	Cool Moist UF	Moist UF	N	N	N
WW	15	34	1406640	CDG111	Warm Dry UF	Dry UF	CEF331	Cool Moist UF	Moist UF	N	N	N
WW	15	35	IGNORED	SM1111	Warm Moist US	Moist US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	15	36	IGNORED	CES411	Cold Dry UF	Cold UF	CES414	Cool Moist UF	Moist UF	N	N	N
WW	15	37	IGNORED	CWS211	Cool Moist UF	Moist UF	NONE	NONE	NONE	NA	NA	NA
WW	15	38	1406098	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
WW	15	39	1406642	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
WW	15	40	IGNORED	GB9111	Hot Dry US	Dry US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	15	41	1406160	CDS611	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
WW	16	42	IGNORED	GB9111	Hot Dry US	Dry US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	16	43	IGNORED	GB9111	Hot Dry US	Dry US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	16	44	1421093	CWS211	Cool Moist UF	Moist UF	CWF421	Cool Moist UF	Moist UF	N	Y	Y
WW	16	45	1406107	CWF421	Cool Moist UF	Moist UF	CWF421	Cool Moist UF	Moist UF	Y	Y	Y
WW	16	46	1406108	MM1912	Warm Wet MSM RH	Mod SM RH	MM1912	Warm Wet MSM RH	Mod SM RH	Y	Y	Y
WW	16	47	1421098	CLS513	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	16	48	1406136	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
WW	16	49	IGNORED	MM1912	Warm Wet MSM RH	Mod SM RH	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	16	50	1406123	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
WW	16	51	1406104	CWC811	Cool Wet UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	N	Y
WW	16	52	1406086	CDG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	16	53	1421083	CDG111	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	16	54	IGNORED	SD4111	Hot Moist US	Moist US	CPS525	Warm Dry UF	Dry UF	N	N	N
WW	16	55	IGNORED	SM1111	Warm Moist US	Moist US	CWS211	Cool Moist UF	Moist UF	N	N	N

Appendix 2: Field Review of Umatilla NF Potential Vegetation Map by Charlie Johnson (8/17 to 9/4/1999)

RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
WW	16	56	IGNORED	GB9111	Hot Dry US	Dry US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	16	57	IGNORED	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
WW	16	58	IGNORED	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
WW	16	59	1406203	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
WW	16	60	1406164	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
WW	16	61	1406202	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
WW	16	62	1406174	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
WW	16	63	1406295	GB41	Hot Dry UG	Dry UG	GB59	Warm Moist UG	Moist UG	N	N	N
WW	16	64	1406294	CWS211	Cool Moist UF	Moist UF	CWF421	Cool Moist UF	Moist UF	N	Y	Y
WW	16	65	1406293	CWS211	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	Y	Y	Y
WW	16	66	IGNORED	GB9111	Hot Dry US	Dry US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	16	67	IGNORED	GB9111	Hot Dry US	Dry US	DISCLIMAX	NONE	NONE	NA	NA	NA
WW	16	68	1406298	CWS211	Cool Moist UF	Moist UF	CWF421	Cool Moist UF	Moist UF	N	Y	Y
WW	16	69	1406511	CWF311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	16	70	1419966	CDG121	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	17	71	1419967	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
WW	17	72	1406404	CWS211	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	Y	Y
WW	17	73	1406398	CWF311	Cool Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	Y	Y	Y
WW	17	74	1406465	CPG221	Warm Dry UF	Dry UF	CWF421	Cool Moist UF	Moist UF	N	N	N
WW	17	75	1406437	CWF311	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	17	76	1406439	CWF421	Cool Moist UF	Moist UF	CWS211	Cool Moist UF	Moist UF	N	Y	Y
WW	17	77	1406420	CWS412	Warm Moist UF	Moist UF	CWF421	Cool Moist UF	Moist UF	N	N	Y
WW	17	78	1406374	GB41	Hot Dry UG	Dry UG	GB41	Hot Dry UG	Dry UG	Y	Y	Y
WW	17	79	1406479	CWC811	Cool Wet UF	Moist UF	CDS711	Warm Dry UF	Dry UF	N	N	N
WW	17	80	1406421	CWS412	Warm Moist UF	Moist UF	CWF311	Cool Moist UF	Moist UF	N	N	Y
WW	17	81	IGNORED	CPG221	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	N	Y	Y
WW	17	82	1406422	CDS711	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	Y	Y	Y
WW	17	83	1406423	CDS711	Warm Dry UF	Dry UF	CDS711	Warm Dry UF	Dry UF	Y	Y	Y
WW	17	84	1406475	GB41	Hot Dry UG	Dry UG	GB59	Warm Moist UG	Moist UG	N	N	N
WW	17	85	IGNORED	CPG221	Warm Dry UF	Dry UF	CDS611	Warm Dry UF	Dry UF	N	Y	Y
WW	18	1	1406502	CDS611	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
WW	18	2	1406081	CDS611	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N

Appendix 2: Field Review of Umatilla NF Potential Vegetation Map by Charlie Johnson (8/17 to 9/4/1999)

RD	Sheet Number	Poly Numb	Polytag	MapCode	MapPAG	MapPVG	FieldCode	FieldPAG	FieldPVG	Eco Match	PAG Match	PVG Match
WW	18	3	1406501	CDS611	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
WW	18	4	1406215	CDG121	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	18	5	IGNORED	CDG121	Warm Dry UF	Dry UF	MOSAIC	NONE	NONE	NA	NA	NA
WW	18	6	1406033	CDG121	Warm Dry UF	Dry UF	CWF311	Cool Moist UF	Moist UF	N	N	N
WW	18	7	1406036	CDG121	Warm Dry UF	Dry UF	CWS211	Cool Moist UF	Moist UF	N	N	N
WW	18	8	1406030	CPG221	Warm Dry UF	Dry UF	CDS611	Warm Dry UF	Dry UF	N	Y	Y
WW	18	9	1405990	CPS522	Warm Dry UF	Dry UF	CDS611	Warm Dry UF	Dry UF	N	Y	Y
WW	18	10	1405989	CDS611	Warm Dry UF	Dry UF	CDS611	Warm Dry UF	Dry UF	Y	Y	Y
Accuracy Statistics:												
Plant Association (ecoclass) level: 28% of 810 usable polygons had agreement between the map and field determination of PA												
Plant Association Group (PAG) level: 54% of 810 usable polygons had agreement between the map and field determination of PAG												
Potential Vegetation Group (PVG) level: 63% of 810 usable polygons had agreement between the map and field determination of PVG												
Notes:												
This data was collected by Charles G. Johnson, Area Ecologist, during a 3-week field review of Umatilla NF potential vegetation map (8/17/1999 to 9/4/1999)												
RD (Ranger District) codes are: HP, Heppner; NF, North Fork John Day; PM, Pomeroy; WW, Walla Walla												
Sheet Number and Poly Numb (Number) refer to field survey sheets completed by Johnson												
Polytag refers to a polygon number on the Umatilla National Forest's potential vegetation map finalized in June 1999 by Karl Urban and Scott Riley, botanists												
IGNORED in Polytag field shows instances where Johnson field survey result was ignored because the area he examined did not represent whole polygon												
MapCode, MapPAG, and MapPVG refer to data values from Forest's PV map compiled by Urban/Riley (Code refers to ecoclass/plant association codes)												
FieldCode, FieldPAG, and FieldPVG relate to field review data values collected by Johnson (Code refers to ecoclass/plant association codes)												
Eco Match, PAG Match, and PVG Match show whether the field review determination by Johnson agreed with the PV map determination by Urban												

Appendix 3: Umatilla NF Potential Vegetation (PV) Mapping Project

Update and FLT Briefing. January 18, 2000

Outline of this Document

- Background
- Database Tutorial
- Why Fix the PV Layer?
- Findings and Assumptions
- How to Fix the PV Layer? – Proposed Strategy
- Decisions to be Made

It may be an obvious statement but in order to fulfill our basic mission, every Forest needs an accurate description of its existing and potential vegetation. Both existing and potential vegetation data are used for a wide variety of planning, analyses and project-level purposes.

Potential vegetation (PV) is valuable for land-use planning, ecosystem analysis, and bioregional assessments such as the Interior Columbia Basin Ecosystem Management Project. To meet these multi-scale needs, a hierarchy of potential vegetation has been developed over the last 30 years.

A fine-scale hierarchy is provided by the vegetation classifications themselves. Phases, plant associations, and series are used as taxonomic units in classifications such as "Plant Associations of the Blue and Ochoco Mountains" (by Johnson and Clausnitzer, 1992). A mid-scale hierarchy was recently developed for use with mid- and broad-scale analyses. It currently has two taxonomic levels – plant association groups (PAGs) and potential vegetation groups (PVGs). The figure on the next page describes these PV hierarchies in more detail.

Last field season, Charlie Johnson field checked 1,032 polygons of our Forest's potential vegetation map. The field check indicates that the mapped plant association was correct about 27% of the time, the plant association group (PAG) was correct about 53% of the time, and the potential vegetation group (PVG) was correct about 62% of the time.

There are several reasons for the low accuracy at the plant association level, some of which are predictable given the objectives of this undertaking, scale issues, data sources, etc. Regardless of the reasons, our Forest specialists feel that this data can and should be improved over time. Charlie presented his findings to a portion of the FLT in early November 1999, at which time he was asked to help us develop a strategy for improving the accuracy of the Umatilla's PV map.

On December 16, 1999, the following group met to work on this task.

- Delanne Ferguson, Natural Resources Staff
- Dave Powell, Forest Silviculturist
- Craig Busskohl, Forest Soil Scientist
- Caty Clifton, Forest Hydrologist
- Alan Ager, Forest Analyst
- Vicky Erickson, Zone Geneticist and Botany Program Manager
- Scott Riley, Botanist

- Bob Ottersberg, Landtype Association (LTA) mapping contractor

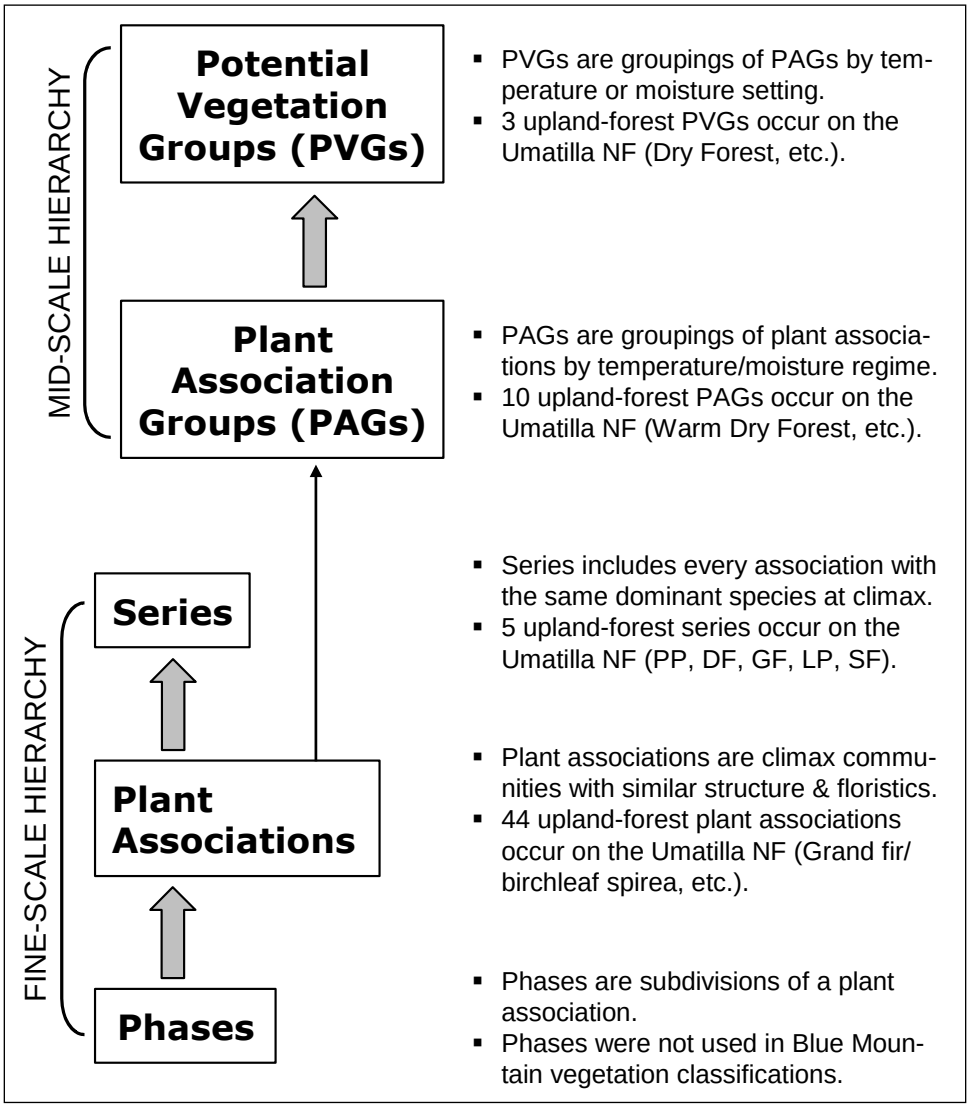

Figure 1 – Hierarchies of potential vegetation for upland forests. Potential vegetation can be organized in both a fine-scale and a mid-scale hierarchy. The fine-scale taxonomic units are described in vegetation classifications and their associated keys. For analysis purposes, a mid-scale hierarchy was recently developed. A link between the fine-scale and mid-scale hierarchies is provided by the plant association because associations are aggregated to form PAGs.

We would have you note that very seldom has such a diverse group of specialists shared an interest in these topics and come together to discuss our data needs. Since Bob Ottersberg was here on the day that had been scheduled to discuss PV, and because LTA and PV are interrelated, we invited Bob to participate. We much valued and appreciated his expertise and perspectives.

Our meeting had two purposes. First was to validate that the way Bob was mapping LTA would be useful to us, and second was to begin discussions of how to improve our PV layer. A "tutorial" section is included here, as even the specialists found that knowledge about many of our

data sources was varied – it took several hours of discussion to get everyone to the same point in terms of what exists and how each source is used. It may be helpful for the FLT to "back up" a bit by studying some of these basics, before moving forward with good understanding.

Database Tutorial

The following table illustrates our vegetation related data sources (not all inclusive) and various information about them:

Table 1. Major data sources.

Data Sources	CV	PV	Scale	Quality	Used For/Examples:	Remarks
Stand Exams	X	X	Fine	Good when taken; some old now	Site specific projects	At least 10,000 historical exams exist for the Forest
EVG: Existing Vegetation (photo interpretation)	X		Fine scale; broad coverage	Pretty Good	Used at multiple scales and for many types of analyses. Lynx.	Took lots of time and money
CVS (Current Vegetation Survey)	X	X	Plot data	Very good	Broad scale estimates of quantitative features.	Useful, accurate, and statistically reliable at the broad scale.
C&T, Condition and Trend	X			Very few points	Range analysis	
SRI, Soil Resource Inventory		X	Mid-scale	Good maps, fair data	Mgt area planning, project work, restoration work	
LTA, Land Type Association		X	Mid/broad scale: 600-acre polygons	Good to Very good	Sediment modeling, geology, hydrography. Plan revisions, EAWS, some habitat analysis	Includes vegetation/geology/landforms, i.e., cold forest/basalt/plateau.
DEM, Digital Elevation Model			Fine	Good	Topography, aspect, slope, visuals	
PVG*, Potential Vegetation Group		X	Mid scale	Fair	Plan revisions, EAWS, projects, many types of analyses	Required for structure classification!!
PAG*, Plant Association Group		X		Fair	Lynx maps	
Plant Association (Ecoclass)*		X	Fine scale,	High/Low	Site specific projects. Used for virtually all planning endeavors. Can be aggregated up to PAG and PVG scales.	Ever-increasing accuracy, but never accurate at any one point
EUI, Ecological Unit Inventory		X	Between PAG & PA scales, down to 5 acres	Very Good	Fine to Broad level planning. Can be aggregated up. Project level	Long term process. Soil geology, geomorphology, and PV. Will replace SRI when done.

* See figure 1 for a detailed description of these hierarchical units. CV = Current Vegetation; PV = Potential Vegetation.

Why Fix the PNV Layer?

Listed here are several reasons for why we need an improved PVG layer.

1) Forest Planning: PV is essentially the capability and productivity layer for Forest planning. Hall's classification from 1973 was used for our first-generation Forest Plan in the 1980s. It was used for suitability and capability analyses and a variety of other things. When we revise our Forest Plan in the future, we will be using the Johnson and Clausnitzer classification (1992) to revise or replace the previous information supplied by Hall's classification.
2) Watershed Analysis.
3) Virtually all habitat analysis; lynx, old growth, Historical Range of Variability, etc.
4) ICBEMP sub-basin review. Standards and Guidelines from ICBEMP will use PVG to characterize applications.
5) Demo projects.
6) Fuels planning projects.
7) Etc., etc., etc.

Findings and Assumptions

Assumptions:

A "barrel" of data exists. We will have to filter and screen it somehow.

There will be a point where we transition from a strike team approach to get the "fixes" underway to a routine process of continually upgrading the data in the system.

Eventually we must go to the field to really know what the plant associations are.

Findings:

Andrew Lacey tried to compare Hall's classification to the new one and couldn't get it to work out because there is not a clean "cross-walk" between the 1973 types and the current ones.

We have over 12,000 field surveys where reliable PV data has been collected.

- Pomeroy's plant association surveys (1993-1995) are excellent (over 1,400 polygons).
- Walla Walla historical stand exams are excellent (over 6,200 individual exams).
- Since most of the south end's historical stand exams are tied to Hall's classification, they will not be as usable as the north end's exams. We will therefore need a different approach for the south end than the north end.
- We have approximately 3,000 point-based (rather than polygon-based) surveys on the Forest with usable plant association information (CVS and managed-stand surveys).

Option to use Demo money won't help much, as very little of the south end is in the Demo area, and the south end is where the most investment needs to be made in terms of making updates.

Umatilla-Meacham EAWS revealed that the worst disparity (in the PV mapping) was between forested and non-forested areas. Problem was mostly based on scale, i.e., small forested stringers in grass-tree mosaic areas were not differentiated very well on the PV map.

Use of PVG was appropriately used in the LTA mapping. Accuracy is OK here because of large scale coverage. The vegetation units used for the LTA mapping are not exactly the same as PVG, but vegetation is adequately represented in a suite of physical and biotic components (See Table 1). Should have final LTA map products from Bob by March.

The routine process for updating the PV layer over time and our initial "strike team" approach, are two different issues. Routine processes could include stand exams, fuels plots (?), botany surveys, etc.

At present there is no data dictionary for the PV map and it has never been officially released for either SO or District use. Karl did provide a write-up about the map – what it is and what it is not, etc.

How to Fix the PNV layer? – Proposed Strategy

Our first proposal is to officially release the PVG layer. There have been concerns expressed by our GIS folks, primarily because some folks have been using the layer even though it was never officially released, there is no data dictionary write-up for it, and so forth. Once it is released and the coding described in the data dictionary, the Forest would need to develop an update strategy so that Districts could revise it as they complete new field surveys and project planning efforts. Dave Powell would compose a letter explaining the layer's limitations, how it should be used and not used, how it could be updated as part of routine business, etc. Dave could also take the lead on preparing the data dictionary write-up.

North end Approach: Compare Walla Walla stand exams and Pomeroy watershed surveys against Karl's map. For Pomeroy especially, there should be good compatibility between the polygon delineations for the two sources. The PV plant association codes could be updated to reflect the results of the field surveys (e.g., assume that the field surveys are correct and use them to update Karl's assignments whenever the two data sources differ). Develop a follow-up strategy to update areas without historical field surveys, or allow the discrepancies to remain in the PV map until the Districts complete a new survey for those areas in the future.

Who would do the work?

- Short term: Steve Burns is already doing the work to compare the stand exams and watershed surveys to the PV map, and do appropriate updates. (Should take him 4-6 weeks.)
- Long term: Once any "holes" are determined, and we expect they will be relatively minor, we can assess the remaining need for field info.

Funding Needs?

- Short term: No additional funds are needed for Steve to complete the work. District folks would only need to help occassionally by answering Steve's questions and helping him dig up info.
- Long term: Uncertain until field needs, if any, are discovered. Options may include demo money, carryover, or budgeting/planning ahead for FY 2001.

South end Approach: Use existing surveys where appropriate (Ayn Shlisky's Desolation contract data, new exams taken after 1992 at Heppner, etc.). Prioritize need for field reviews toward areas where active management is being considered (EIS areas, EAWS areas, etc.) so there is immediate payback from the investment. (Ironically, the only demo area on the south end is Desolation, where Ayn Shilsky already did the work. The good news is that Desolation now has excellent data. The bad news is that there is no legitimate way to ask for demo money at present to help fund the south end need).

Short term: Using existing data where appropriate. Steve Burns could do this work after he finishes the north end, with some assistance from Scott. Ranger Districts need to prioritize areas to work on, especially if FLT chooses to meter the field work out over several years (see below).

Long term: Need to decide **who would do the work** and **what it would cost** to fix the south end data.

There are two options for the field updates: (1) identify District personnel with appropriate skills and experience and have them devote some portion of their field-season time to completing plant association surveys, or (2) hire GS 7/9 seasonals and attach them to the botany program (to be supervised by Scott Riley and Dave Powell, and to be trained by Charlie Johnson). Based on some discussion with Charlie Johnson, then figuring the cost of GS 7's or 9's, four people, three weeks at Heppner and six weeks at NFJD, perdiem, mileage, etc., the ROUGH total cost to fix the PV map problem for the south end would be about $35,000. Could choose to meter the work out over multiple fiscal years. Again, funding source for FY00 might be NFFV carryover, or we could use this estimate as planning information for the FY01 budget.

Option 1 Pros and Cons:

- Con: Very few District personnel exist with the skill level to accurately do the work. Those that do have the skills are already over-booked. Several are GS-11's so the price would be higher.
- Pro: District personnel's involvement buys support of the product. Might be an opportunity to fund people if they are otherwise available (which I doubt).

Option 2 Pros and Cons:

- Pro: Scott Riley could supervise a crew of four GS-7/9 botanists/ecologists with sufficient expertise to get high quality data and the work would not be intrusive to already existing District work. Minimal coordination would be required by the units themselves.
- Pro: Same crew could do simultaneously with rare plant/botanical surveys, filling in gaps and making improvements there as well. This would not be a full coverage

product, but use our present process of what we call "intuitively controlled" searches. Conversely, whatever botanical surveys we need to do can also start picking up ecoclass information, if we decide to invest some training for this in the crew.

- Con: Less District support of and familiarity with the product.

Option 3: Contracting – Not recommended at this time.

- Until we try out some processes and protocols ourselves for the field work, we would be reluctant to try contracting. We need to have a good idea ourselves first, of how to efficiently conduct this work, before trying to write a contract.)

Decisions to be Made:

1. Should we release the PV layer for use?

2. Can the FLT agree that the approaches above are appropriate and that we need to strategically pursue this path?

3. If NFFV carryover is available (all or a portion) in FY2000, should we begin the south end work this year?

4. If NFFV carryover is not available in FY2000, should we plan for doing this work in FY01, as a priority task for funds next year?

APPENDIX 4: TRI-FOREST POTENTIAL VEGETATION AGREEMENT

BLUE MOUNTAIN NATIONAL FORESTS
FOREST PLANNING DECISION DOCUMENT

File: 1920 Land and Resource Management Planning (Forest Plan) Date: August 19, 2002

Subject: Establishment of a potential vegetation hierarchy for forest planning.

ISSUE: A total of 296 fine-scale potential vegetation (PV) types (plant associations, plant community types, plant communities) have been identified for the Blue Mountains province (appendix A provides a list of all PV types occurring in the Blue Mountains). These fine-scale PV types are often aggregated into mid- or broad-scale groups for forest planning, watershed analysis, and for other purposes. A consistent approach for assigning fine-scale PV types to mid- and broad-scale groups is needed for the Blue Mountains.

DECISION: Every published potential vegetation type for the Blue Mountains province was assigned to a plant association group (PAG). Every PAG was then assigned to a potential vegetation group (PVG). Results from this hierarchical process are documented in the following tables, one table for each of seven physiognomic classes: upland forest, upland woodland, upland shrubland, upland herbland, riparian forest, riparian shrubland, and riparian herbland.

PROCESS: Assignment of fine-scale PV types to plant association groups was accomplished using a temperature/moisture matrix approach developed for the Interior Columbia Basin Ecosystem Management Project. Charlie Johnson, Blue Mountains Area Ecologist, assigned every Blue Mountain PV type to one, and only one, cell in a temperature/moisture matrix. Each matrix cell is a PAG; PAGs were then aggregated into potential vegetation groups to reflect a predominant or ecologically 'controlling' temperature or moisture influence (cold upland forest, dry upland shrubland, etc.). Due to differences in controlling factors, two slightly different matrices were used: a 16-cell matrix for upland environments, and a 12-cell matrix for riparian environments. Both matrices are illustrated and described on page 2 of this document.

RATIONALE: The temperature/moisture approach adopted for the Blue Mountains is almost identical to the PV process used by the Interior Columbia Basin Ecosystem Management Project. It is also compatible with the 'biophysical environments' used for historical range of variability analyses required by the Eastside Screens, and with how potential vegetation is characterized during "ecosystem analysis at the watershed scale" (watershed analysis).

INVOLVED PARTIES: Bill McArthur and Ed Uebler, Malheur National Forest; Dave Powell and Scott Riley, Umatilla National Forest; Katie Countryman and Victoria Rockwell, Wallowa-Whitman National Forest; Charlie Johnson, Blue Mountains Area Ecologist.

PLANNING STAFF CONCURRENCE:

Malheur NF: /s/ William Supulski

Umatilla NF: /s/ David M. Hatfield

Wallowa-Whitman NF: /s/ F. Dee Hines

FOREST SUPERVISOR CONCURRENCE:

Malheur NF: /s/ Roger W. Williams

Umatilla NF: /s/ Jeff D. Blackwood

Wallowa-Whitman NF: /s/ Karyn L. Wood

		MOISTURE			
		WET	VERY MOIST	MOIST	DRY
TEMPERATURE	COLD	COLD WET	COLD VERY MOIST	COLD MOIST	COLD DRY
	COOL	COOL WET	COOL VERY MOIST	COOL MOIST	COOL DRY
	WARM	WARM WET	WARM VERY MOIST	WARM MOIST	WARM DRY
	HOT	HOT WET	HOT VERY MOIST	HOT MOIST	HOT DRY

A 16-cell temperature/moisture matrix derived from four categories of temperature and four categories of moisture. A 4 × 4 temperature/moisture matrix like this one was used for four physiognomic classes: upland forest (Table 1), upland woodland (Table 2), upland shrubland (Table 3), and upland herbland (Table 4); each class has its own matrix. Every fine-scale vegetation type (plant association, plant community type, plant community) occurring in a physiognomic class was assigned to one, and only one, of the temperature/moisture cells in its matrix. An individual matrix cell (warm dry, cool wet, etc.) is used as a plant association group in the mid-scale potential vegetation hierarchy.

		SOIL MOISTURE (SM)		
		HIGH	MODERATE	LOW
TEMPERATURE	COLD	COLD HIGH SM	COLD MODERATE SM	COLD LOW SM
	COOL	COOL HIGH SM	COOL MODERATE SM	COOL LOW SM
	WARM	WARM HIGH SM	WARM MODERATE SM	WARM LOW SM
	HOT	HOT HIGH SM	HOT MODERATE SM	HOT LOW SM

A 12-cell temperature/moisture matrix derived from four categories of temperature and three categories of soil moisture. A 4 × 3 temperature/moisture matrix like this one was used for three physiognomic classes: riparian forest (Table 5), riparian shrubland (Table 6), and riparian herbland (Table 7); each class has its own matrix. Every fine-scale vegetation type (plant association, plant community type, plant community) occurring in a physiognomic class was assigned to one, and only one, of the temperature/moisture cells in its matrix. An individual matrix cell (warm, low SM; cool, high SM; etc.) is used as a plant association group in the mid-scale potential vegetation hierarchy.

Table 1: Potential vegetation groups (PVG), plant association groups (PAG), and fine-scale vegetation types for the upland forest physiognomic class.

PVG	PAG	Abbreviation	Common Name of Vegetation Type	Ecoclass
Cold Upland Forest	Cold Moist	ABLA2/MEFE	Subalpine fir/Fool's huckleberry	CES221
		ABLA2/RHAL	Subalpine fir/White rhododendron	CES214
	Cold Dry	ABGR/ARCO	Grand fir/Heartleaf arnica	CWF444
		ABGR/VASC	Grand fir/Grouse huckleberry	CWS811
		ABLA2/CAGE	Subalpine fir/Elk sedge	CAG111
		ABLA2/POPU	Subalpine fir/Polemonium	CEF411
		ABLA2/STOC	Subalpine fir/Western needlegrass	CAG4
		ABLA2/VASC	Subalpine fir/Grouse huckleberry	CES411
		ABLA2/VASC/POPU	Subalpine fir/Grouse huckleberry/Polemonium	CES415
		ABLA2-PIAL/JUDR	Subalpine fir-whitebark pine/Drummond's rush	CAG3
		ABLA2-PIAL/POPH	Subalpine fir-whitebark pine/Fleeceflower	CAF2
		ABLA2-PIAL/POPU	Subalpine fir-whitebark pine/Polemonium	CAF0
		PICO(ABGR)/VASC/CARU	Lodgepole pine (grand fir)/Grouse huckle./Pinegrass	CLS417
		PICO(ABLA2)/CAGE	Lodgepole pine (subalpine fir)/Elk sedge	CLG322
		PICO(ABLA2)/STOC	Lodgepole pine (subalpine fir)/Western needlegrass	CLG11
		PICO(ABLA2)/VASC	Lodgepole pine (subalpine fir)/Grouse huckleberry	CLS418
		PICO(ABLA2)/VASC/POPU	Lodgepole pine (sub. fir)/Grouse huckle./Polemonium	CLS415
		TSME/VAME	Mountain hemlock/Big huckleberry	CMS231
		TSME/VASC	Mountain hemlock/Grouse huckleberry	CMS131
	Cool Dry	ABGR/COOC2	Grand fir/Goldthread	CWF511
		ABLA2/CARU	Subalpine fir/Pinegrass	CEG312
		PICO/CARU	Lodgepole pine/Pinegrass	CLS416
		PICO(ABGR)/ARNE	Lodegpole pine (grand fir)/Pinemat manzanita	CLS57
		PICO(ABGR)/CARU	Lodgepole pine (grand fir)/Pinegrass	CLG21
Moist Upland Forest	Cool Wet	ABGR/TABR/CLUN	Grand fir/Pacific yew/Queencup beadlily	CWC811
		ABGR/TABR/LIBO2	Grand fir/Pacific yew/Twinflower	CWC812
		ABLA2/STAM	Subalpine fir/Twisted stalk	CEF311
	Cool Very Moist	ABGR/GYDR	Grand fir/Oakfern	CWF611
		ABGR/POMU-ASCA3	Grand fir/Sword fern-ginger	CWF612
		ABGR/TRCA3	Grand fir/False bugbane	CWF512
		PICO(ABGR)/ALSI	Lodgepole pine (grand fir)/Sitka alder	CLS58
	Cool Moist	ABGR/CLUN	Grand fir/Queencup beadlily	CWF421
		ABGR/LIBO2	Grand fir/Twinflower	CWF311
		ABGR/VAME	Grand fir/Big huckleberry	CWS211
		ABGR/VASC-LIBO2	Grand fir/Grouse huckleberry-twinflower	CWS812
		ABGR-CHNO/VAME	Grand fir-Alaska yellow cedar/Big huckleberry	CWS232
		ABLA2/ARCO	Subalpine fir/Heartleaf arnica	CEF412
		ABLA2/CLUN	Subalpine fir/Queencup beadlily	CES131
		ABLA2/LIBO2	Subalpine fir/Twinflower	CES414
		ABLA2/TRCA3	Subalpine fir/False bugbane	CEF331
		ABLA2/VAME	Subalpine fir/Big huckleberry	CES311
		PICO(ABGR)/LIBO2	Lodgepole pine (grand fir)/Twinflower	CLF211
		PICO(ABGR)/VAME	Lodgepole pine (grand fir)/Big huckleberry	CLS513
		PICO(ABGR)/VAME/CARU	Lodgepole pine (grand fir)/Big huckleberry/Pinegrass	CLS512
		PICO(ABGR)/VAME/PTAQ	Lodgepole pine (grand fir)/Big huckleberry/Bracken	CLS519
		PICO(ABLA2)/VAME	Lodgepole pine (subalpine fir)/Big huckleberry	CLS514
		PICO(ABLA2)/VAME/CARU	Lodgepole pine (sub. fir)/Big huckleberry/Pinegrass	CLS516
	Warm Very Moist	ABGR/ACGL	Grand fir/Rocky Mountain maple	CWS912

PVG	PAG	Abbreviation	Common Name of Vegetation Type	Ecoclass
	Warm Moist	ABGR/ACGL-PHMA	Grand fir/Rocky Mountain maple-mallow ninebark	CWS412
		ABGR/BRVU	Grand fir/Columbia brome	CWG211
		PSME/ACGL-PHMA	Douglas-fir/Rocky Mountain maple-mallow ninebark	CDS722
		PSME/HODI	Douglas-fir/Oceanspray	CDS611
Dry Upland Forest	Warm Dry	ABGR/CAGE	Grand fir/Elk sedge	CWG111
		ABGR/CARU	Grand fir/Pinegrass	CWG112
		ABGR/SPBE	Grand fir/Birchleaf spiraea	CWS321
		PIPO/CAGE	Ponderosa pine/Elk sedge	CPG222
		PIPO/CARU	Ponderosa pine/Pinegrass	CPG221
		PIPO/CELE/CAGE	Ponderosa pine/Mountain mahogany/Elk sedge	CPS232
		PIPO/ELGL	Ponderosa pine/Blue wildrye	CPM111
		PIPO/PUTR/CAGE	Ponderosa pine/Bitterbrush/Elk sedge	CPS222
		PIPO/PUTR/CARO	Ponderosa pine/Bitterbrush/Ross sedge	CPS221
		PIPO/SPBE	Ponderosa pine/Birchleaf spiraea	CPS523
		PIPO/SYAL	Ponderosa pine/Common snowberry	CPS522
		PIPO/SYOR	Ponderosa pine/Mountain snowberry	CPS525
		PSME/CAGE	Douglas-fir/Elk sedge	CDG111
		PSME/CARU	Douglas-fir/Pinegrass	CDG121
		PSME/CELE/CAGE	Douglas-fir/Mountain mahogany/Elk sedge	CDSD
		PSME/PHMA	Douglas-fir/Ninebark	CDS711
		PSME/SPBE	Douglas-fir/Birchleaf spiraea	CDS634
		PSME/SYAL	Douglas-fir/Common snowberry	CDS622
		PSME/SYOR	Douglas-fir/Mountain snowberry	CDS625
		PSME/VAME	Douglas-fir/Big huckleberry	CDS812
	Hot Moist	PIPO/ARAR	Ponderosa pine/Low sagebrush	CPS61
	Hot Dry	PIPO/AGSP	Ponderosa pine/Bluebunch wheatgrass	CPG111
		PIPO/ARTRV/CAGE	Ponderosa pine/Mountain big sagebrush/Elk sedge	CPS132
		PIPO/ARTRV/FEID-AGSP	Ponderosa pine/Big sage/Idaho fescue-blue. wheat.	CPS131
		PIPO/CELE/FEID-AGSP	Ponderosa pine/Mtn mahog./Idaho fescue-blue. wheat.	CPS234
		PIPO/CELE/PONE	Ponderosa pine/Mountain mahogany/Wheeler's blue.	CPS233
		PIPO/FEID	Ponderosa pine/Idaho fescue	CPG112
		PIPO/PERA3	Ponderosa pine/Squaw apple	CPS8
		PIPO/PUTR/AGSP	Ponderosa pine/Bitterbrush/Bluebunch wheatgrass	CPS231
		PIPO/PUTR/FEID-AGSP	Ponderosa pine/Bitterbrush/Idaho fescue-Blue. wheat.	CPS226
		PIPO/RHGL	Ponderosa pine/Sumac	CPS226

Table 2: Potential vegetation groups (PVG), plant association groups (PAG), and fine-scale vegetation types for the upland woodland physiognomic class.

PVG	PAG	ABBREVIATION	COMMON NAME OF VEGETATION TYPE	ECOCLASS
Moist Woodland	Hot Moist	JUOC/ARTRV	Western juniper/Mountain big sagebrush	CJS2
		JUOC/ARTRV/FEID-AGSP	Western juniper/Big sage/Idaho fescue-blue. wheat.	CJS211
		JUOC/CELE/CAGE	Western juniper/Mountain mahogany/Elk sedge	CJS42
		JUOC/CELE/FEID-AGSP	Western juniper/Mtn mah./Idaho fescue-blue. wheat.	CJS41
		JUOC/FEID-AGSP	Western juniper/Idaho fescue-bluebunch wheatgrass	CJG111
		JUOC/PUTR/FEID-AGSP	Western juniper/Bitterbrush/Idaho fescue-blue. wheat.	CJS321
Dry Woodland	Hot Dry	JUOC/ARAR	Western juniper/Low sagebrush	CJS1
		JUOC/ARRI	Western juniper/Stiff sagebrush	CJS8

Table 3: Potential vegetation groups (PVG), plant association groups (PAG), and fine-scale vegetation types for the upland shrubland physiognomic class.

PVG	PAG	Abbreviation	Common Name of Vegetation Type	Ecoclass
Cold Upland Shrubland	Cold Very Moist	ALSI	Sitka alder snow slides	SM20
	Cold Moist	ARTRV/CAGE	Alpine sage/Elk sedge	SS4911
	Cool Dry	ARTRV/STOC	Mountain big sagebrush/Western needlegrass	SS4915
	Cool Moist	SASC/ELGL	Scouler willow/Blue wildrye	SW1130
Moist Upland Shrubland	Warm Moist	ARAR/FEID-AGSP	Low sage/Idaho fescue-bluebunch wheatgrass	SD1911
		ARTRV/BRCA	Mountain big sagebrush/Mountain brome	SS4914
		ARTRV/FEID-AGSP	Mountain big sage/Idaho fescue-bluebunch wheatgrass	SD2911
		ARTRV-SYOR/BRCA	Mtn. big sage-mountain snowberry/Mountain brome	SD2917
		CEVE	Snowbrush ceanothus	SM33
		PHMA-SYAL	Mallow ninebark-common snowberry	SM1111
		PUTR/FEID-AGSP	Bitterbrush/Idaho fescue-bluebunch wheatgrass	SD3111
		SYAL/FEID-AGSP-LUSE	Snowberry/Idaho fescue-bluebunch wheatgrass-lupine	GB5121
		SYAL/FEID-KOCR	Common snowberry/Idaho fescue-prairie junegrass	GB5919
		SYAL-ROSA	Common snowberry-rose	SM3111
		SYOR	Mountain snowberry	SM32
	Hot Very Moist	PHLE2 (TALUS)	Syringa bordered strips (talus)	NTS111
	Hot Moist	ARTRV-PUTR/FEID	Mountain big sagebrush-bitterbrush/Idaho fescue	SD2916
		CELE/CAGE	Mountain mahogany/Elk sedge	SD40
		CELE/FEID-AGSP	Mountain mahogany/Idaho fescue-bluebunch wheat.	SD4111
		CERE2/AGSP	Netleaf hackberry/Bluebunch wheatgrass	SD5611
		PERA3-SYOR	Squaw apple-mountain snowberry	SD30
		PUTR/AGSP	Bitterbrush/Bluebunch wheatgrass	SD3112
Dry Upland Shrubland	Hot Dry	ARAR/POSA3	Low sagebrush/Sandberg's bluegrass	SD9221
		ARRI/POSA3	Stiff sagebrush/Sandberg's bluegrass	SD9111
		GLNE/AGSP	Spiny greenbush/Bluebunch wheatgrass	SD65
		RHGL/AGSP	Smooth sumac/Bluebunch wheatgrass	SD6121

Table 4: Potential vegetation groups (PVG), plant association groups (PAG), and fine-scale vegetation types for the upland herbland physiognomic class.

PVG	PAG	Abbreviation	Common Name of Vegetation Type	Ecoclass
Cold Upland Herbland	Cold Moist	FEID (ALPINE)	Idaho fescue (alpine)	GS12
		FEVI	Green fescue	GS11
		FEVI-CAHO	Green fescue-Hood's sedge	GS1111
		FEVI-LULA2	Green fescue-spurred lupine	GS1112
	Cold Dry	CAGE (ALPINE)	Elk sedge (alpine)	GS3911
	Cool Moist	CAHO	Hood's sedge	GS3912
		FEID-KOCR (HIGH)	Idaho fescue-prairie junegrass (high)	GB5913
		FEID-KOCR (MOUND)	Idaho fescue-prairie junegrass (mound)	GB5912
		FEID-KOCR (RIDGE)	Idaho fescue-prairie junegrass (ridge)	GB5911
		POPR (DEGEN BENCH)	Kentucky bluegrass (degenerated bench)	MD3112
		STOC	Western needlegrass	GS10
	Cool Dry	CAGE (UPLAND)	Elk sedge (upland)	GS39
Moist Upland Herbland	Warm Very Moist	CACU (SEEP)	Cusick's camas (seep)	FW3911
		FEID-DAIN-CAREX	Idaho fescue-timber oatgrass-sedge	GB5920
	Warm Moist	FEID-AGSP	Idaho fescue-bluebunch wheatgrass	GB59
		FEID-AGSP-BASA	Idaho fescue-bluebunch wheatgrass-balsamroot	GB5917
		FEID-AGSP-LUSE	Idaho fescue-bluebunch wheatgrass-silky lupine	GB5916
		FEID-AGSP-PHCO2	Idaho fescue-bluebunch wheatgrass-Snake River phlox	GB5918
		FEID-AGSP (RIDGE)	Idaho fescue-bluebunch wheatgrass (ridge)	GB5915
		FEID-CAGE	Idaho fescue-elk sedge	GB5922
		FEID-CAHO	Idaho fescue-Hood's sedge	GB5921
		FEID-KOCR (LOW)	Idaho fescue-prairie junegrass (low)	GB5914
	Hot Very Moist	ELCI	Basin wildrye	GB7111
Dry Upland Herbland	Hot Dry	AGSP	Bluebunch wheatgrass	GB41
		AGSP-ERHE	Bluebunch wheatgrass-Wyeth's buckwheat	GB4111
		AGSP-POSA3	Bluebunch wheatgrass-Sandberg's bluegrass	GB4121
		AGSP-POSA3-ASCU4	Blue. wheat.-Sandberg's bluegrass-Cusick's milkvetch	GB4114
		AGSP-POSA3 (BASALT)	Blue. wheat.-Sandberg's bluegrass (basalt)	GB4113
		AGSP-POSA3-DAUN	Blue. wheat.-Sandberg's bluegrass-onespike oatgrass	GB4911
		AGSP-POSA3-ERPU	Blue. wheat.-Sandberg's bluegrass-shaggy fleabane	GB4115
		AGSP-POSA3 (GRANITE)	Blue. wheat.-Sandberg's bluegrass (granite)	GB4116
		AGSP-POSA3-OPPO	Blue. wheat.-Sandberg's bluegrass-pricklypear	GB4118
		AGSP-POSA3-PHCO2	Blue. wheat.-Sandberg's bluegrass-Snake River phlox	GB4117
		AGSP-POSA3-SCAN	Blue. wheat.-Sandberg's bluegrass-narrowleaf skullcap	GB4112
		AGSP-SPCR-ARLO3	Blue. wheat.-sand dropseed-red threeawn	GB1911
		ERDO-POSA3	Douglas buckwheat-Sandberg's bluegrass	FM9111
		ERIOG/PHOR	Buckwheat/Oregon bladderpod	SD9322
		ERST2-POSA3	Strict buckwheat/Sandberg's bluegrass	FM9112
		ERUM (RIDGE)	Sulphurflower (ridge)	FM9113
		LECOW	Wallowa Lewisia	FX4111
		POSA3-DAUN	Sandberg's bluegrass-onespike oatgrass	GB9111
		SPCR (RIVER TERRACE)	Sand dropseed (river terrace)	GB1211

Table 5: Potential vegetation groups (PVG), plant association groups (PAG), and fine-scale vegetation types for riparian forests (SM refers to Soil Moisture).

PVG	PAG	ABBREVIATION	COMMON NAME OF VEGETATION TYPE	ECOCLASS
High SM Riparian Forest	Cold High SM	ABLA2/ATFI	Subalpine fir/Ladyfern	CEF332
		ABLA2/CAAQ	Subalpine fir/Aquatic sedge	CEM123
		ABLA2/CADI	Subalpine fir/Softleaved sedge	CEM122
		ABLA2/SETR	Subalpine fir/Arrowleaf groundsel	CEF333
		ABLA2/VAUL/CASC5	Subalpine fir/Bog blueberry/Holm's sedge	CEM313
		PICO/CAAQ	Lodgepole pine/Aquatic sedge	CLM114
		PIEN/ATFI	Engelmann spruce/Ladyfern	CEF334
		PIEN/CADI	Engelmann spruce/Softleaved sedge	CEM121
		PIEN/SETR	Engelmann spruce/Arrowleaf groundsel	CEF335
	Warm High SM	ABGR/ATFI	Grand fir/Ladyfern	CWF613
		ABGR/CALA3	Grand fir/Woolly sedge	CWM311
		ALRU/ATFI	Red alder/Ladyfern	HAF227
		POTR/CAAQ	Quaking aspen/Aquatic sedge	HQM212
Moderate SM Riparian Forest	Cold Moderate SM	ABLA2/CACA	Subalpine fir/Bluejoint reedgrass	CEM124
		PICO/ALIN/MESIC FORB	Lodgepole pine/Mountain alder/Mesic forb	CLM511
		PICO/CACA	Lodgepole pine/Bluejoint reedgrass	CLM117
		PICO/CALA3	Lodgepole pine/Woolly sedge	CLM116
		PICO/DECE	Lodgepole pine/Tufted hairgrass	CLM115
		PIEN/CILA2	Engelmann spruce/Drooping woodreed	CEM126
		PIEN/COST	Engelmann spruce/Redosier dogwood	CES511
		PIEN/EQAR	Engelmann spruce/Common horsetail	CEM211
	Warm Moderate SM	ABGR/ACGL (FLOODPLAIN)	Grand fir/Rocky Mountain maple (floodplain)	CWS543
		ALRU (ALLUVIAL BAR)	Red alder (alluvial bar)	HAF226
		ALRU/COST	Red alder/Redosier dogwood	HAS511
		ALRU/PEFRP	Red alder/Sweet coltsfoot	HAF211
		ALRU/PHCA3	Red alder/Pacific ninebark	HAS211
		ALRU/SYAL	Red alder/Common snowberry	HAS312
		PIMO/DECE	Western white pine/Tufted hairgrass	CQM111
		POTR/ALIN-COST	Quaking aspen/Alder-redosier dogwood	HQS222
		POTR/ALIN-SYAL	Quaking aspen/Alder-common snowberry	HQS223
		POTR/CACA	Quaking aspen/Bluejoint reedgrass	HQM123
		POTR/CALA3	Quaking aspen/Woolly sedge	HQM211
		POTR/MESIC FORB	Quaking aspen/Mesic forb	HQM511
		POTR2/ACGL	Black cottonwood/Rocky Mountain maple	HCS114
		POTR2/ALIN-COST	Black cottonwood/Alder-redosier dogwood	HCS113
		PSME/ACGL-PHMA (FLOODPLAIN)	Douglas-fir/Rocky Mtn. maple-ninebark (floodplain)	CDS724
		PSME/TRCA3	Douglas-fir/False bugbane	CDF313
	Hot Moderate SM	POTR/SYAL	Quaking aspen/Common snowberry	HQS221
		POTR2/SALA2	Black cottonwood/Pacific willow	HCS112
		POTR2/SYAL	Black cottonwood/Common snowberry	HCS311

Table 5: PVGs, PAGs, and fine-scale vegetation types for riparian forests (CONTINUED).

PVG	PAG	ABBREVIATION	COMMON NAME OF VEGETATION TYPE	ECOCLASS
Low SM Riparian Forest	Cold Low SM	PICO/POPR	Lodgepole pine/Kentucky bluegrass	CLM112
		PIEN/BRVU	Engelmann spruce/Columbia brome	CEM125
	Warm Low SM	ABGR/SYAL (FLOODPLAIN)	Grand fir/Common snowberry (floodplain)	CWS314
		PSME/SYAL (FLOODPLAIN)	Douglas-fir/Common snowberry (floodplain)	CDS628
	Hot Low SM	PIPO/POPR	Ponderosa pine/Kentucky bluegrass	CPM112
		PIPO/SYAL (FLOODPLAIN)	Ponderosa pine/Common snowberry (floodplain)	CPS511
		POTR/POPR	Quaking aspen/Kentucky bluegrass	HQM122

Table 6: Potential vegetation and plant association groups, and vegetation types, for riparian shrublands.

PVG	PAG	Abbreviation	Common Name of Vegetation Type	Ecoclass
High SM Riparian Shrubland	Cold High SM	SACO2/CAPR5	Undergreen willow/Clustered field sedge	SW1128
		SACO2/CASC5	Undergreen willow/Holm's sedge	SW1121
		SACO2/CAUT	Undergreen willow/Bladder sedge	SW1127
	Warm High SM	ALIN/ATFI	Mountain alder/Ladyfern	SW2116
		ALIN/CAAM	Mountain alder/Bigleaved sedge	SW2114
		ALIN/CAAQ	Mountain alder/Aquatic sedge	SW2126
		ALIN/CAUT	Mountain alder/Bladder sedge	SW2115
		ALIN/GLEL	Mountain alder/Tall mannagrass	SW2215
		ALIN/SCMI	Mountain alder/Smallfruit bulrush	SW2122
		ALSI/ATFI	Sitka alder/Ladyfern	SW2111
		ALSI/CILA2	Sitka alder/Drooping woodreed	SW2112
		BEOC/WET SEDGE	Water birch/Wet sedge	SW3113
		COST/SAAR4	Redosier dogwood/Brook saxifrage	SW5118
		RIBES/GLEL	Currants/Tall mannagrass	SW5116
		RIBES/CILA2	Currants/Drooping woodreed	SW5111
		SAEA-SATW/CAAQ	Eastwood willow-Tweedy willow/Aquatic sedge	SW1129
		SALIX/CAAQ	Willow/Aquatic sedge	SW1114
		SALIX/CAUT	Willow/Bladder sedge	SW1123
Moderate SM Riparian Shrubland	Warm Moderate SM	ALIN/CADE	Mountain alder/Dewey's sedge	SW2118
		ALIN/CACA	Mountain alder/Bluejoint reedgrass	SW2121
		ALIN/CALA3	Mountain alder/Woolly sedge	SW2123
		ALIN/CALEL2	Mountain alder/Denselytufted sedge	SW2127
		ALIN/EQAR	Mountain alder/Common horsetail	SW2117
		ALIN/GYDR	Mountain alder/Oakfern	SW2125
		ALIN/HELA	Mountain alder/Common cowparsnip	SW2124
		ALIN-COST/MESIC FORB	Mountain alder-redosier dogwood/Mesic forb	SW2216
		ALIN-RIBES/MESIC FORB	Mountain alder-currants/Mesic forb	SW2217
		ALSI/MESIC FORB	Sitka alder/Mesic forb	SW2113
		BEOC/MESIC FORB	Water birch/Mesic forb	SW3112
		POFR/DECE	Shrubby cinquefoil/Tufted hairgrass	SW5113
		RHAL2/MESIC FORB	Alderleaved buckthorn/Mesic forb	SW5117
		RIBES/MESIC FORB	Currants/Mesic forb	SW5115
		SALIX/CACA	Willow/Bluejoint reedgrass	SW1124
		SALIX/CALA3	Willow/Woolly sedge	SW1112
		SALIX/MESIC FORB	Willow/Mesic forb	SW1125
	Hot Moderate SM	ARCA/DECE	Silver sagebrush/Tufted hairgrass	SW6111
		COST	Redosier dogwood	SW5112
		SAEX	Coyote willow	SW1117
		SARI	Rigid willow	SW1126
Low SM Riparian Shrubland	Warm Low SM	ALIN/CALU	Mountain alder/Woodrush sedge	SW2128
		ALIN-SYAL	Mountain alder-common snowberry	SW2211
		ALIN/POPR	Mountain alder/Kentucky bluegrass	SW2120
		POFR/POPR	Shrubby cinquefoil/Kentucky bluegrass	SW5114
		SALIX/POPR	Willow/Kentucky bluegrass	SW1111
	Hot Low SM	AMAL	Western serviceberry	SW3114
		ARCA/POCU	Silver sagebrush/Cusick's bluegrass	SW6114
		ARCA/POPR	Silver sagebrush/Kentucky bluegrass	SW6112
		ARTRV/POCU	Mountain big sagebrush/Cusick's bluegrass	SW6113
		CRDO	Douglas hawthorn	SW3111

Table 7: Potential vegetation groups (PVG), plant association groups (PAG), and fine-scale vegetation types for riparian herblands (SM refers to Soil Moisture).

PVG	PAG	Abbreviation	Common Name of Vegetation Type	Ecoclass
High SM Riparian Herbland	Cold High SM	ALVA	Swamp onion	FW7111
		CALA	Smoothstemmed sedge	MW2913
		CALU	Woodrush sedge	MM2916
		CAPR5	Clustered field sedge	MW2912
		CASC5	Holm's sedge	MS3111
		CILA2	Drooping woodreed	MW2927
		ELBE	Delicate spikerush	MS4111
		ELPA2	Fewflowered spikerush	MW4911
	Warm High SM	ADPE	Maidenhair fern	FW4213
		CAAM	Bigleaved sedge	MM2921
		CAAQ	Aquatic sedge	MM2914
		CACU2	Cusick's sedge	MM2918
		CALA4	Slender sedge	MM2920
		CASI2	Shortbeaked sedge	MM2915
		CAST	Sawbeak sedge	MW1926
		CAUT	Bladder sedge	MM2917
		CAVEV	Inflated sedge	MW1923
		GLEL	Tall mannagrass	MM2925
		METR	Buckbean	FW6111
		PUPA	Weak alkaligrass	MM2926
		SAAR4	Brook saxifrage	FW6113
		SCMI	Smallfruit bulrush	MM2924
		SETR	Arrowleaf groundsel	FW4211
		VEAM	American speedwell	FW6112
	Hot High SM	CANU4	Torrent sedge	MM2922
		ELPA	Creeping spikerush	MW4912
		TYLA	Common cattail	MT8121
Moderate SM Riparian Herbland	Warm Moderate SM	CACA	Bluejoint reedgrass	GM4111
		CACA4	Silvery sedge	MS3113
		CALA3	Woolly sedge	MM2911
		CALEL2	Denselytufted sedge	MM2919
		CAMU2	Star sedge	MS3112
		DECE	Tufted hairgrass	MM1912
		EQAR	Common horsetail	FW4212
		VERAT	False hellebore	FW5121
	Hot Moderate SM	CANE	Nebraska sedge	MM2912
		CASH	Sheldon's sedge	MM2932
		JUBA2	Baltic rush	MW3912
Low SM Riparian Herbland	Warm Low SM	AGDI	Thin bentgrass	MD4111
		ALPR	Meadow foxtail	MD2111
		POPR (MEADOW)	Kentucky bluegrass (meadow)	MD3111

REFERENCES

Crowe, Elizabeth A.; Clausnitzer, Rodrick R. 1997. Mid-montane wetland plant associations of the Malheur, Umatilla and Wallowa-Whitman National Forests. Technical Paper R6-NR-ECOL-TP-22-97. Baker City, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Region, Wallowa-Whitman National Forest. 299 p. MidMontaneWetlandPlantAssociationsWallowaWhitnf

Hall, Frederick C. 1973. Plant communities of the Blue Mountains in eastern Oregon and southeastern Washington. R6 Area Guide 3-1. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Region. 62 p. https://archive.org/download/CAT91954348/CAT91954348.pdf

Hall, Frederick C. 1998. Pacific Northwest ecoclass codes for seral and potential natural communities. General Technical Report PNW-GTR-418. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 290 p. http://www.treesearch.fs.fed.us/pubs/5567

Johnson, Charles Grier, Jr.; Clausnitzer, Rodrick R. 1992. Plant associations of the Blue and Ochoco Mountains. Publication R6-ERW-TP-036-92. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Region, Wallowa-Whitman National Forest. 164 p. Plant-Associations-of-the-blue-and-Ochoco-Mountains

Johnson, Charles G., Jr.; Simon, Steven A. 1987. Plant associations of the Wallowa-Snake province. Pub. R6-ECOL-TP-225b-86. Baker City, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Region, Wallowa-Whitman National Forest. 272 p. http://ecoshare.info/2011/11/03/plant-associations-of-the-wallowa-snake-province/

Appendix A: Potential vegetation types (PVT) of the Blue Mountains (August 2002)[1]

PVT CODE	PVT COMMON NAME	STATUS	ECOCLASS	PAG	PVG
ABGR/ACGL	grand fir/Rocky Mountain maple	PA	CWS912	Warm Very Moist UF	Moist UF
ABGR/ACGL (FLOODPLAIN)	grand fir/Rocky Mountain maple (floodplain)	PA	CWS543	Warm Moderate SM RF	Moderate SM RF
ABGR/ACGL-PHMA	grand fir/Rocky Mountain maple-ninebark	PCT	CWS412	Warm Moist UF	Moist UF
ABGR/ARCO	grand fir/heartleaf arnica	PCT	CWF444	Cold Dry UF	Cold UF
ABGR/ATFI	grand fir/ladyfern	PA	CWF613	Warm High SM RF	High SM RF
ABGR/BRVU	grand fir/Columbia brome	PA	CWG211	Warm Moist UF	Moist UF
ABGR/CAGE	grand fir/elk sedge	PA	CWG111	Warm Dry UF	Dry UF
ABGR/CALA3	grand fir/woolly sedge	PC	CWM311	Warm High SM RF	High SM RF
ABGR/CARU	grand fir/pinegrass	PA	CWG112	Warm Dry UF	Dry UF
ABGR/CLUN	grand fir/queencup beadlily	PA	CWF421	Cool Moist UF	Moist UF
ABGR/COOC2	grand fir/goldthread	PA	CWF511	Cool Dry UF	Cold UF
ABGR/GYDR	grand fir/oakfern	PA	CWF611	Cool Very Moist UF	Moist UF
ABGR/LIBO2	grand fir/twinflower	PA	CWF311	Cool Moist UF	Moist UF
ABGR/POMU-ASCA3	grand fir/sword fern-ginger	PA	CWF612	Cool Very Moist UF	Moist UF
ABGR/SPBE	grand fir/birchleaf spiraea	PA	CWS321	Warm Dry UF	Dry UF
ABGR/SYAL (FLOODPLAIN)	grand fir/common snowberry (floodplain)	PCT	CWS314	Warm Low SM RF	Low SM RF
ABGR/TABR/CLUN	grand fir/Pacific yew/queencup beadlily	PA	CWC811	Cool Wet UF	Moist UF
ABGR/TABR/LIBO2	grand fir/Pacific yew/twinflower	PA	CWC812	Cool Wet UF	Moist UF
ABGR/TRCA3	grand fir/false bugbane	PA	CWF512	Cool Very Moist UF	Moist UF
ABGR/VAME	grand fir/big huckleberry	PA	CWS211	Cool Moist UF	Moist UF
ABGR/VASC	grand fir/grouse huckleberry	PA	CWS811	Cold Dry UF	Cold UF
ABGR/VASC-LIBO2	grand fir/grouse huckleberry-twinflower	PA	CWS812	Cool Moist UF	Moist UF
ABGR-CHNO/VAME	grand fir-Alaska yellow cedar/big huckleberry	PCT	CWS232	Cool Moist UF	Moist UF
ABLA2/ARCO	subalpine fir/heartleaf arnica	PCT	CEF412	Cool Moist UF	Moist UF
ABLA2/ATFI	subalpine fir/ladyfern	PA	CEF332	Cold High SM RF	High SM RF
ABLA2/CAAQ	subalpine fir/aquatic sedge	PCT	CEM123	Cold High SM RF	High SM RF
ABLA2/CACA	subalpine fir/bluejoint reedgrass	PA	CEM124	Cold Moderate SM RF	Moderate SM RF
ABLA2/CADI	subalpine fir/softleaved sedge	PCT	CEM122	Cold High SM RF	High SM RF
ABLA2/CAGE	subalpine fir/elk sedge	PA	CAG111	Cold Dry UF	Cold UF
ABLA2/CARU	subalpine fir/pinegrass	PCT	CEG312	Cool Dry UF	Cold UF
ABLA2/CLUN	subalpine fir/queencup beadlily	PA	CES131	Cool Moist UF	Moist UF
ABLA2/LIBO2	subalpine fir/twinflower	PA	CES414	Cool Moist UF	Moist UF
ABLA2/MEFE	subalpine fir/fool's huckleberry	PA	CES221	Cold Moist UF	Cold UF
ABLA2/POPU	subalpine fir/skunkleaved polemonium	PCT	CEF411	Cold Dry UF	Cold UF
ABLA2/RHAL	subalpine fir/white rhododendron	PCT	CES214	Cold Moist UF	Cold UF
ABLA2/SETR	subalpine fir/arrowleaf groundsel	PA	CEF333	Cold High SM RF	High SM RF
ABLA2/STAM	subalpine fir/twisted stalk	PCT	CEF311	Cool Wet UF	Moist UF
ABLA2/STOC	subalpine fir/western needlegrass	PCT	CAG4	Cold Dry UF	Cold UF
ABLA2/TRCA3	subalpine fir/false bugbane	PA	CEF331	Cool Moist UF	Moist UF
ABLA2/VAME	subalpine fir/big huckleberry	PA	CES311	Cool Moist UF	Moist UF

Appendix A: Potential vegetation types (PVT) of the Blue Mountains (August 2002)[1]

PVT CODE	PVT COMMON NAME	STATUS	ECOCLASS	PAG	PVG
ABLA2/VASC	subalpine fir/grouse huckleberry	PA	CES411	Cold Dry UF	Cold UF
ABLA2/VASC/POPU	subalpine fir/grouse huckleberry/skunkleaved polemonium	PA	CES415	Cold Dry UF	Cold UF
ABLA2/VAUL/CASC5	subalpine fir/bog blueberry/Holm's sedge	PCT	CEM313	Cold High SM RF	High SM RF
ABLA2-PIAL/JUDR	subalpine fir-whitebark pine/Drummond's rush	PCT	CAG3	Cold Dry UF	Cold UF
ABLA2-PIAL/POPH	subalpine fir-whitebark pine/fleeceflower	PCT	CAF2	Cold Dry UF	Cold UF
ABLA2-PIAL/POPU	subalpine fir-whitebark pine/skunkleaved polemonium	PCT	CAF0	Cold Dry UF	Cold UF
ADPE	maidenhair fern	PCT	FW4213	Warm High SM RH	High SM RH
AGDI	thin bentgrass	PCT	MD4111	Warm Low SM RH	Low SM RH
AGSP	bluebunch wheatgrass	PA	GB41	Hot Dry UH	Dry UH
AGSP-ERHE	bluebunch wheatgrass-Wyeth's buckwheat	PA	GB4111	Hot Dry UH	Dry UH
AGSP-POSA3	bluebunch wheatgrass-Sandberg's bluegrass	PA	GB4121	Hot Dry UH	Dry UH
AGSP-POSA3-ASCU4	bluebunch wheatgrass-Sandberg's bluegrass-Cusick's milkvetch	PA	GB4114	Hot Dry UH	Dry UH
AGSP-POSA3 (BASALT)	bluebunch wheatgrass-Sandberg's bluegrass (basalt)	PA	GB4113	Hot Dry UH	Dry UH
AGSP-POSA3-DAUN	bluebunch wheatgrass-Sandberg's bluegrass-onespike oatgrass	PA	GB4911	Hot Dry UH	Dry UH
AGSP-POSA3-ERPU	bluebunch wheatgrass-Sandberg's bluegrass-shaggy fleabane	PA	GB4115	Hot Dry UH	Dry UH
AGSP-POSA3 (GRANITE)	bluebunch wheatgrass-Sandberg's bluegrass (granite)	PA	GB4116	Hot Dry UH	Dry UH
AGSP-POSA3-OPPO	bluebunch wheatgrass-Sandberg's bluegrass-pricklypear	PA	GB4118	Hot Dry UH	Dry UH
AGSP-POSA3-PHCO2	bluebunch wheatgrass-Sandberg's bluegrass-Snake River phlox	PA	GB4117	Hot Dry UH	Dry UH
AGSP-POSA3-SCAN	bluebunch wheatgrass-Sandberg's bluegrass-narrowleaf skullcap	PA	GB4112	Hot Dry UH	Dry UH
AGSP-SPCR-ARLO3	bluebunch wheatgrass-sand dropseed-red threeawn	PCT	GB1911	Hot Dry UH	Dry UH
ALIN/ATFI	mountain alder/ladyfern	PA	SW2116	Warm High SM RS	High SM RS
ALIN/CAAM	mountain alder/bigleaved sedge	PA	SW2114	Warm High SM RS	High SM RS
ALIN/CAAQ	mountain alder/aquatic sedge	PC	SW2126	Warm High SM RS	High SM RS
ALIN/CACA	mountain alder/bluejoint reedgrass	PA	SW2121	Warm Moderate SM RS	Moderate SM RS
ALIN/CADE	mountain alder/Dewey's sedge	PCT	SW2118	Warm Moderate SM RS	Moderate SM RS
ALIN/CALA3	mountain alder/woolly sedge	PA	SW2123	Warm Moderate SM RS	Moderate SM RS
ALIN/CALEL2	mountain alder/densely tufted sedge	PC	SW2127	Warm Moderate SM RS	Moderate SM RS
ALIN/CALU	mountain alder/woodrush sedge	PC	SW2128	Warm Low SM RS	Low SM RS
ALIN/CAUT	mountain alder/bladder sedge	PA	SW2115	Warm High SM RS	High SM RS
ALIN/EQAR	mountain alder/common horsetail	PA	SW2117	Warm Moderate SM RS	Moderate SM RS
ALIN/GLEL	mountain alder/tall mannagrass	PA	SW2215	Warm High SM RS	High SM RS
ALIN/GYDR	mountain alder/oakfern	PCT	SW2125	Warm Moderate SM RS	Moderate SM RS
ALIN/HELA	mountain alder/common cowparsnip	PCT	SW2124	Warm Moderate SM RS	Moderate SM RS
ALIN/POPR	mountain alder/Kentucky bluegrass	PCT	SW2120	Warm Low SM RS	Low SM RS
ALIN/SCMI	mountain alder/smallfruit bulrush	PCT	SW2122	Warm High SM RS	High SM RS
ALIN-COST/MESIC FORB	mountain alder-redosier dogwood/mesic forb	PA	SW2216	Warm Moderate SM RS	Moderate SM RS
ALIN-RIBES/MESIC FORB	mountain alder-currants/mesic forb	PA	SW2217	Warm Moderate SM RS	Moderate SM RS
ALIN-SYAL	mountain alder-common snowberry	PA	SW2211	Warm Low SM RS	Low SM RS
ALPR	meadow foxtail	PCT	MD2111	Warm Low SM RH	Low SM RH
ALRU (ALLUVIAL BAR)	red alder (alluvial bar)	PCT	HAF226	Warm Moderate SM RF	Moderate SM RF

Appendix A: Potential vegetation types (PVT) of the Blue Mountains (August 2002)[1]

PVT CODE	PVT COMMON NAME	STATUS	ECOCLASS	PAG	PVG
ALRU/ATFI	red alder/ladyfern	PCT	HAF227	Warm High SM RF	High SM RF
ALRU/COST	red alder/redosier dogwood	PC	HAS511	Warm Moderate SM RF	Moderate SM RF
ALRU/PEFRP	red alder/sweet coltsfoot	PCT	HAF211	Warm Moderate SM RF	Moderate SM RF
ALRU/PHCA3	red alder/Pacific ninebark	PA	HAS211	Warm Moderate SM RF	Moderate SM RF
ALRU/SYAL	red alder/common snowberry	PCT	HAS312	Warm Moderate SM RF	Moderate SM RF
ALSI	Sitka alder snow slides	PCT	SM20	Cold Very Moist US	Cold US
ALSI/ATFI	Sitka alder/ladyfern	PA	SW2111	Warm High SM RS	High SM RS
ALSI/CILA2	Sitka alder/drooping woodreed	PA	SW2112	Warm High SM RS	High SM RS
ALSI/MESIC FORB	Sitka alder/mesic forb	PCT	SW2113	Warm Moderate SM RS	Moderate SM RS
ALVA	swamp onion	PCT	FW7111	Cold High SM RH	High SM RH
AMAL	western serviceberry	PCT	SW3114	Hot Low SM RS	Low SM RS
ARAR/FEID-AGSP	low sagebrush/Idaho fescue-bluebunch wheatgrass	PA	SD1911	Warm Moist US	Moist US
ARAR/POSA3	low sagebrush/Sandberg's bluegrass	PA	SD9221	Hot Dry US	Dry US
ARCA/DECE	silver sagebrush/tufted hairgrass	PA	SW6111	Hot Moderate SM RS	Moderate SM RS
ARCA/POCU	silver sagebrush/Cusick's bluegrass	PCT	SW6114	Hot Low SM RS	Low SM RS
ARCA/POPR	silver sagebrush/Kentucky bluegrass	PCT	SW6112	Hot Low SM RS	Low SM RS
ARRI/POSA3	stiff sagebrush/Sandberg's bluegrass	PCT	SD9111	Hot Dry US	Dry US
ARTRV/BRCA	mountain big sagebrush/mountain brome	PCT	SS4914	Warm Moist US	Moist US
ARTRV/CAGE	mountain big sagebrush/elk sedge	PA	SS4911	Cold Moist US	Cold US
ARTRV/FEID-AGSP	mountain big sagebrush/Idaho fescue-bluebunch wheatgrass	PA	SD2911	Warm Moist US	Moist US
ARTRV/POCU	mountain big sagebrush/Cusick's bluegrass	PA	SW6113	Hot Low SM RS	Low SM RS
ARTRV/STOC	mountain big sagebrush/western needlegrass	PCT	SS4915	Cool Dry US	Cold US
ARTRV-PUTR/FEID	mountain big sagebrush-bitterbrush/Idaho fescue	PCT	SD2916	Hot Moist US	Moist US
ARTRV-SYOR/BRCA	mountain big sagebrush-mountain snowberry/mountain brome	PCT	SD2917	Warm Moist US	Moist US
BEOC/MESIC FORB	water birch/mesic forb	PCT	SW3112	Warm Moderate SM RS	Moderate SM RS
BEOC/WET SEDGE	water birch/wet sedge	PCT	SW3113	Warm High SM RS	High SM RS
CAAM	bigleaved sedge	PA	MM2921	Warm High SM RH	High SM RH
CAAQ	aquatic sedge	PA	MM2914	Warm High SM RH	High SM RH
CACA	bluejoint reedgrass	PA	GM4111	Warm Moderate SM RH	Moderate SM RH
CACA4	silvery sedge	PCT	MS3113	Warm Moderate SM RH	Moderate SM RH
CACU (SEEP)	Cusick's camas (seep)	PCT	FW3911	Warm Very Moist UH	Moist UH
CACU2	Cusick's sedge	PA	MM2918	Warm High SM RH	High SM RH
CAGE (ALPINE)	elk sedge (alpine)	PCT	GS3911	Cold Dry UH	Cold UH
CAGE (UPLAND)	elk sedge (upland)	PCT	GS39	Cool Dry UH	Cold UH
CAHO	Hood's sedge	PCT	GS3912	Cool Moist UH	Cold UH
CALA	smoothstemmed sedge	PC	MW2913	Cold High SM RH	High SM RH
CALA3	woolly sedge	PA	MM2911	Warm Moderate SM RH	Moderate SM RH
CALA4	slender sedge	PC	MM2920	Warm High SM RH	High SM RH
CALEL2	densely tufted sedge	PA	MM2919	Warm Moderate SM RH	Moderate SM RH
CALU	woodrush sedge	PA	MM2916	Cold High SM RH	High SM RH

Appendix A: Potential vegetation types (PVT) of the Blue Mountains (August 2002)[1]

PVT CODE	PVT COMMON NAME	STATUS	ECOCLASS	PAG	PVG
CAMU2	star sedge	PCT	MS3112	Warm Moderate SM RH	Moderate SM RH
CANE	Nebraska sedge	PCT	MM2912	Hot Moderate SM RH	Moderate SM RH
CANU4	torrent sedge	PCT	MM2922	Hot High SM RH	High SM RH
CAPR5	clustered field sedge	PCT	MW2912	Cold High SM RH	High SM RH
CASC5	Holm's sedge	PA	MS3111	Cold High SM RH	High SM RH
CASH	Sheldon's sedge	PCT	MM2932	Hot Moderate SM RH	Moderate SM RH
CASI2	shortbeaked sedge	PCT	MM2915	Warm High SM RH	High SM RH
CAST	sawbeak sedge	PCT	MW1926	Warm High SM RH	High SM RH
CAUT	bladder sedge	PA	MM2917	Warm High SM RH	High SM RH
CAVEV	inflated sedge	PA	MW1923	Warm High SM RH	High SM RH
CELE/CAGE	mountain mahogany/elk sedge	PCT	SD40	Hot Moist US	Moist US
CELE/FEID-AGSP	mountain mahogany/Idaho fescue-bluebunch wheatgrass	PA	SD4111	Hot Moist US	Moist US
CERE2/AGSP	netleaf hackberry/bluebunch wheatgrass	PA	SD5611	Hot Moist US	Moist US
CEVE	snowbrush ceanothus	PCT	SM33	Warm Moist US	Moist US
CILA2	drooping woodreed	PC	MW2927	Cold High SM RH	High SM RH
COST	redosier dogwood	PA	SW5112	Hot Moderate SM RS	Moderate SM RS
COST/SAAR4	redosier dogwood/brook saxifrage	PCT	SW5118	Warm High SM RS	High SM RS
CRDO	Douglas hawthorne	PCT	SW3111	Hot Low SM RS	Low SM RS
DECE	tufted hairgrass	PA	MM1912	Warm Moderate SM RH	Moderate SM RH
ELBE	delicate spikerush	PC	MS4111	Cold High SM RH	High SM RH
ELCI	basin wildrye	PA	GB7111	Hot Very Moist UH	Moist UH
ELPA	creeping spikerush	PA	MW4912	Hot High SM RH	High SM RH
ELPA2	fewflowered spikerush	PCT	MW4911	Cold High SM RH	High SM RH
EQAR	common horsetail	PA	FW4212	Warm Moderate SM RH	Moderate SM RH
ERDO-POSA3	Douglas buckwheat/Sandberg's bluegrass	PCT	FM9111	Hot Dry UH	Dry UH
ERIOG/PHOR	buckwheat/Oregon bladderpod	PA	SD9322	Hot Dry UH	Dry UH
ERST2-POSA3	strict buckwheat/Sandberg's bluegrass	PCT	FM9112	Hot Dry UH	Dry UH
ERUM (RIDGE)	sulphurflower (ridge)	PCT	FM9113	Hot Dry UH	Dry UH
FEID (ALPINE)	Idaho fescue (alpine)	PCT	GS12	Cold Moist UH	Cold UH
FEID-AGSP	Idaho fescue-bluebunch wheatgrass	PA	GB59	Warm Moist UH	Moist UH
FEID-AGSP (RIDGE)	Idaho fescue-bluebunch wheatgrass (ridge)	PCT	GB5915	Warm Moist UH	Moist UH
FEID-AGSP-BASA	Idaho fescue-bluebunch wheatgrass-balsamroot	PA	GB5917	Warm Moist UH	Moist UH
FEID-AGSP-LUSE	Idaho fescue-bluebunch wheatgrass-silky lupine	PA	GB5916	Warm Moist UH	Moist UH
FEID-AGSP-PHCO2	Idaho fescue-bluebunch wheatgrass-Snake River phlox	PA	GB5918	Warm Moist UH	Moist UH
FEID-CAGE	Idaho fescue-elk sedge	PCT	GB5922	Warm Moist UH	Moist UH
FEID-CAHO	Idaho fescue-Hood's sedge	PA	GB5921	Warm Moist UH	Moist UH
FEID-DAIN-CAREX	Idaho fescue-timber oatgrass-sedge	PA	GB5920	Warm Very Moist UH	Moist UH
FEID-KOCR (HIGH)	Idaho fescue-prairie junegrass (high)	PA	GB5913	Cool Moist UH	Cold UH
FEID-KOCR (LOW)	Idaho fescue-prairie junegrass (low)	PA	GB5914	Warm Moist UH	Moist UH
FEID-KOCR (MOUND)	Idaho fescue-prairie junegrass (mound)	PA	GB5912	Cool Moist UH	Cold UH

Appendix A: Potential vegetation types (PVT) of the Blue Mountains (August 2002)[1]

PVT CODE	PVT COMMON NAME	STATUS	ECOCLASS	PAG	PVG
FEID-KOCR (RIDGE)	Idaho fescue-prairie junegrass (ridge)	PA	GB5911	Cool Moist UH	Cold UH
FEVI	green fescue	PCT	GS11	Cold Moist UH	Cold UH
FEVI-CAHO	green fescue-Hood's sedge	PCT	GS1111	Cold Moist UH	Cold UH
FEVI-LULA2	green fescue-spurred lupine	PA	GS1112	Cold Moist UH	Cold UH
GLEL	tall mannagrass	PA	MM2925	Warm High SM RH	High SM RH
GLNE/AGSP	spiny greenbush/bluebunch wheatgrass	PA	SD65	Hot Dry US	Dry US
JUBA	Baltic rush	PCT	MW3912	Hot Moderate SM RH	Moderate SM RH
JUOC/ARAR	western juniper/low sagebrush	PCT	CJS1	Hot Dry UW	Dry UW
JUOC/ARRI	western juniper/stiff sagebrush	PCT	CJS8	Hot Dry UW	Dry UW
JUOC/ARTRV	western juniper/mountain big sagebrush	PCT	CJS2	Hot Moist UW	Moist UW
JUOC/ARTRV/FEID-AGSP	western juniper/mountain big sagebrush/fescue-wheatgrass	PA	CJS211	Hot Moist UW	Moist UW
JUOC/CELE/CAGE	western juniper/mountain mahogany/elk sedge	PCT	CJS42	Hot Moist UW	Moist UW
JUOC/CELE/FEID-AGSP	western juniper/mountain mahogany/fescue-wheatgrass	PCT	CJS41	Hot Moist UW	Moist UW
JUOC/FEID-AGSP	western juniper/Idaho fescue-bluebunch wheatgrass	PA	CJG111	Hot Moist UW	Moist UW
JUOC/PUTR/FEID-AGSP	western juniper/bitterbrush/Idaho fescue-bluebunch wheatgrass	PA	CJS321	Hot Moist UW	Moist UW
LECOW	Wallowa Lewisia	PCT	FX4111	Hot Dry UH	Dry UH
METR	buckbean	PC	FW6111	Warm High SM RH	High SM RH
PERA3-SYOR	squaw apple-mountain snowberry	PCT	SD30	Hot Moist US	Moist US
PHLE2 (TALUS)	syringa bordered strips (talus)	PCT	NTS111	Hot Very Moist US	Moist US
PHMA-SYAL	ninebark-common snowberry	PA	SM1111	Warm Moist US	Moist US
PICO(ABGR)/ALSI	lodgepole pine(grand fir)/Sitka alder	PCT	CLS58	Cool Very Moist UF	Moist UF
PICO(ABGR)/ARNE	lodgepole pine(grand fir)/pinemat manzanita	PCT	CLS57	Cool Dry UF	Cold UF
PICO(ABGR)/CARU	lodgepole pine(grand fir)/pinegrass	PCT	CLG21	Cool Dry UF	Cold UF
PICO(ABGR)/LIBO2	lodgepole pine(grand fir)/twinflower	PCT	CLF211	Cool Moist UF	Moist UF
PICO(ABGR)/VAME	lodgepole pine(grand fir)/big huckleberry	PCT	CLS513	Cool Moist UF	Moist UF
PICO(ABGR)/VAME/CARU	lodgepole pine(grand fir)/big huckleberry/pinegrass	PCT	CLS512	Cool Moist UF	Moist UF
PICO(ABGR)/VAME/PTAQ	lodgepole pine(grand fir)/big huckleberry/bracken	PCT	CLS519	Cool Moist UF	Moist UF
PICO(ABGR)/VASC/CARU	lodgepole pine(grand fir)/grouse huckleberry/pinegrass	PCT	CLS417	Cold Dry UF	Cold UF
PICO(ABLA2)/CAGE	lodgepole pine(subalpine fir)/elk sedge	PCT	CLG322	Cold Dry UF	Cold UF
PICO(ABLA2)/STOC	lodgepole pine(subalpine fir)/western needlegrass	PCT	CLG11	Cold Dry UF	Cold UF
PICO(ABLA2)/VAME	lodgepole pine(subalpine fir)/big huckleberry	PCT	CLS514	Cool Moist UF	Moist UF
PICO(ABLA2)/VAME/CARU	lodgepole pine(subalpine fir)/big huckleberry/pinegrass	PCT	CLS516	Cool Moist UF	Moist UF
PICO(ABLA2)/VASC	lodgepole pine(subalpine fir)/grouse huckleberry	PCT	CLS418	Cold Dry UF	Cold UF
PICO(ABLA2)/VASC/POPU	lodgepole pine(subalpine fir)/grouse huckleberry/polemonium	PCT	CLS415	Cold Dry UF	Cold UF
PICO/ALIN/MESIC FORB	lodgepole pine/mountain alder/mesic forb	PC	CLM511	Cold Moderate SM RF	Moderate SM RF
PICO/CAAQ	lodgepole pine/aquatic sedge	PA	CLM114	Cold High SM RF	High SM RF
PICO/CACA	lodgepole pine/bluejoint reedgrass	PC	CLM117	Cold Moderate SM RF	Moderate SM RF
PICO/CALA3	lodgepole pine/woolly sedge	PC	CLM116	Cold Moderate SM RF	Moderate RF
PICO/CARU	lodgepole pine/pinegrass	PA	CLS416	Cool Dry UF	Cold UF
PICO/DECE	lodgepole pine/tufted hairgrass	PA	CLM115	Cold Moderate SM RF	Moderate SM RF

Appendix A: Potential vegetation types (PVT) of the Blue Mountains (August 2002)[1]

PVT CODE	PVT COMMON NAME	STATUS	ECOCLASS	PAG	PVG
PICO/POPR	lodgepole pine/Kentucky bluegrass	PCT	CLM112	Cold Low SM RF	Low SM RF
PIEN/ATFI	Engelmann spruce/ladyfern	PCT	CEF334	Cold High SM RF	High SM RF
PIEN/BRVU	Engelmann spruce/Columbia brome	PCT	CEM125	Cold Low SM RF	Low SM RF
PIEN/CADI	Engelmann spruce/softleaved sedge	PA	CEM121	Cold High SM RF	High SM RF
PIEN/CILA2	Engelmann spruce/drooping woodreed	PC	CEM126	Cold Moderate SM RF	Moderate SM RF
PIEN/COST	Engelmann spruce/redosier dogwood	PA	CES511	Cold Moderate SM RF	Moderate SM RF
PIEN/EQAR	Engelmann spruce/common horsetail	PA	CEM211	Cold Moderate SM RF	Moderate SM RF
PIEN/SETR	Engelmann spruce/arrowleaf groundsel	PCT	CEF335	Cold High SM RF	High SM RF
PIMO/DECE	western white pine/tufted hairgrass	PCT	CQM111	Warm Moderate SM RF	Moderate SM RF
PIPO/AGSP	ponderosa pine/bluebunch wheatgrass	PA	CPG111	Hot Dry UF	Dry UF
PIPO/ARAR	ponderosa pine/low sagebrush	PCT	CPS61	Hot Moist UF	Dry UF
PIPO/ARTRV/CAGE	ponderosa pine/mountain big sagebrush/elk sedge	PCT	CPS132	Hot Dry UF	Dry UF
PIPO/ARTRV/FEID-AGSP	ponderosa pine/mountain big sagebrush/fescue-wheatgrass	PA	CPS131	Hot Dry UF	Dry UF
PIPO/CAGE	ponderosa pine/elk sedge	PA	CPG222	Warm Dry UF	Dry UF
PIPO/CARU	ponderosa pine/pinegrass	PA	CPG221	Warm Dry UF	Dry UF
PIPO/CELE/CAGE	ponderosa pine/mountain mahogany/elk sedge	PA	CPS232	Warm Dry UF	Dry UF
PIPO/CELE/FEID-AGSP	ponderosa pine/mountain mahogany/fescue-wheatgrass	PA	CPS234	Hot Dry UF	Dry UF
PIPO/CELE/PONE	ponderosa pine/mountain mahogany/Wheeler's bluegrass	PA	CPS233	Hot Dry UF	Dry UF
PIPO/ELGL	ponderosa pine/blue wildrye	PA	CPM111	Warm Dry UF	Dry UF
PIPO/FEID	ponderosa pine/Idaho fescue	PA	CPG112	Hot Dry UF	Dry UF
PIPO/PERA3	ponderosa pine/squaw apple	PCT	CPS8	Hot Dry UF	Dry UF
PIPO/POPR	ponderosa pine/Kentucky bluegrass	PCT	CPM112	Hot Low SM RF	Low SM RF
PIPO/PUTR/AGSP	ponderosa pine/bitterbrush/bluebunch wheatgrass	PCT	CPS231	Hot Dry UF	Dry UF
PIPO/PUTR/CAGE	ponderosa pine/bitterbrush/elk sedge	PA	CPS222	Warm Dry UF	Dry UF
PIPO/PUTR/CARO	ponderosa pine/bitterbrush/Ross sedge	PA	CPS221	Warm Dry UF	Dry UF
PIPO/PUTR/FEID-AGSP	ponderosa pine/bitterbrush/Idaho fescue-bluebunch wheatgrass	PA	CPS226	Hot Dry UF	Dry UF
PIPO/RHGL	ponderosa pine/sumac	PCT	CPS9	Hot Dry UF	Dry UF
PIPO/SPBE	ponderosa pine/birchleaf spiraea	PCT	CPS523	Warm Dry UF	Dry UF
PIPO/SYAL	ponderosa pine/common snowberry	PA	CPS522	Warm Dry UF	Dry UF
PIPO/SYAL (FLOODPLAIN)	ponderosa pine/common snowberry (floodplain)	PA	CPS511	Hot Low SM RF	Low SM RF
PIPO/SYOR	ponderosa pine/mountain snowberry	PA	CPS525	Warm Dry UF	Dry UF
POFR/DECE	shrubby cinquefoil/tufted hairgrass	PA	SW5113	Warm Moderate SM RS	Moderate SM RS
POFR/POPR	shrubby cinquefoil/Kentucky bluegrass	PCT	SW5114	Warm Low SM RS	Low SM RS
POPR (DEGEN BENCH)	Kentucky bluegrass (degenerated bench)	PCT	MD3112	Cool Moist UH	Cold UH
POPR (MEADOW)	Kentucky bluegrass (meadow)	PCT	MD3111	Warm Low SM RH	Low SM RH
POSA3-DAUN	Sandberg's bluegrass-onespike oatgrass	PA	GB9111	Hot Dry UH	Dry UH
POTR/ALIN-COST	quaking aspen/mountain alder-redosier dogwood	PCT	HQS222	Warm Moderate SM RF	Moderate SM RF
POTR/ALIN-SYAL	quaking aspen/mountain alder-common snowberry	PCT	HQS223	Warm Moderate SM RF	Moderate SM RF
POTR/CAAQ	quaking aspen/aquatic sedge	PCT	HQM212	Warm High SM RF	High SM RF
POTR/CACA	quaking aspen/bluejoint reedgrass	PCT	HQM123	Warm Moderate SM RF	Moderate SM RF

Appendix A: Potential vegetation types (PVT) of the Blue Mountains (August 2002)[1]

PVT CODE	PVT COMMON NAME	STATUS	ECOCLASS	PAG	PVG
POTR/CALA3	quaking aspen/woolly sedge	PA	HQM211	Warm Moderate SM RF	Moderate SM RF
POTR/MESIC FORB	quaking aspen/mesic forb	PCT	HQM511	Warm Moderate SM RF	Moderate SM RF
POTR/POPR	quaking aspen/Kentucky bluegrass	PCT	HQM122	Hot Low SM RF	Low SM RF
POTR/SYAL	quaking aspen/common snowberry	PCT	HQS221	Hot Moderate SM RF	Moderate SM RF
POTR2/ACGL	black cottonwood/Rocky Mountain maple	PCT	HCS114	Warm Moderate SM RF	Moderate SM RF
POTR2/ALIN-COST	black cottonwood/mountain alder-redosier dogwood	PA	HCS113	Warm Moderate SM RF	Moderate SM RF
POTR2/SALA2	black cottonwood/Pacific willow	PA	HCS112	Hot Moderate SM RF	Moderate SM RF
POTR2/SYAL	black cottonwood/common snowberry	PCT	HCS311	Hot Moderate SM RF	Moderate SM RF
PSME/ACGL-PHMA	Douglas-fir/Rocky Mountain maple-mallow ninebark	PA	CDS722	Warm Moist UF	Moist UF
PSME/ACGL-PHMA (FLOODPLAIN)	Douglas-fir/Rocky Mountain maple-mallow ninebark (floodplain)	PA	CDS724	Warm Moderate SM RF	Moderate SM RF
PSME/CAGE	Douglas-fir/elk sedge	PA	CDG111	Warm Dry UF	Dry UF
PSME/CARU	Douglas-fir/pinegrass	PA	CDG121	Warm Dry UF	Dry UF
PSME/CELE/CAGE	Douglas-fir/mountain mahogany/elk sedge	PCT	CDSD	Warm Dry UF	Dry UF
PSME/HODI	Douglas-fir/oceanspray	PA	CDS611	Warm Moist UF	Moist UF
PSME/PHMA	Douglas-fir/ninebark	PA	CDS711	Warm Dry UF	Dry UF
PSME/SPBE	Douglas-fir/birchleaf spiraea	PA	CDS634	Warm Dry UF	Dry UF
PSME/SYAL	Douglas-fir/common snowberry	PA	CDS622	Warm Dry UF	Dry UF
PSME/SYAL (FLOODPLAIN)	Douglas-fir/common snowberry (floodplain)	PA	CDS628	Warm Low SM RF	Low SM RF
PSME/SYOR	Douglas-fir/mountain snowberry	PA	CDS625	Warm Dry UF	Dry UF
PSME/TRCA3	Douglas-fir/false bugbane	PCT	CDF313	Warm Moderate SM RF	Moderate SM RF
PSME/VAME	Douglas-fir/big huckleberry	PA	CDS812	Warm Dry UF	Dry UF
PUPA	weak alkaligrass	PA	MM2926	Warm High SM RH	High SM RH
PUTR/AGSP	bitterbrush/bluebunch wheatgrass	PA	SD3112	Hot Moist US	Moist US
PUTR/FEID-AGSP	bitterbrush/Idaho fescue-bluebunch wheatgrass	PA	SD3111	Warm Moist US	Moist US
RHAL2/MESIC FORB	alderleaved buckthorn/mesic forb	PCT	SW5117	Warm Moderate SM RS	Moderate SM RS
RHGL/AGSP	smooth sumac/bluebunch wheatgrass	PA	SD6121	Hot Dry US	Dry US
RIBES/CILA2	currants/drooping woodreed	PCT	SW5111	Warm High SM RS	High SM RS
RIBES/GLEL	currants/tall mannagrass	PCT	SW5116	Warm High SM RS	High SM RS
RIBES/MESIC FORB	currants/mesic forb	PCT	SW5115	Warm Moderate SM RS	Moderate SM RS
SAAR4	brook saxifrage	PCT	FW6113	Warm High SM RH	High SM RH
SACO2/CAPR5	undergreen willow/clustered field sedge	PC	SW1128	Cold High SM RS	High SM RS
SACO2/CASC5	undergreen willow/Holm's sedge	PA	SW1121	Cold High SM RS	High SM RS
SACO2/CAUT	undergreen willow/bladder sedge	PCT	SW1127	Cold High SM RS	High SM RS
SAEA-SATW/CAAQ	Eastwood willow-Tweedy willow/aquatic sedge	PC	SW1129	Warm High SM RS	High SM RS
SAEX	coyote willow	PA	SW1117	Hot Moderate SM RS	Moderate SM RS
SALIX/CAAQ	willow/aquatic sedge	PA	SW1114	Warm High SM RS	High SM RS
SALIX/CACA	willow/bluejoint reedgrass	PC	SW1124	Warm Moderate SM RS	Moderate SM RS
SALIX/CALA3	willow/woolly sedge	PA	SW1112	Warm Moderate SM RS	Moderate SM RS
SALIX/CAUT	willow/bladder sedge	PA	SW1123	Warm High SM RS	High SM RS
SALIX/MESIC FORB	willow/mesic forb	PCT	SW1125	Warm Moderate SM RS	Moderate SM RS

Appendix A: Potential vegetation types (PVT) of the Blue Mountains (August 2002)[1]

PVT CODE	PVT COMMON NAME	STATUS	ECOCLASS	PAG	PVG
SALIX/POPR	willow/Kentucky bluegrass	PCT	SW1111	Warm Low SM RS	Low SM RS
SARI	rigid willow	PCT	SW1126	Hot Moderate SM RS	Moderate SM RS
SASC/ELGL	Scouler willow/blue wildrye	PC	SW1130	Cool Moist US	Cold US
SCMI	smallfruit bulrush	PA	MM2924	Warm High SM RH	High SM RH
SETR	arrowleaf groundsel	PA	FW4211	Warm High SM RH	High SM RH
SPCR (RIVER TERRACE)	sand dropseed (river terrace)	PA	GB1211	Hot Dry UH	Dry UH
STOC	western needlegrass	PCT	GS10	Cool Moist UH	Cold UH
SYAL/FEID-AGSP-LUSE	common snowberry/fescue-wheatgrass-silky lupine	PCT	GB5121	Warm Moist US	Moist US
SYAL/FEID-KOCR	common snowberry/Idaho fescue-prairie junegrass	PCT	GB5919	Warm Moist US	Moist US
SYAL-ROSA	common snowberry-rose	PCT	SM3111	Warm Moist US	Moist US
SYOR	mountain snowberry	PCT	SM32	Warm Moist US	Moist US
TSME/VAME	mountain hemlock/big huckleberry	PA	CMS231	Cold Dry UF	Cold UF
TSME/VASC	mountain hemlock/grouse huckleberry	PA	CMS131	Cold Dry UF	Cold UF
TYLA	common cattail	PCT	MT8121	Hot High SM RH	High SM RH
VEAM	American speedwell	PA	FW6112	Warm High SM RH	High SM RH
VERAT	false hellebore	PC	FW5121	Warm Moderate SM RH	Moderate SM RH

This appendix is organized alphabetically by PVT code. Column descriptions are:

"PVT CODE" provides an alphanumeric code for each potential vegetation type; it is derived from the scientific plant names – the first two letters of the genus name are combined with the first two letters of the species name and capitalized (ABGR for *Abies grandis*). If more than one plant has the same code, then a number is added to differentiate between them (ABLA2 for *Abies lasiocarpa*). Species in the same lifeform are separated with a dash (ABLA2-PIAL) whereas species in different lifeforms are separated with a forward slash (ABGR/CLUN).

"PVT COMMON NAME" provides a common name for each potential vegetation type; all common names are shown in lower case letters except for proper names (Sandberg's bluegrass; Rocky Mountain maple).

"STATUS" provides the classification status of each potential vegetation type: PA is Plant Association; PCT is Plant Community Type; PC is Plant Community.

"ECOCLASS" codes, which are used to record potential vegetation types on field forms and in databases, are described in Hall (1998); codes for the 296 potential vegetation types included in this table were approved by the Pacific Northwest Regional Office in April 2000.

"PAG" (Plant Association Group) and "PVG" (Potential Vegetation Group) are two levels of a mid-scale potential vegetation hierarchy; PAG and PVG codes use the following abbreviations: SM is Soil Moisture, UF is Upland Forest, UW is Upland Woodland, US is Upland Shrubland, UH is Upland Herbland, RF is Riparian Forest, RS is Riparian Shrubland, and RH is Riparian Herbland.

[Note: Compiled by: David C. Powell, Umatilla National Forest Supervisor's Office; please contact him with any questions, corrections, or omissions.]

LITERATURE CITED

Crowe, E.A.; Clausnitzer, R.R. 1997. Mid-montane wetland plant associations of the Malheur, Umatilla and Wallowa-Whitman National Forests. Tech. Pap. R6-NR-ECOL-TP-22-97. Baker City, OR: USDA Forest Service, Pacific Northwest Region, Wallowa-Whitman National Forest. 299 p. MidMontaneWetlandPlantAssociations

Daniel, T.W.; Helms, J.A.; Baker, F.S. 1979. Principles of silviculture. 2nd ed. New York: McGraw-Hill Book Co. 500 p. isbn:0-07-015297-7

Hall, F.C. 1973. Plant communities of the Blue Mountains in eastern Oregon and southeastern Washington. R6 Area Guide 3-1. Portland, OR: USDA Forest Service, Pacific Northwest Region. 62 p. https://archive.org/download/CAT91954348/CAT91954348.pdf

Heyerdahl, E.K. 1997. Spatial and temporal variation in historical fire regimes of the Blue Mountains, Oregon and Washington: the influence of climate. Ph.D. dissertation. Seattle, WA: University of Washington, College of Forest Resources. 224 p. http://hdl.handle.net/1773/5575

Heyerdahl, E.K.; Agee, J.K. 1996. Historical fire regimes of four sites in the Blue Mountains, Oregon and Washington. Final Rep. Seattle, WA: University of Washington, College of Forest Resources. 173 p.

Jensen, M.; Goodman, I.; Brewer, K.; Frost, T.; Ford, G.; Nesser, J. 1997. Chapter 2: biophysical environments of the basin. In: Quigley, T.M.; Arbelbide, S.J., tech. eds. An assessment of ecosystem components in the interior Columbia basin and portions of the Klamath and Great Basins: volume 1. Gen. Tech. Rep. PNW-GTR-405. Portland, OR: USDA Forest Service, Pacific Northwest Research Station: 99-320. https://www.fs.usda.gov/treesearch/pubs/24921

Johnson, C.G., Jr.; Clausnitzer, R.R. 1992. Plant associations of the Blue and Ochoco Mountains. Tech. Pub. R6-ERW-TP-036-92. Portland, OR: USDA Forest Service, Pacific Northwest Region, Wallowa-Whitman National Forest. 164 p. Plant-Associations-of-the-Blue-and-Ochoco-Mountains

Johnson, C.G., Jr.; Simon, S.A. 1987. Plant associations of the Wallowa-Snake province. Tech. Pub. R6-ECOL-TP-225A-86. Baker City, OR: USDA Forest Service, Pacific Northwest Region, Wallowa-Whitman National Forest. 550 p. http://ecoshare.info/2011/11/03/plant-associations-of-the-wallowa-snake-province/

Kelly, A.; Powell, D.C.; Riggs, R.A. 2005. Predicting potential natural vegetation in an interior Northwest landscape using classification tree modeling and a GIS. Western Journal of Applied Forestry. 20(2): 117-127. doi:10.1093/wjaf/20.2.117

Mehringer, P.J., Jr. 1997. Late Holocene fire and forest history from Lost Lake, Umatilla National Forest, Blue Mountains, Oregon. Challenge Cost-Share Agreement No. CCS-06-95-04-058. John Day, OR: USDA Forest Service, Malheur National Forest. 29 p.

Powell, D.C. 2000. Potential vegetation, disturbance, plant succession, and other aspects of for-

est ecology. Tech. Pub. F14-SO-TP-09-00. Pendleton, OR: USDA Forest Service, Pacific Northwest Region, Umatilla National Forest. 88 p. http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5358579.pdf

Powell, D.C.; Johnson, C.G., Jr.; Crowe, E.A.; Wells, A.; Swanson, D.K. 2007. Potential vegetation hierarchy for the Blue Mountains section of northeastern Oregon, southeastern Washington, and west-central Idaho. Gen. Tech. Rep. PNW-GTR-709. Portland, OR: USDA Forest Service, Pacific Northwest Research Station. 87 p. http://www.treesearch.fs.fed.us/pubs/27598

Sasich, J. 2006. Landtype associations of Blue Mountains ecoregion in Oregon and Washington (Malheur, Umatilla, Wallowa-Whitman and a portion of the Ochoco National Forests). Portland, OR: USDA Forest Service, Pacific Northwest Region. 114 p. Blues/LTA_Report_Intro_Methods_Legend

Spribille, T.; Stroh, H.G.; Triepke, F.J. 2001. Are habitat types compatible with floristically-derived associations? Journal of Vegetation Science. 12(6): 791-796. doi:10.2307/3236866

USDA Forest Service. 1995. Revised interim direction establishing riparian, ecosystem and wildlife standards for timber sales; Regional Forester's Forest Plan Amendment #2. Portland, OR: USDA Forest Service, Pacific Northwest Region. 14 p. http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5211858.pdf

APPENDIX 5: SILVICULTURE WHITE PAPERS

White papers are internal reports, and they are produced with a consistent formatting and numbering scheme – all papers dealing with Silviculture, for example, are placed in a silviculture series (Silv) and numbered sequentially. Generally, white papers receive only limited review and, in some instances pertaining to highly technical or narrowly focused topics, the papers may receive no technical peer review at all. For papers that receive no review, the viewpoints and perspectives expressed in the paper are those of the author only, and do not necessarily represent agency positions of the Umatilla National Forest or the USDA Forest Service.

Large or important papers, such as two papers discussing active management considerations for dry and moist forests (white papers Silv-4 and Silv-7, respectively), receive extensive review comparable to what would occur for a research station general technical report (but they don't receive blind peer review, a process often used for journal articles).

White papers are designed to address a variety of objectives:

(1) They guide how a methodology, model, or procedure is used by practitioners on the Umatilla National Forest (to ensure consistency from one unit, or project, to another).

(2) Papers are often prepared to address ongoing and recurring needs; some papers have existed for more than 20 years and still receive high use, indicating that the need (or issue) has long standing – an example is white paper #1 describing the Forest's big-tree program, which has operated continuously for 25 years.

(3) Papers are sometimes prepared to address emerging or controversial issues, such as management of moist forests, elk thermal cover, or aspen forest in the Blue Mountains. These papers help establish a foundation of relevant literature, concepts, and principles that continuously evolve as an issue matures, and hence they may experience many iterations through time. [But also note that some papers have not changed since their initial development, in which case they reflect historical concepts or procedures.]

(4) Papers synthesize science viewed as particularly relevant to geographical and management contexts for the Umatilla National Forest. This is considered to be the Forest's self-selected 'best available science' (BAS), realizing that non-agency commenters would generally have a different conception of what constitutes BAS – like beauty, BAS is in the eye of the beholder.

(5) The objective of some papers is to locate and summarize the science germane to a particular topic or issue, including obscure sources such as master's theses or Ph.D. dissertations. In other instances, a paper may be designed to wade through an overwhelming amount of published science (dry-forest management), and then synthesize sources viewed as being most relevant to a local context.

(6) White papers function as a citable literature source for methodologies, models, and procedures used during environmental analysis – by citing a white paper, specialist reports can include less verbiage describing analytical databases, techniques, and so forth, some of which change little (if at all) from one planning effort to another.

(7) White papers are often used to describe how a map, database, or other product was developed. In this situation, the white paper functions as a 'user's guide' for the new product. Examples include papers dealing with historical products: (a) historical fire extents for the Tucannon watershed (WP Silv-21); (b) an 1880s map developed from General Land Office survey notes (WP Silv-41); and (c) a

description of historical mapping sources (24 separate items) available from the Forest's history website (WP Silv-23).

The following papers are available from the Forest's website: Silviculture White Papers

Paper #	Title
1	Big tree program
2	Description of composite vegetation database
3	Range of variation recommendations for dry, moist, and cold forests
4	Active management of Blue Mountains dry forests: Silvicultural considerations
5	Site productivity estimates for upland forest plant associations of Blue and Ochoco Mountains
6	Blue Mountains fire regimes
7	Active management of Blue Mountains moist forests: Silvicultural considerations
8	Keys for identifying forest series and plant associations of Blue and Ochoco Mountains
9	Is elk thermal cover ecologically sustainable?
10	A stage is a stage is a stage…or is it? Successional stages, structural stages, seral stages
11	Blue Mountains vegetation chronology
12	Calculated values of basal area and board-foot timber volume for existing (known) values of canopy cover
13	Created opening, minimum stocking level, and reforestation standards from Umatilla National Forest land and resource management plan
14	Description of EVG-PI database
15	Determining green-tree replacements for snags: A process paper
16	Douglas-fir tussock moth: A briefing paper
17	Fact sheet: Forest Service trust funds
18	Fire regime condition class queries
19	Forest health notes for an Interior Columbia Basin Ecosystem Management Project field trip on July 30, 1998 (handout)
20	Height-diameter equations for tree species of Blue and Wallowa Mountains
21	Historical fires in headwaters portion of Tucannon River watershed
22	Range of variation recommendations for insect and disease susceptibility
23	Historical vegetation mapping
24	How to measure a big tree
25	Important Blue Mountains insects and diseases
26	Is this stand overstocked? An environmental education activity
27	Mechanized timber harvest: Some ecosystem management considerations
28	Common plants of south-central Blue Mountains (Malheur National Forest)
29	Potential natural vegetation of Umatilla National Forest
30	Potential vegetation mapping chronology
31	Probability of tree mortality as related to fire-caused crown scorch
32	Review of "Integrated scientific assessment for ecosystem management in the interior Columbia basin, and portions of the Klamath and Great basins" – Forest vegetation
33	Silviculture facts

Paper #	Title
34	Silvicultural activities: Description and terminology
35	Site potential tree height estimates for Pomeroy and Walla Walla Ranger Districts
36	Stand density protocol for mid-scale assessments
37	Stand density thresholds as related to crown-fire susceptibility
38	Umatilla National Forest Land and Resource Management Plan: Forestry direction
39	Updates of maximum stand density index and site index for Blue Mountains variant of Forest Vegetation Simulator
40	Competing vegetation analysis for southern portion of Tower Fire area
41	Using General Land Office survey notes to characterize historical vegetation conditions for Umatilla National Forest
42	Life history traits for common Blue Mountains conifer trees
43	Timber volume reductions associated with green-tree snag replacements
44	Density management field exercise
45	Climate change and carbon sequestration: Vegetation management considerations
46	Knutson-Vandenberg (K-V) program
47	Active management of quaking aspen plant communities in northern Blue Mountains: Regeneration ecology and silvicultural considerations
48	Tower Fire…then and now. Using camera points to monitor postfire recovery
49	How to prepare a silvicultural prescription for uneven-aged management
50	Stand density conditions for Umatilla National Forest: A range of variation analysis
51	Restoration opportunities for upland forest environments of Umatilla National Forest
52	New perspectives in riparian management: Why might we want to consider active management for certain portions of riparian habitat conservation areas?
53	Eastside Screens chronology
54	Using mathematics in forestry: An environmental education activity
55	Silviculture certification: Tips, tools, and trip-ups
56	Vegetation polygon mapping and classification standards: Malheur, Umatilla, and Wallowa-Whitman National Forests
57	State of vegetation databases for Malheur, Umatilla, and Wallowa-Whitman National Forests
58	Seral status for tree species of Blue and Ochoco Mountains

REVISION HISTORY

September 2012: This revision added a new appendix describing the white-paper system, including a list of available white papers. Minor formatting and editing changes were made throughout the document.

January 2017: This major revision made substantial edits to the parent text, added a Literature Cited section, and added appendixes 2 and 3.