APPEAL OF UMPQUA WATERSHEDS, INC.

OF THE SEMAPHORE TIMBER SALE

(IBLA-2017-0234)

TO

THE INTERIOR BOARD OF LAND APPEALS

Re: IBLA-2017-0234 Appeal to the IBLA, by Umpqua Watersheds, Inc., of the denial, by BLM, of UW's Protest of the Semaphore Timber Sale, a portion of the Camas Valley 2011 Harvest Plan (CV EA; DOI BLM-ORWA-R050-2011-0005-EA) and the Olalla-Camas Regeneration Harvest Plan (OC EA; DOI-BLM-ORWA-R050-2014-0006-EA)**.**

Regarding Certain of BLM's Points of Clarification[1]

Certain of the issues raised by UW, in its protest of the Semaphore Timber Sale, were mistakenly declared to be irrelevant to this management proposal, or they have been mischaracterized, by the BLM.

a) It is a proven fact (Please see UW Protest of the Semaphore Timber Sale, pg. 11.) that logs sourced from BLM public forestlands are subject to payment of the Oregon Forest Products Harvest Tax (OFPHT); that tax levied upon the board foot volume of such timber, purchased from the BLM. Since basic economic principles teach that bid price is the sum of all liens, by any reasonable measure, this fact confers upon BLM the opportunity to impart, to Oregon and its designated agencies, BLM's evaluation of the radically different, and environmentally destructive, extractive paradigm extant on the intervening private industrial timberlands within that "checkerboard" of alternating ownerships, of which the public lands of the Semaphore Timber Sale are an inseparable part. However, nowhere in its protest did UW contend that this fact obliged the BLM "*…to **manage** timber on private timberlands…*"[2] as BLM claims in its denial of that protest. Rather, the following is what UW stated in its protest:

"*Thus, it directly follows that the BLM enjoys the right and bears the responsibility to, at long last, **protest** to the Oregon Department of Forestry, the Oregon Board of Forestry and the State Land Board, etc. the continued imposition of these and all of the negative and very cumulative impacts* (For a listing of some of these impacts, please see UW Protest of the Semaphore Timber Sale, pg. 2.) *that retrograde management activities undertaken on OFPA regulated private lands impose upon the public forestlands the BLM manages, in trust, for all of the people of the United States of America, within the Olalla-Camas RH Area, as well as on the remaining portions of the infamous and unfortunate checkerboard of alternating ownerships in Western Oregon. Umpqua Watersheds herein protests the BLM's continued and inexcusable silence in the face of this chronic and most damaging environmental assault on our public forest lands.*"[3]

However, UW does not predicate this putative responsibility of the BLM to use its good offices to

1 Semaphore Timber Sale Protest Denial, pp. 10, 11

2 Semaphore Timber Sale Protest Denial, pp. 10

3 Semaphore Timber Sale Protest, pg. 11

influence the outdated and environmentally harmful parameters of the Oregon Forest Practices Act on the above-described imposition of the OFPHT, alone. We maintain, in our protest, that this was also an obligation imposed upon the BLM, by the mandates of the 1937 O&C Act to protect watersheds and regulate streamflows. In its comments and in its protest, UW maintains that the strictures of the Clean Water Act, of the Endangered Species Act, etc. also imposed this right and subsequent obligation to **speak up** on behalf of the public lands interwoven with these intensively managed private industrial lands and their numerous clear cuts and monoculture fiber farm tree plantations etc. After all, how in the world can watersheds like those of the Semaphore Timber Sale area, sited as they are in such an unfortunate checkerboard arrangement, be protected, their streamflows regulated, by solely **considering** (even if in a complete and detailed manner) the management of alternating (in this case, public) sections alone? Clearly, by any reasonable measure, that myopic purview must amount to a very limited and markedly ineffective protection of these watersheds, and but a halfhearted regulation of their streamflows. In short, an impossible, even ridiculous, proposition; one with whose dire environmental possibilities the progenitor(s) of the O&C Act and the Interior Department appear to have been clearly aware, from the beginning: "***The Department of the Interior is desirous of doing a good job of forestry and forest conservation on the O. and C. lands and to encourage good forestry on the intermingled lands of other owners***."[4]

b) In its protest of the Semaphore Timber Sale, UW has **not** expressed the "*…opinion that the BLM has an influence on taxation of the logging industry and lobbying by the logging industry to the Oregon congressional delegation, and the Oregon Legislative and Executive branches of state government…*"[5]

On the contrary, the following is what UW stated in its OC EA comments and in its protest:

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[4] From a December 1937 speech by Horning, Walter H., BLM's First Regional Administrator for the Pacific Northwest; found in Price, Frank N., 2005, Protecting Watersheds, Regulating Stream Flow, and Providing Recreational Facilities: The Intent of this Language in the O & C Act, Early Interpretation and Historic Context. pg. 5

[5] Semaphore Timber Sale Protest Denial, pp. 11

"*Historically speaking, Douglas, as well as the other affected O&C counties, enjoyed the overly generous revenues obtained from the gross over harvest of primary old growth and mature forest for several decades. Rather than insisting on increased revenues derived from a renewal of ecologically unwarranted harvest activities on those same put-upon public lands, while at the same time lobbying the Oregon Congressional Delegation to pressure federal forest management agencies to accede to these unjustified demands,* ***county commissioners****, et al. should approach the Oregon Legislative and Executive branches of state government and insist that accustomed levels of timber harvest taxation be reimposed upon the voluminous private industrial timber harvests, in Douglas and adjoining counties."*[6]

Furthermore, the fact that UW broached the issue of Oregon's timber taxes **at all**, stems from its citation, by the BLM, in the purpose and need portions of the OC EA, to which the Semaphore Timber Sale Decision Document tiers. In its Semaphore Timber Sale Protest UW stated its position thus:

"UW notes the following statement from the Olalla-Camas RH Ea: *'This alternative would not meet the described purpose and need for action as it would not meet the statutory requirement for the Roseburg District to provide a predictable and sustainable supply of timber in support of logging and forest products manufacturing, at the local and regional scales. There would be no revenues generated to help support local county governments and social services…'.*[7] This disclaimer, made by BLM relative to the need to supply logs and revenue, certainly appears to render UW's comments on those issues entirely appropriate and most relevant to the EA, initially, and to this protest, currently."[8]

Regarding this issue, UW also stated the following in its protest:

"*Admittedly, these particular tax issues are the province of the elected government of the state of Oregon and are not within the administrative or constitutional purview of the Federal Government or its agencies. However, the prominent citation of this revenue requirement in the purpose and need section of this EA*[9]*, and, indeed, as repeated in the purpose and need sections of countless other BLM management proposals at the regional and district levels, makes them an absolutely legitimate and most germane subject for discussion, when commenting upon the purpose and need portions of this EA.*"[10]

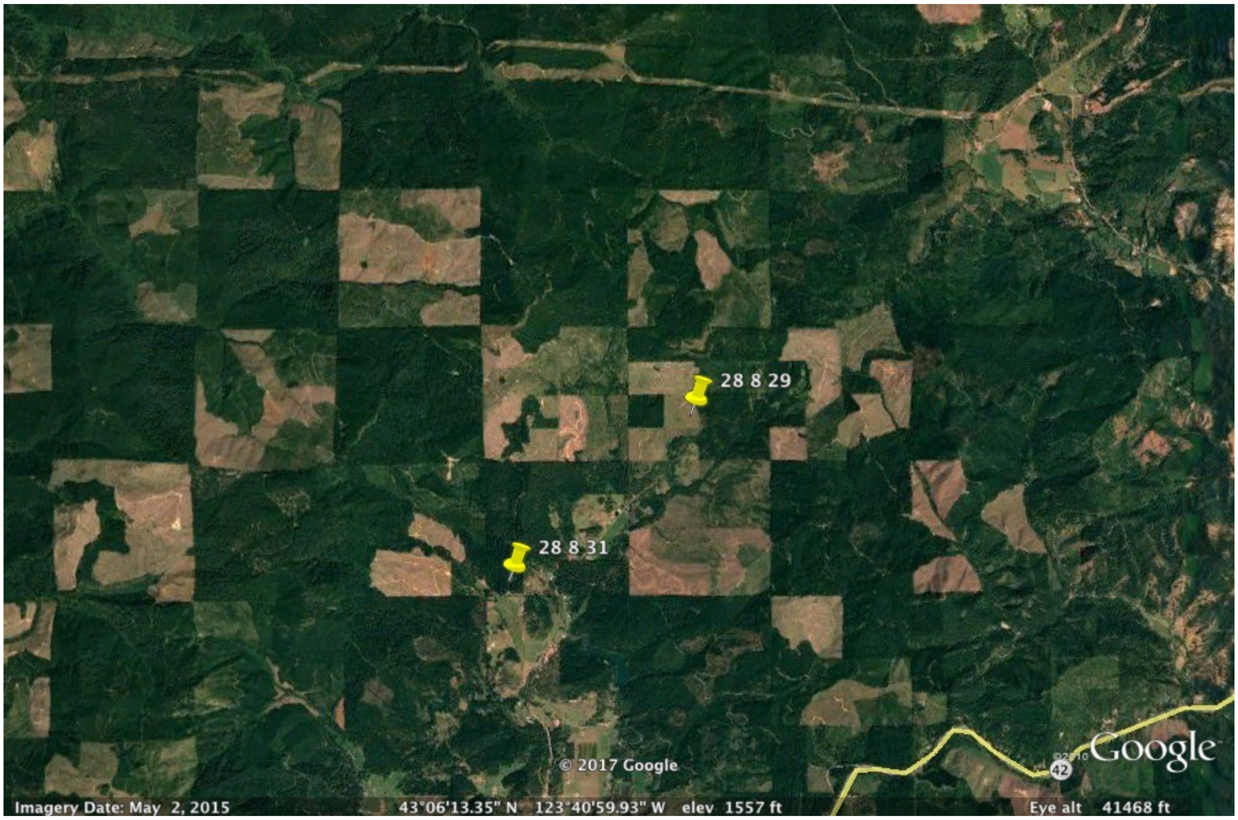
The last sentence of the above-quoted paragraph is a statement of fact. It is not an opinion, as maintained by the BLM, in its denial of UW's Semaphore Timber Sale Protest. <u>Thus, yet again, the BLM has misconstrued clear statements of fact made by UW in its Protest of The Semaphore Timber Sale</u>.

6 UW Protest of The Semaphore Timber Sale, pg. 7
7 Olalla-Camas RH EA, Pg. 26
8 UW Protest of The Semaphore Timber Sale, pg. 5
9 Olalla-Camas Regeneration Harvest Plan/Draft F.O.N.S.I., pg. 1: "The proposed regeneration harvest…and generate revenues for local, state and federal governments."
10 UW Comments Olalla-Camas RH EA, Pp. 6, 7

c) Regarding the imposition of more large canopy openings on the watersheds of the OC EA analysis area in general, and on those of the Semaphore Timber Sale in particular, UW made a sincere attempt to bring the actual, current condition of the adjacent and proximate private industrial lands, vis a vis BLM's holdings, to BLM's attention. In support of the attempt to highlight this factual condition, UW included Google Earth screen shots of the general Semaphore Area. For this appeal, we have also included views of the BLM sections of the Semaphore Timber Sale. They appear below.

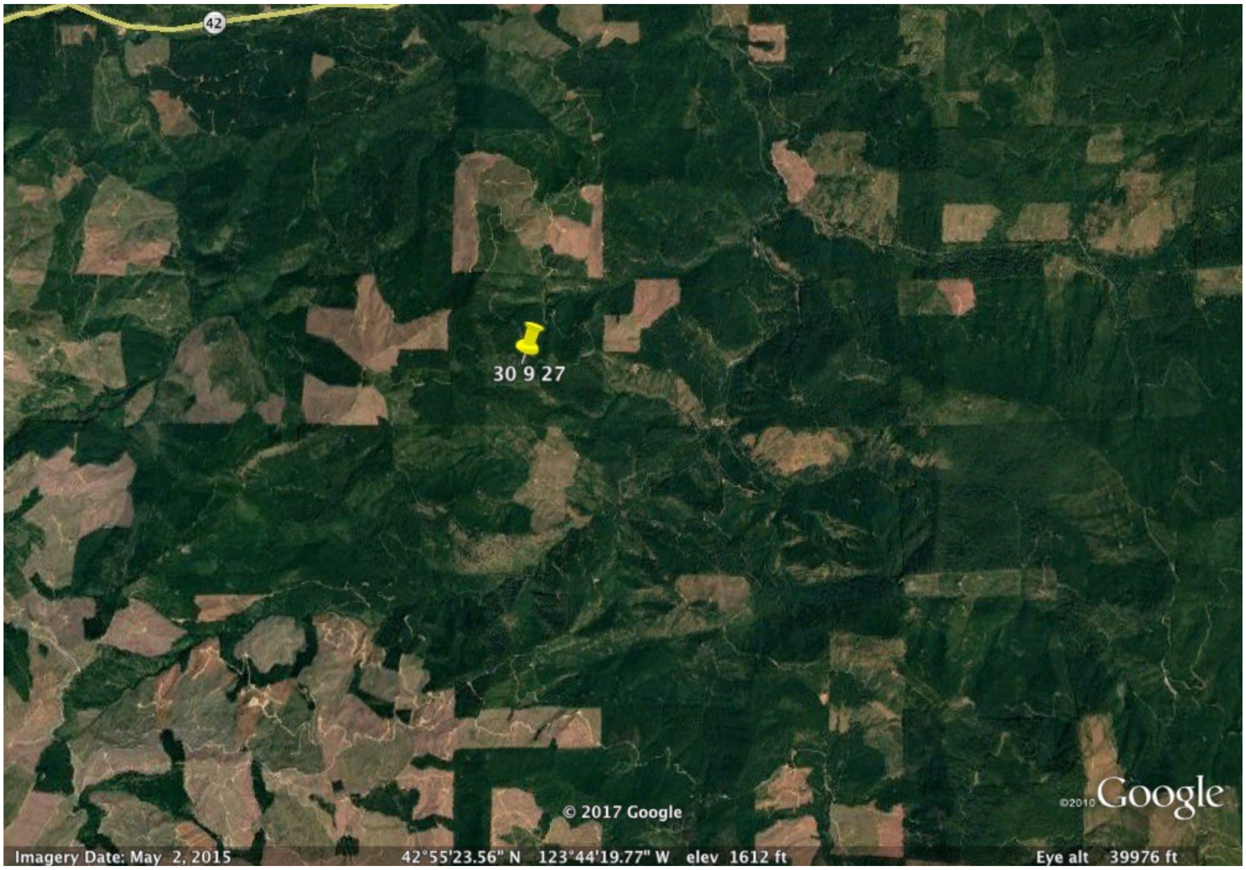
BLM is not attempting to compensate for or ameliorate the damaging effects to watersheds, ESA listed species, wildlife (and human beings) in general imposed upon these landscapes by such widespread and intensive industrial timber harvests, as conducted under aegis of the retrograde Oregon Forest Practices Act (OFPA). Rather, with the Olalla-Camas RH in general, and with the Semaphore Timber Sale, in particular, the BLM has chosen to **add** to those harmful environmental impacts by willfully creating its own large openings. This is unacceptable and, as UW sees it, is a clear abnegation of those aspects of the in the 1937 O & C Act, Clean Water Act, ESA etc. that direct the agency to regulate stream flow and protect watersheds and listed species. With these legislative parameters in mind, before adding to this environmental degradation by imposition of large canopy openings on public lands, the BLM must do all that it can to restore and maintain watershed function until such time as the OFPA is greatly improved and our watersheds have begun, at long last, to recover from decades of extractive abuse.

Clearly, this is a landscape that has recently, and persistently over decades, suffered repeated and very large clear cuts on private timber lands in every direction. By way of specific example, and as shown below (image updated by Google on 5/15), a Semaphore Timber Sale unit in T28 R8W Sec. 29 will tie directly to a very recent private land, industrial clearcut on Section 28. Another would adjoin a very young fiber farm plantation on privately owned Section 32. 28-8-31 is sited in a similar, badly degraded landscape, as also shown below.



N.B.: All of these screen shots are more than two years old as of this writing. In the meantime, significantly more large private land clear cuts have been imposed upon all of these watersheds under aegis of the Oregon Forest Practices Act (OFPA) In very many cases, this extractive activity on private timberlands is proximate to, or directly adjoining, the public forestlands managed by the BLM.

Likewise, the management context for the following views of the Twp.30-R9W-Sec.3 and Twp.30-R9W-Sec.27 portions of the Semaphore Timber Sale are revealing of the landscape into which BLM proposes carving its own relatively large canopy openings.



UW quotes below from its OC EA comments:

"With this context in mind, UW asks the Roseburg District, directly: <u>how introducing still more clear cut openings into this, or any other portion of the infamous checkerboard, those additional large openings often planned to directly connect to adjoining and already existing private land clear cuts and "stand initiation" age fiber farm plantations, does not constitute an unacceptable negative cumulative impact, such as NEPA requires forest management agencies to acknowledge and avoid? Planners must recall, if they are unaware or have forgotten, that the actual context for the Olalla-Camas Regen. are all of the 315,500 acres of the analysis area. Given the ubiquity of clear cuts across that area, UW insists that introducing still more large openings on public lands within that analysis area does, indeed, violate NEPA and other guiding regulations and, therefore, must not be implemented at this time.</u>"[11]

UW is at a loss to know how on earth the Roseburg District of the BLM can claim to have taken the requisite "hard look" at the absolutely critical contextual condition of these watersheds{and BLM has more effective and up to date tools at its disposal to directly or remotely determine this actual sylvan

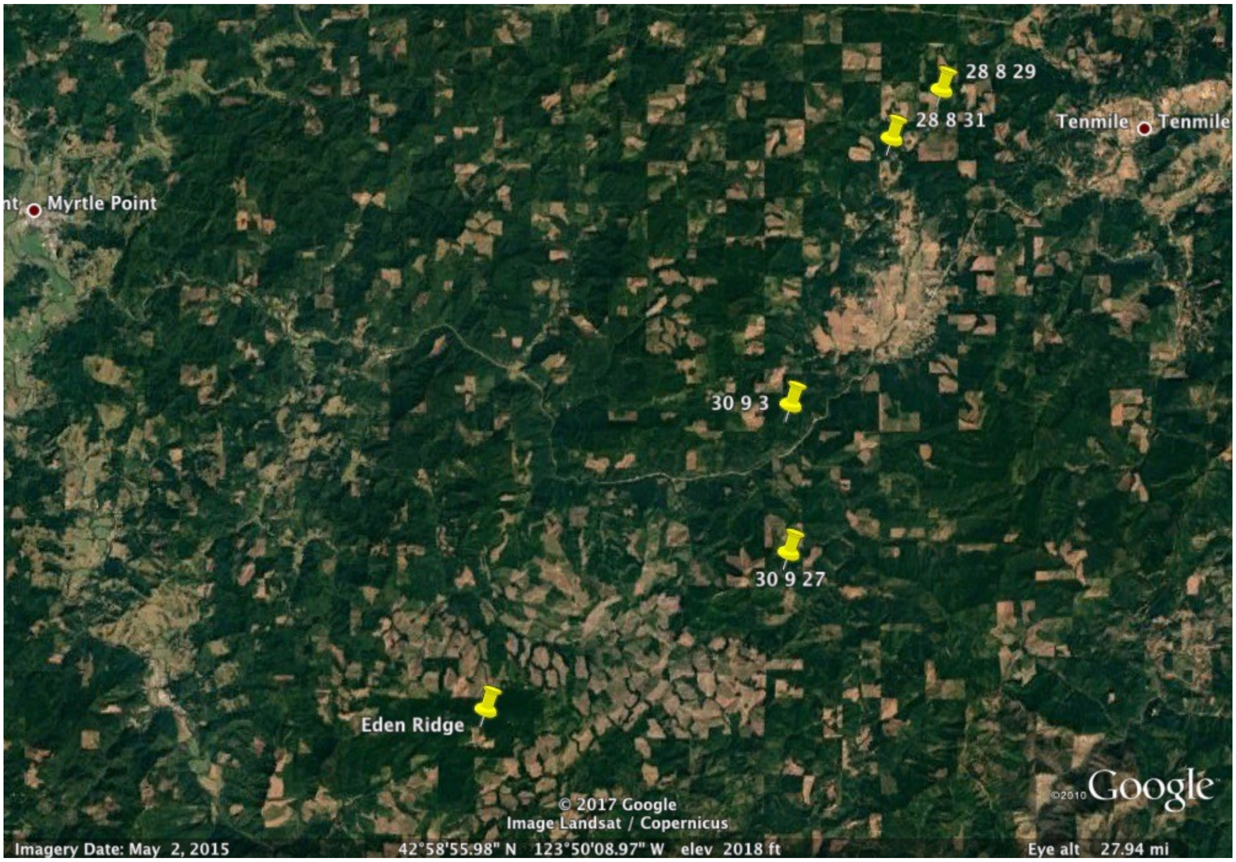
[11] UW Comments Olalla-Camas RH EA, pp. 8, 9

condition (e.g., Lidar) than are available to UW (e.g. , Google Earth}. This is a landscape whose actual private land clear cut/plantation condition is exacerbated by an existing spiderweb of forest roads in various states of (dis)repair, and whose private land clear cut dispersed and riparian tree retention is either nonexistent or very limited, when compared to those riparian buffers etc. required, post-extraction (and of environmental necessity), on public forestlands. For the BLM to propose adding to this deplorable environmental barbarity by creating its own large openings and associated forest roads is ecologically unacceptable. <u>UW asks the IBLA directly, honestly and in all sincerity, if images such as those above (and below) indicate that these landscapes resemble anything remotely like "protected watersheds?"</u>

And, unfortunately, not very far across the Middle Fork of the Coquille River from the Semaphore Timber Sale area, and an integral part of the Middle Fork's watersheds, there currently exist even more extreme examples of watershed destruction, via OFPA clear cut extraction. To provide a sense of scale, UW has included the private industrial lands surrounding the USFS >6000 acre Eden Ridge holding, in addition to much of the analysis area of the Olalla-Camas Regeneration Harvest Plan EA and all of the Semaphore Timber Sale (including its four impacted sections, which are labeled in the screen shot shown below). Please bear in mind that, as stated above, this image is more than two years old. There are significantly more large clear cuts on this landscape today.

<u>These, then, are the contextual, private timberland conditions that Roseburg BLM claims to have taken a "hard look" at. If anyone studying these images thinks that these watersheds are not approaching or have, perhaps, even exceeded an environmental tipping point; a point, perhaps, of no return, then maybe they ought to take another, harder look. "Protected watersheds?" "Regulated streamflows?" Graphically revealed (however incompletely), we think not.</u>

Re: IBLA-2017-0234 Appeal to the IBLA, by Umpqua Watersheds, Inc., of the denial, by BLM, of UW's Protest of the Semaphore Timber Sale, a portion of the Camas Valley 2011 Harvest Plan (CV EA; DOI BLM-ORWA-R050-2011-0005-EA) and the Olalla-Camas Regeneration Harvest Plan (OC EA; DOI-BLM-ORWA-R050-2014-0006-EA)



Historical Context

UW offers the following data; data which graphically underlines the decades long over-harvest of primary old-growth and mature forest by the BLM, in Western Oregon, in general, and on the Roseburg District, in particular. Clearly, given the ensuing dire ecological consequences, this was a myopic application of the vaunted Sustained Yield extractive model at the obvious expense of watershed protection, stream flow regulation and provision for recreation, thereby circumventing those same ancillary provisions of the 1937 O&C Act. That these parameters were short changed in preferment of sustained yield for decades is proven, ipso facto, by the subsequent necessity of applying the strictures of the Endangered Species Act, The Northwest Forest Plan, The Clean Water Act, National Environmental Policy Act, etc. to the management of these public forestlands.

Within ten years of its adoption, the original, and oft-cited annual allowable cut of 500 million board feet stipulated in the 1937 O&C Act, began to be exceeded. On August 28, 1962, then State Director for Oregon and Washington, Russell E. Getty, authored a paper titled Increase In the Allowable Cut. In part, therein, Getty reported to the O&C Advisory Board the following extractive volumes: 1937 **500 million board feet (mmbf)**, 1947 **523.5 mmbf**, 1954 **534.5 mmbf**, 1955 **588.2 mmbf**, 1956 **1,274.8 billion (mmbf)**, 1957 **1,368.4 mmbf**, 1958 **769.3 mmbf**, 1959 **874.2 mmbf**, 1962 **2,104 mmbf**. This amounts to the astounding total extractive volume of primary old growth and mature forest of **8036.9 mmbf (billion board feet)**, and just for those eight particular years alone!

Also germane to the above-cited data is the following statement from the OC EA: *"Aerial photos dating from the 1950s and 1960s show that* ***many clearcut harvests occurred prior to the organization of the BLM in the 1930s, and 1940s****. These harvests continued under the auspices of the BLM from 1946 through the early 1990s.*"[12] This is most indicative of the amount of primary forest removed from this analysis area prior to 1937. The OC EA goes on to state, in the same paragraph:

"*Clearcut units of this period were often broadcast or spot burned, both for hazard reduction and site preparation prior to tree planting. BLM records indicate that upwards of* ***7,000*** *acres within the analysis area were broadcast burned, and upwards of* ***1,000*** *acres were treated by spot burning or pile burning. Figure 3.4 -Prescribed Burning Within the Olalla-Camas Analysis Area illustrates the location of previously burned units in relation to the proposed harvest units.*"

The region-wide **annual average** extractive volume, from **1963 to 1993**, converted more than **900 million board feet** from primary forest to plantations etc, over those three decades. On the Roseburg District alone, **just between the years 1963 and 1993**, reported timber sale quantities amounted to a total of **6,235,897 billion board feet (mmbf)**. Over the same thirty year period, again just on the Roseburg District alone, this level of extraction left a reported **141,498** clear cut acres, and an additional **95,583** acres of partial cuts in its wake, so to speak, for a total of **237,081** acres thereby converted from primary

[12] Olalla-Camas Regeneration Harvest EA, pg. 75

forest to plantation or other stand initiation condition.[13] This converted acreage, just over those thirty odd years alone, represents more than half of the Roseburg District's approximate **420,000** acre total! That figure is more than triple the acreage, which would have been subject to intense logging, if an extractive volume proportionate to the act's original region-wide 500 mmbf cut had been adhered to. This, on the Roseburg District alone, **just from 1963 to 1993**!

In a Portland, Oregon speech delivered by one Walter H. Horning, a principal author and explicator of the 1937 O&C Act, Horning states:

"*It is sound national economy to regulate the use of the forest in such a manner as to maintain a continuous forest cover.* ***This is essential for the regulation of stream flow and for the protection of watersheds and further more it contributes to the general satisfaction and happiness of the inhabitants of a region by keeping the landscape in a green and attractive condition.***"[14] (emphasis, UW)

Given all of the past primary forest extraction by the BLM, and by the past and present clear cut extraction undertaken, on its own lands, by the private timber industry, one must exercise the imagination in order to picture such a "*…green and attractive condition…*" across many of the watersheds of Western Oregon, on the Roseburg District of the BLM; within the Olalla-Camas Analysis Area in general and on the Semaphore Timber Sale in particular. For alas, that wholesome, ecologically healthy, aesthetic condition, the very one envisioned by a primary author, and an original and fully authorized explicator, of the O & C Act, in too many instances does not now exist on the ground.

STREAMFLOW ISSUES

Statements made by BLM, in its denial of UW's protest of the Semaphore Timber Sale, appear to have the

13 Source: Welcome to BLM Facts, https://www.blm.gov/or/onlineservices/orblmfacts.php

14 Price, Frank N., 2005, pg. 5 Protecting Watersheds, Regulating Stream Flow, and Providing Recreational Facilities: The Intent of this Language in the O & C Act, Early Interpretation and Historic Context.

effect of casting doubt on whether past, extensive harvest of primary forest from lands public and private, and its associated impacts across all holdings (in combination with the ongoing, short rotation clear cut monoculture plantation paradigm, so much in evidence on the interspersed private timberlands in this analysis area, along with the ancillary activities associated with that extraction) do not significantly affect hydrology, as well as other critical environmental parameters. (Please see UW Protest of the Semaphore Timber Sale, page 2.) However, in our estimation, **there is no doubt about this in the scientific literature (Perry-Jones 2017[15]) UW has cited in its protest of the Semaphore Timber Sale, and in this appeal**. BLM states the following:

"*After reviewing the OC EA, FONSI, DD, project record, and Perry and Jones (2016)[16], I determine that BLM has fulfilled all of the applicable legal requirements. Differences in assumed evapotranspiration rates in the Perry and Jones (2016) paper (harvest of mature and old-growth forest) when compared to the actual environmental conditions described in the OC EA (60 to 90year old forest) shows that there is no direct correlation of effects that can be applied to the BLM's analysis in the EA. Additionally, even with application of Perry and Jones' (2016) findings, a review of the current conditions and management trajectory* ***for BLM-administered lands*** *shows an overall improving condition due to natural stand development.*"[17]

Yet, nowhere in the preceding two pages of this document is the amount of private land plantation stands in the roughly 15 to 50 year age class disclosed, nor is hard data describing low summer flows disclosed anywhere in any BLM document relating to Olalla-Camas RH or the Semaphore Timber Sale, nor anywhere else in any BLM document we have seen. Instead, this is what the Semaphore Protest Determination Document **40C K2-002 201770612** says:

"*With specific consideration to the effects of young plantations on summer flows, Table 3.2 of the OC EA (p. 25) further discloses that, in 1999, approximately 11,432 acres (45 percent) of the BLM-administered lands in the Headwaters Middle Fork Coquille subwatershed, where the Semaphore Timber Sale units reside, were in the 10 to 50 year age class. This approximates the 15 to 50 year age class in which Perry and Jones (2017) raise concerns about low summer flow. Implementation of the Semaphore Timber Sale would regeneration harvest approximately 265 acres, which represents approximately one percent of the*

[15]Perry TD, Jones JA. Summer streamflow deficits from regenerating Douglas-fir forest in the Pacific Northwest, USA. Ecohydrology. 2017;10:e1790., pg. 11 https://doi.org/10.1002/eco.1790

[16] UW point of clarification: While the Perry-Jones study was first published in 2016, its official publication date is 2017. Both dates refer to the same study.

[17] Semaphore Protest Determination 40C K2-002 201770612, pg. 3

affected subwatershed (OC EA p. 25). As forest stands age, the proportion of BLM-administered lands in young age classes shifts towards older age classes. The figures in Table 3.2 represents 1999 data and, as a result of stand aging, over represents the amount of forest currently in the young age classes (OC EA, pp. 25, 29). Adjusting the data provided in Table 3.2 to the current year provides for an 18-year increase in age resulting in approximately 30 percent of the BLM– administered land in the 10 to 50 year age class.

In order to have the effect that Perry and Jones (2017) suggest, the proportion of stands in the 10 to 50 year age classes would have to increase above current levels. With implementation of the Semaphore Timber Sale, the proportion of the affected subwatershed in the 10 to 50 year age class decreases from the current percentage (approximately 30 percent) to approximately 24 percent, 17 percent, and 9 percent at 10, 20, and 30 years post-harvest, respectively, and continues to decline through time, reaching zero percent 50 years post-harvest (project record: K2). Reasonably foreseeable future actions would have no discernible effect on the proportion of the affected subwatershed in the 10 to 50 year age classes. As such, the effects to low summer flow from regeneration harvest of 265 acres is non-existent at the subwatershed scale and would remain within the range of natural variability assessed for the site scale (OC EA, p. F-5).”[18]

Failing to include the aforementioned low summer flow data, **from all ownerships**, along with stand age data on the adjoining and proximate private industrial timberlands on these watersheds renders the above reasoning somewhat circular, in UW's estimation; circular and, NEPA-wise, of very limited utility in assessing project alternatives. After all, by its own admission, **the BLM manages only 30% of the Middle Fork Coquille Watershed**.[19] Under no credible analysis regime can the current condition of the remaining **70%** be considered irrelevant. Such critical parameters as stand age distribution across all ownerships, low summer flow considered relative to all ownerships, etc. must be analyzed and disclosed by BLM, just as NEPA requires that other relevant data must also be.

Furthermore, the various acreage totals disclosed in several of the tables included in the OC EA, and in certain of the documents denying UW's protest of the Semaphore Timber Sale, are somewhat contradictory, leading to a significant degree of **uncertainty**. **Table 3.2,** on page 25 of the OC EA, treats with BLM holdings only. The individual acreage figures for the **Upper Middle Fork Coquille** disclosed

[18] Semaphore Protest Determination (40C K2-002 201770612), pg. 2

[19] OC EA, Appendix F, Table F.2, pg. F 2

in **Table 3.2**, if totaled, indicate **25,965** BLM acres. On OC EA page 54, **table 3.11**, BLM refers to Lidar surveys from 2008 to 2012, and to Google Earth Data from 2013, but it only refers to "open" acreage (defined as being <30% crown cover) in the snow transient zone. The numbers in this table yield a total of **25,404** acres (i.e., by extrapolating from the stated 103 acres = 0.32% of total watershed). Ownership is not defined but UW suspects that these are just BLM acres. **Table 3.12**, OC EA page 55, speaks to the **Headwaters Middle Fork Coquille River Watershed**. It is credited with **31,518** acres total. **Table 3.12** thus yields **8,799.5** "open" Lidar acres (31,518 x 27.9%). Interestingly, this compares relatively closely with the **8807** acres total **Headwaters Middle Fork Coquille River Watershed** disclosed in **Table F.2, Appendix F, page F 2**. How to reconcile these very similar acreages (**8779.5** & **8807**) with each other? Adding to the confusion, **Semaphore Project File Document 40C K2-002 201770612**, page 2, discloses **25,404** acres managed by BLM in the **Headwaters of the Middle Fork Coquille** (i.e., 11,432 acres = 45% of BLM holdings, as stated by BLM).

What then, is the true extent of BLM holdings in the Headwaters of the Middle Fork Coquille? If we can trust the **31,518** acre figure from **Table 3.12** to be the total of all holdings, public and private, in this watershed, and the **8,807** acre figure from OC EA **Table F.2, Appendix F, page F 2** to be an accurate tally of the BLM holdings here, we then see that this amounts to **28%** [or very nearly the **30%** BLM ownership of the **Middle Fork Coquille Watershed**, disclosed by BLM in the **OC EA, Appendix F, page F 2** (i.e., 59,243 BLM acres as a percentage of the 197,318 acre total)]. Or, are the **25,404** acres said to be managed by BLM, in **Semaphore Project File Document 40C K2-002 201770612**, the actual BLM managed public forestland portion of the **31,518** acre total disclosed in **Table 3.2** the correct pair? In that case, BLM would be managing a whopping **81%** of the acreage across all ownerships, in the **Headwaters of the Middle Fork Coquille!** But a glance at the official BLM map shows this ownership proportion to be quite impossible, as well as being in direct contradiction to the **30%** share stated in the

OC EA Appendix F.

Thus again, if the first assumption is correct (and, from the data provided by BLM, it is hard to be 100% certain that it is), and BLM manages some **28%** of this watershed, where then is the analysis for the much larger proportion of this analysis area that is privately owned? **Lacking this critical data, how in the world is a participant in the NEPA process going to make a useful determination concerning proposed management alternatives? BLM, by its own admission and accompanying data, is far from the only or even the majority manager of timberlands on these watersheds. That is fact. It is not opinion. To satisfy NEPA, BLM must disclose all critical and relevant watershed data accordingly.**

Thus, by any credible measure, the BLM remains a very long way from a total accounting and disclosure of all of the acres in the Semaphore Timber Sale Area, currently in the roughly **15 to 50 year** age class referred to by the Perry-Jones 2017 paper. Is BLM saying, yet again, that the only lands on these watersheds currently including **15 to 50** year old plantations are those managed by the BLM? Or, ignoring consideration of the private industrial forestlands on these very watersheds, that the only lands that can possibly have an effect on peak and low flows, as well as other ecological parameters, within the OC RH and Semaphore, are the public lands it manages? How is that possible? In short, by simple logic, such a truncated consideration is not likely to be seen as credible anywhere on this landscape, or, indeed, at anyplace on this particular planet that we know of. Thus, the closing statement, quoted above, has very limited relevance regarding the low (or peak) flow effects cited by Perry-Jones, when it claims: "…*a review of the current conditions and management trajectory for BLM-administered lands shows an overall improving condition due to natural stand development.*" Which current conditions has BLM reviewed? Current conditions across all of the watersheds involved in Semaphore, or just the smaller portion managed by the BLM? And of signal importance, exactly what are those current low summer flow conditions and how do they compare to a **true historic range of variability**, and not just to the current likely degraded condition, referred to as the "***range of natural variability***" on page 2 of BLM's **Semaphore Project File Document 40C K2-002 201770612**? (A depleted flow condition strongly inferred by Perry-Jones 2017; that study's dire scientific conclusions based on the persistent acquisition of hard flow data by the United States Forest Service for one half century and more).

It is not sufficient for BLM just to **say** it is aware of private land conditions. It must **disclose** what those conditions are, and what effects they will have on hydrological and other ecological parameters. Subsequently, BLM must disclose what effect its regeneration harvests will have on that, the **true** hydrological baseline. By its own admission, BLM administered lands are only **30%** of the total acreage on the Middle Fork Coquille Watershed. **Since the adjacent and proximate private land stand ages have not been disclosed (nor, judging by what has been omitted from the OC EA etc., accurately considered), BLM has no basis, from stand age distribution across these watersheds, for declaring Perry-Jones findings, vis a vis peak and low flows, to be irrelevant to the area of the Semaphore Timber Sale.** That is:

- considering <u>all</u> of the timberlands on the Semaphore Timber Sale Area (as any "hard look" look demands) what percentage has been converted from primary old growth/mature forest to plantation;
- considering <u>all</u> of the timberland acreage on the Semaphore Timber Sale Area, what (at least approximate) percentage is currently in the roughly 15 to 50 year age class?

Again, in UW's estimation, the streamflow questions, especially low summer flows, raised by Perry-Jones can only be exacerbated by other, contextual conditions. The "**Perry-Jones Effect**," if you will, resulting from past extensive conversion of primary forest to plantation (including, as UW points out, across all ownerships) coupled with the continual damaging hydrological and other environmental impacts from imposition of private land clear cuts/plantations within this analysis area; and increasing impacts from climate change create what may rightfully be characterized as a perfect hydrological storm within this analysis area, as elsewhere. Surely, this "witches brew" of dire impacts to aquatic conservation/restoration (very much including the impacts of ocean warming already frighteningly evident from the recent mass bleaching and die off of coral reefs, around the world) ought to attract the attention of every individual, agency and organization involved in and concerned with the NEPA process. A process, wherein **uncertainties**, such as those identified above, need to be clearly **disclosed** and, given the predicted, catastrophic impacts (some currently well known, some not) **assumed to be adverse**. It should also be loudly ringing the proverbial Endangered Species Act alarm bell, a warning mechanism meant to summon consultation with the USFWS and NMFS, at the very least.

A. Peak flows. The Water Resources section of the OC EA (pp. 57-58) relies heavily on the publication: Grant et al (2008). This study does affirm that forest harvest increases peak flows in small steep headwater channels. There are, however, other relevant publications that treat with peak flows, including several more recent ones. (Please see links to studies, below.) From this dearth of references to relevant, up to date literature, UW is forced to conclude that the Olalla-Camas Regeneration Harvest Plan EA **does not reflect the state of the science on peak flow responses to forest extraction and roads**. Judging by the following statement made in the OC EA, it appears to UW that the Grant et al. 2008 study is being used to verify conclusions made from data that is non-existent in the BLM documents relevant to the Semaphore Timber Sale:

"Using his envelope curve for rain-dominated watersheds, Grant determined that if the predicted change in peak flow was less than 10 percent it would be undetectable due to natural variability. His analysis determined that a rain-dominated watershed needed to have over 45 percent of its land base in an "open" condition to result in a peak flow increase above the detection limit of 10 percent."[20]

[20] OC EA pg. 54

That is: there is no way for a participant in this NEPA process to know, reliably or not, from the disclosed data, whether or not a given watershed is currently at, below, or approaching the **45%** “open” canopy benchmark cited above. Why? Because the interspersed private industrial timberland stand ages are not disclosed, as they are for BLM public forestlands; if, indeed, there are stands of any age at all on a given clear cut within the analysis area at any given point in time; (i.e., at <1% “open” condition).

In its **Semaphore Project File Document 90C F3-006 20170207**, BLM makes the following statement:

“*As described in the Olalla-Camas Regeneration Harvest Plan EA (p. 66), increases in mean annual water yield following the removal of vegetation have been documented in numerous studies (Bosch et al. 1982). Vegetation intercepts precipitation and through the process of photosynthesis evapotranspirates water that might otherwise become runoff. Thus, it can be assumed that the proposed timber harvest would likely result in a small increase in water yield and a small increase in summer base flow, in correlation with the removal of a portion of the conifer overstory in the watersheds (Grant et al. 2008).*”[21]

Generally speaking, Perry-Jones 2017 does not dispute the claim, made above, that, normally, there are small initial transient increases in summer base flow following removal of forest cover. **However, the data undergirding the conclusions made in Perry-Jones tell us that, contrary to many past and present claims, summer base flow <u>does not recover</u> in the currently accepted, roughly speaking, 15 to 25 year period. Rather, the hard and continuously recorded U.S.F.S. paired stream data used in Perry-Jones 2017, clearly indicates that in treated streams, where 50% or more of the primary forest in that stream's watershed, has been converted to plantation, summer base flows <u>have not recovered in 50 years</u>, and remain at only half of the flow in the unlogged primary forests, which comprise the watersheds of the various reference streams referred to in Perry-Jones 2017. And, without further data that can only be acquired over a longer time span still, no one knows when such a hydrologic recovery can be anticipated. This finding is absolutely critical to assessing actual current aquatic functioning, or lack thereof. <u>N.B.: within the OC EA, including on the area of the</u>**

[21] Semaphore Project File Document 90C F3-006 20170207, pg. 12

Semaphore Timber Sale, there are few if any watersheds where more than 50% of the historic primary, old growth and mature forest remains. (Please see pages 10, 11 of this appeal.) **Plantations (and clear cuts) are ubiquitous, thereon.**

Additionally, as we have been stating, the much more recent Perry-Jones 2017 study, admittedly unavailable when the OC EA was in development, **was available** and was cited in UW's protest of the Semaphore Timber Sale and now, in this appeal. Likewise, Perry-Jones is repeatedly referred to by the BLM in its various documents relating to BLM's denial of the UW protest of Semaphore.

In response, BLM supposedly addressed this study in its **Semaphore Project File Documents 40C K2-002 2017** and **50C K2-001 2017**. In the former document, BLM makes the following, only partially substantiated, claim; just partially substantiated precisely because it did not disclose the stand age condition of the proximate and adjoining private industrial timberlands, which are by far the larger of the two principal ownerships on these watersheds, public or private. (What is claimed below for the OC EA in this regard is refuted above on page 19, and what is claimed for the Semaphore DD is refuted above, on page 22.) **BLM has not so disclosed. For this reason, its putative "*range of natural variability*" (which applies to natural disturbances and not to the hydrological effects of such anthropocentric management activities as extensive clear cut logging and the introduction of monoculture plantations and numerous forest roads, past and present) is useful only to compare departures from the current depleted flow condition reasonably inferred from the extensive data used in Perry-Jones 2017.**

"The BLM analyzed and disclose the effects of vegetation management on stream flow in the OC EA (pp. 66-67) and Semaphore DD (p. 12). The BLM concluded the project would maintain stream flows within the range of natural variability at the site-scale and hence at the watershed scale (OC EA, p. F-5). The BLM also disclosed that, at the watershed scale, the project would maintain stream interactions with the flood plain and respective water tables within the range of natural variability (OC EA, p. F-5)."[22]

[22] Semaphore Project File Document 40C K2-002 2017, pg. 2

The latter, **Semaphore Project File Document 50C K2-001 2017** strikes a similar note, when it claims:

"*The Semaphore harvest occurs in the Headwaters Middle Fork Coquille River subwatershed, which was analyzed for direct, indirect, and cumulative effects of all ownerships on water quality and quantity (OC EA p. 56-69 and Appendix F).*"[23]

Pages 56 to 59 of the OC EA most assuredly <u>do not</u> disclose analysis of these parameters across all ownerships! Nor does Appendix F disclose any specific stand age condition for the preponderance of these watersheds that is privately owned and managed under the environmentally retrograde Oregon Forest Practices Act (retrograde, as compared to the environmental safeguards present on public forestlands). UW strongly maintains that the absolutely relevant Perry-Jones 2017 study cannot be declared irrelevant to the OC RH and to the Semaphore Timber Sale, etc. by the BLM using data that is said by BLM to be disclosed in these and other documents, but which, in fact, is effectively non-existent, therein.

Again, in making the following statement, the BLM appears to be in denial about the clear cut condition of so very much of the private industrial timberlands in the Olalla-Camas RH analysis area in general, and the Semaphore Timber Sale area in particular: *"Without changes in vegetative cover, there would be no change in canopy interception of precipitation, or in the magnitude or rate of surface water runoff and delivery to the stream network that could influence peak flows.*"[24] Publications show that timber harvest is associated with increases in peak flows in both rain and rain-on-snow events (Perkins and Jones 2008, Jones and Perkins 2010).

And, by any credible measure, there are, have been and continue to be considerable "… *changes in vegetative cover…"* by way of clear cut timber extraction in the immediate vicinity of the Semaphore Timber Sale. (Please see page 13 of this Appeal for a two year old, yet still quite revealing google earth

[23] Semaphore Project File Document 50C K2-001 2017, pg. 1

[24] OC EA pg. 58

view of this fact.)

Also, in UW's estimation and experience, it is misleading to divide a watershed into “rain” and “rain-on-snow” regions, because the area affected by rain vs. rain-on-snow events changes over time. Even a single watershed may experience rain, rain-on-snow, and snow peaks, with the boundaries of these regions shifting up and down in elevation. (Perkins and Jones 2008, Jones and Perkins 2010). We are informed that, in the past, scientists talked about rain, snow, and rain-on-snow zones as though they were fixed by elevation boundaries, which was, perhaps, a helpful way to think about forest management effects at the time. More recently it has become clear that these zones shift up and down from day to day during any given winter depending on air mass conditions. This is discussed in Jones and Perkins (2010) and Jennings and Jones (2015) but also acknowledged as a difficulty in modeling future flood risk. (See: http://onlinelibrary.wiley.com/doi/10.1029/2006WR005099/full)

Some recent publications based on analysis of data (including from Coyote Creek) about peak flows, are provided below. The Grant et al (2008) cited on page 57 of the OC EA and other relevant studies (e.g. Harr et al. 1975) cited elsewhere, have been updated by papers using longer records from the same watersheds Harr studied;. Please see

Jones and Grant 1996, https://andrewsforest.oregonstate.edu/publications/1529

Wemple et al 1996, https://andrewsforest.oregonstate.edu/publications/2314

Jones 2000, https://andrewsforest.oregonstate.edu/publications/2567

Jones et al 2000, https://andrewsforest.oregonstate.edu/publications/2634

Wemple et al 2001, https://andrewsforest.oregonstate.edu/publications/2731

Wemple and Jones 2003, https://andrewsforest.oregonstate.edu/publications/3170

Perkins and Jones 2008, https://andrewsforest.oregonstate.edu/publications/4276

And Jones and Perkins 2010, https://andrewsforest.oregonstate.edu/publications/3089

B. Low flows

UW quotes the following seminal conclusion from the Perry-Jones 2017 study of long-term paired stream data acquired by the United States Forest Service

"Long-term paired-basin studies extending over six decades revealed that the conversion of mature and old-growth conifer forests to plantations of native Douglas-fir produced persistent summer streamflow deficits of 50% relative to reference basins, in plantations aged 25 to 45 years. This result challenges the widespread assumption of rapid "hydrologic recovery" following forest disturbance. Widespread transformation of mature and old-growth forests may contribute to summer water yield declines over large basins and regions around the world, reducing stream habitats and sharpening conflict over uses of water."[25]

However, other than the following statement, the Olalla-Camas RH EA **does not address the issue of low summer flows at all**: *"With little or no snow pack and infrequent rainfall, stream flow in the summer is typically a fraction of winter levels and many headwater channels retreat to subsurface flow."*[26] That's it: no tables disclosing current low flow data, nor data indicating historic low summer flows are discovered or disclosed. In lieu of actual hard historic data, if modeling has been done or acquired by BLM, in order to establish a credible baseline founded upon actual conditions on these watersheds, as they existed before the mass conversion of primary forest to plantation etc., it has not been disclosed in the OC EA etc. Such modeling could establish a **true range of historic summer low flow variation** as opposed to BLM's use of the current degraded and depleted hydrological condition for a baseline from which to assess the impact of BLM's extractive proposals, as well as to assess the impacts of the ongoing clear cut extraction practiced on the intervening private timberlands. UW infers this depleted hydrologic condition from the

[25] Perry TD, Jones JA. Summer streamflow deficits from regenerating Douglas-fir forest in the Pacific Northwest, USA. Ecohydrology. 2017;10:e1790., pg. 11 https://doi.org/10.1002/eco.1790

[26] OC EA pg. 54

difficult to refute data in Perry-Jones 2017, the latest, the best and the longest-running data-driven scientific word to date on the subject.

Regarding its refutation of the relevance of the Perry-Jones study to its management proposals, especially vis a vis low flows, again, it appears to UW that the EA cites the literature selectively and misinterprets the literature. To wit, two points:

1) Regarding what is claimed for the Moore and Wondzell 2005 study, thus: "*Retention of riparian buffers help preserve stream-aquifer interactions (Moore and Wondzell 2005I), therefore the BLM does not expect the effects Perry and Jones (2016) documented to occur and the project would maintain stream flows within the range of natural variability at the site-scale and hence at the watershed scale.*"[27] It is important to note that Moore and Wondzell (2005) did not state that riparian vegetation **alone**, **or even principally, affects evapotranspiration (ET)**, merely that riparian vegetation appears to have important effects on ET. (Interestingly, the studies that Moore and Wondzell (2005) cite in support of this assertion were from Eucalyptus watersheds in Australia, forests that are quite a bit farther from Coyote Creek than those in this analysis area.) For the record, Perry and Jones 2017 includes examples of patch-cut watersheds as well as clearcut watersheds (in Coyote Creek on the South Umpqua Experimental Forest and on the H.J. Andrews Experimental Forest), all of which experienced low summer flow deficits, even though these watersheds had very diverse riparian zones, **indicating that riparian zone vegetation does not control the overall streamflow response**.

2) The EA assumes that the summer streamflow deficit effect is limited to stands aged **15 to 50** years old (25 to 45 in the excerpt from Perry Jones above, but close enough for these purposes), but this is counter to what is stated in Perry and Jones (2017). That paper showed that the summer low flow deficits peaked at a stand age of 50 years after harvest (**which are the oldest post-harvest stands existing in paired**

[27] Semaphore Project File Document 50C K2-001 2017, pg. 2

watershed experiments that UW is aware of). Control watersheds remained at 150 to 500 years post-disturbance. **Perry and Jones (2017) state that deficits increased as stands aged from 25 to 50 years (approximately)**. **However, there is no indication, in that study, of a reduction in the low flow deficit in stands aged 50 years. In fact, there was no reduction in low flows in such stands.** Hence it is reasonable to infer that stands older than 50 years also produce summer streamflow deficits. Thus, an analysis of the percent of land in the 15 to 50-yr. age class in the Semaphore Timber Sale area (as described in **Semaphore Project File Document 40C K2-002 2017**, page 2, and in **Semaphore Project File Document 50C K2-001 2017**, pages 2 & 3) underestimates the potential area affected by summer streamflow deficits. **No indication is provided in Perry and Jones (2017) of the age of stands at which the summer streamflow deficit might disappear, relative to mature and old-growth forests (but it could be at least several decades beyond 50).**

Again, and perhaps more confounding, the **Table 1 on page 3** of **Semaphore Project File Document 40C K2-002 2017**, only takes BLM lands into consideration. Is BLM saying, yet once more, that the interspersed and considerably greater amount of private timberlands in this analysis area, many clear cut and/or in various early growth stage plantations, have no detectable bearing on the relevance of Perry-Jones to current or projected hydrological conditions on these watersheds? How can that possibly be?

As a matter of fact, in its implied denial of the applicability of Perry and Jones 2017 to the OC RH area in general; or of its denial, in fact, of Perry-Jones' relevance to the Semaphore Timber Sale, BLM does not discuss the hydrological and other impacts of the past massive extraction of primary forest on public and private lands at all. (For a discussion of this history on public lands, please see this appeal, pages 13 & 14.) Nor does the agency consider the effects of repeated resource extraction, except in passing, represented by the on-going private land clear cut assault on watershed function, conducted under aegis of the OFPA, on those interspersed private timberlands. Although the Perry-Jones 2017 paper strongly supports the conclusion that the past conversion of primary old growth and mature forest is a prime cause of ensuing low summer flows in the treated streams, whose data it examined, excerpts from BLM's OC EA, such as the following off hand remarks, are about as far as BLM appears to be willing to go in acknowledging the impacts of adjoining and proximate private industrial clear cuts and heavily restocked monoculture plantations, forest roads, etc. to hydrological and related riparian functioning and sustenance, and/or recovery, of aquatic conservation species on these watersheds, overall, let alone upon the interspersed public forest lands managed, in trust, by the BLM:

"*Stream reaches that are currently thermally impaired, principally due to reduction and removal of riparian canopy on privately-managed timber and agricultural lands, are likely to remain so.*"[28] **and** "*Critical habitat would continue to be indirectly affected, however, by existing watershed conditions and management actions on Federal and private lands unrelated to the proposed action.*"[29] **and** "*There would be no direct effects to critical habitat for OC coho salmon, or Essential Fish habitat, although both would be indirectly affected by existing upstream and downstream conditions and unrelated land management activities on both Federal and private lands within the watersheds.*"[30]

Again, while the above and similar statements, made by BLM, *seem* to indicate that it has *noticed* the ofttimes environmentally draconian activities "next door" in the checkerboard, BLM does not appear to acknowledge the deleterious impacts of these conditions on flow or on the overall environmental health of the adjoining and proximate public lands (Please see UW Protest of the Semaphore Timber Sale, page 2.); nor to offer any credible, long or short term data on low summer flows **across all ownerships**, no less offering a modeled base line of what historic flows were before the mass conversion of primary forest to plantation or other stand initiation condition in this analysis area took place, on forestlands, public and private. On pages 6 & 7 of **Semaphore Project File Document 30C K2-003 20170613**, BLM states the following: "*The BLM takes a "hard look" when the NEPA document contains a "reasonably thorough" discussion of an action's environmental consequences, and the agency can make an informed decision about whether there are any significant environmental impacts.*" By **not** containing a "***reasonably***

28 OC EA pg. 58
29 ibid. pg. 65
30 ibid. pg. 57

thorough" look at the stand age conditions on the adjoining and proximate private timberlands on the watersheds of the Semaphore Timber Sale; i.e., by not providing such data for private holdings comparable to that provided in its various tables for the public lands managed by the BLM, the requisite "hard look" has clearly not been taken. Here, in point of fact, is what BLM claims for its "hard look":

"*The OC EA states that the project's purpose is to implement the Roseburg District RD/RMP (OC EA, p. 2) and properly described* ***baseline conditions*** *in the description of the affected environment in Chapter Three. The BLM* ***projected the estimated current condition on private lands based on the current and past practices being used by private industrial landowners****…*"[31] (emphasis UW)

In UW's studied view, BLM's projection of estimates based on current and past private land management practices (i.e., under aegis of the OFPA) amounts to little more than guess work. Projected estimates compare poorly, if at all, with the kind of solid, long-term U.S.F.S. data, which supports the conclusions of the Perry-Jones 2017 study. In other words, when using an assessment metric like that quoted above, BLM's rejection/refutation of Perry-Jones 2017 amounts to not much more than opinion; opinion that is quite unsupported by the latest science, current low flow data, past records of same; or, in the absence of reliable past low flow records, of historic base line modeling, either on landscape-wide hydrological units or, by g.i.s. etc., at the project scale. Considering the widespread and potentially dire consequences of persistent low summer flows to aquatic functioning, this is unacceptable. **Uncertainty** is clearly evidenced by the complete absence of supporting documents containing hard data comparable to that in Perry-Jones, in BLM's attempted refutation of the relevance of Perry-Jones 2017 to the Semaphore Timber Sale.

From this, in effect, the BLM appears to characterize, and to accept, the potential impacts of the Semaphore Timber Sale management proposal as being **adverse change from present condition**. That

[31] Protest Response Document 30C K2-003 20170613, pg. 2

is, BLM seems to hold that projected departures, if any, from that presently impaired low summer flow condition, a depleted condition strongly inferred by Perry-Jones 2017, are the only metric by which the potential environmental impacts of BLM's management actions are, and will be, assessed. However, Perry-Jones and simple, logical, common sense, as well as environmental integrity, indicate to the objective observer that the true impact of certain of BLM's proposed management actions on this watershed (e.g., the creation of still more relatively large openings on the public lands it manages, these openings in addition to existing and future large clear cuts/plantations on adjoining and proximate private forestlands in the analysis area) amounts to **the worsening and/or perpetuation of the present highly degraded, flow-depleted condition**. (Which, it stands to reason, might very well be a large part of why small-stream-reliant, cold water dependent species like coho salmon, although ESA listed, and the object of numerous riparian restoration efforts, are failing to recover to a truly reliable and sustainable degree; why spring chinook salmon have been, or are, largely extirpated from the Middle Fork and other branches of the Coquille River, as well as from the South Umpqua River; and why warm water species, such as bass, continue to colonize farther and farther up the forks of the Coquille, the South Umpqua and other area rivers.)

Therefore, UW sees no alternative except to state that a significant potential impact of this, and similar timber sales, **must be the prevention or retardation, by BLM (as well as by private industrial timberland owners), of the recovery of listed species and their requisite habitats**. And from this, UW is compelled to conclude that (at the least), where low summer flows are concerned, the BLM is violating the Endangered Species Act. In this regard, UW is especially alarmed that, as stipulated by the ESA, the BLM has failed to consult with the USFWS and the NMFS concerning the very reasonable likelihood that this analysis area (as is likely true of similar heavily logged watersheds in Western Oregon) **is, and has been, suffering from chronic low summer flows**, much to the detriment of many if not all aquatic species. From this scientifically supported conclusion, UW finds itself compelled to state that, by any truly useful measure, these watersheds are not now, nor have they been effectively protected in past decades; neither have streamflows, in general, been responsibly regulated, both parameters having been specifically and unambiguously included, of apparent environmental necessity, in the language of the 1937 O&C Act that was debated and passed by the Congress and signed into law by the President of the United States of America, Franklin D. Roosevelt.

Particularly, in regard to summer flow deficits, Perry and Jones (as likewise in its finding that *peak flow increases are sustained for at least 50 years*) also flatly contradicts the unsubstantiated modeling assumptions of general hydrologic recovery that the BLM, the Forest Service, the timber industry et al. have used widely, and repeatedly, in cumulative hydrology effects analyses.

Although it remains very true that peak flow increases **as well as the long standing problem of sedimentation resulting from timber extraction and its ancillary activities across all ownerships** are important and have rightly received much attention in the literature, and nearly all of the attention in NEPA documents, UW believes that peak flow is less significant, hydrologically speaking, than low flow depletion. UW takes this view simply because peak flow increases represent a relatively small increment of change over peak flows from mature forest watersheds, and are sustained over a much shorter seasonal period than low flow depletions, which can (and, as Perry-Jones 2017 reasonably implies, apparently do) persist from late spring through the summer and well into the autumn months, in a Mediterranean type climate, largely lacking summer rainfall, such as that of Western Oregon.

Also, as discussed in UW's Protest of the Semaphore Timber Sale (Please see pg. 10, of that protest.), low summer flows have especially dire aquatic implications for the various critical TMDL parameters monitored by the Oregon DEQ; several of which parameters in this analysis area, as we have also noted, are already 303d listed as being impaired by that same ODEQ. Referring to the **OC EA Table 3.13**, page 56, one sees that the Middle Fork of the Coquille River is Oregon DEQ 303(d) listed for: "*various parameters including: dissolved oxygen, pH, sediment and temperature.*" (From our experience, having volunteered on the ODEQ citizen advisory panel for TMDL on the Coquille River, we well know that dissolved oxygen and temperature, as well as bacterial counts and toxic algae blooms are all affected, whether directly or indirectly, by low summer flows.)

As indicated above, several of the statements made by BLM concerning streamflow, in the OC EA, indicate to UW that hydrological science, as cited and interpreted in that EA, remains limited, selective, and in some cases appears to be inaccurate. As a result, the decision maker(s) and the public may well continue to be misinformed about the intensity of adverse cumulative impacts of regeneration harvest with regard to peak and low flows. Therefore, it is UW's reluctant conclusion (precisely because large, even predominant portions of the stand condition and streamflow/hydrology information, across all ownerships, in the EA, as in BLM's documents specific to its denial of UW's Semaphore Timber Sale Protest, are not disclosed) that BLM's refutation of Perry-Jones' 2017 relevance to the Semaphore Timber Sale is selective and/or based on conjecture and not on the best and most up to date available science. Thus, UW asserts that the fundamental purpose of the National Environmental Policy Act (i.e., to accurately inform decision makers and the concerned public) has been, in the process, prevented. In that vein, it was and is UW's informed position, and we respectfully state, that if science is used in an EA, or in a protest denial, care needs to be taken that it be interpreted accurately and completely and, at the very least, all significant implications of that research for ecological functioning, including low summer flows across given watersheds, regardless of ownership, must be fairly and completely assessed. The effects and potential effects to salmon habitat and fish populations, ESA listed species recovery, domestic water supply, and irrigation from the chronic 50% depletion in summer low flows, as inferred from Perry-Jones

2017, that inference so clearly articulated and so well supported by the highest quality and longest running U.S.F.S. data, must be accounted for in the BLM's analysis of the Olalla-Camas Regeneration Harvest Plan EA in general, and in the decision documents related to the Semaphore Timber Sale, in particular. Anything less must be seen as a subversion of the sacred trust placed in the BLM and the Department of the Interior, by the Congress and the people of the United States of America.

Sincerely,

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