



State of Washington  
**DEPARTMENT OF FISH AND WILDLIFE**  
Lands Division, Okanogan County Wildlife Areas

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RE: DNS 15-065: OKANOGAN COMPLEX FIRE FOREST MANAGEMENT

Below is my response to the comments submitted to WDFW regarding DNS 15-065 from Conservation Northwest. In quotations is each of the original comments for reference, followed by a response.

*“1. Introduction. This was a mixed severity fire occurring in a fire regime that should have been low severity. The range of severity in the DNS was from unburned to high severity with units directed toward areas that experienced high severity. We would like to see more specific description of the fire and add that it was the Lime Belt part of the Okanogan Complex Fires that is being treated. It would be appropriate to describe how firefighting and prior conditions may have contributed to the conditions at the time of the fire if they did. This would better explain and help to justify whether the treatments will accomplish goals 1, 2 and 5 above.”*

To clarify, the project units were not directed specifically at units that experienced high severity, but at areas where post-fire thinning would aid in accomplishing the outlined goals. Throughout the units there is a wide mix of fire severity, as pictured in the Figure 2 you included as an example. Due to the patchiness of severity, the marking prescription was applied based on field in-situ conditions present per acre, not per unit.

Stocking levels in the stand were above the historic stand density prior to the Okanogan Complex. Surface fuels had not been burned in most places since the initiation of the understory stands. The fuel and stocking conditions provided the surface intensity and ladder fuels to promote tree torching, and in many cases also provided crown closures that enabled crown fire and high mortality. WDFW has been systematically working on thinning these stands to reduce the stand density and applying prescribed burning to re-introduce fire into these landscapes and reduce unfavorable outcomes post-wildland fire, but the project units had not been treated or not had treatment completed prior to the fire. Suppression activities impacted the fire area in two primary ways. Many dozer lines were installed with the hope that they would provide “Check lines” for the fire. However, in most cases the fire spotted across these lines when encountered and were ineffective. These lines impacted the soils by removing the A horizon. The second major impact was the use of burning out fire lines. In some cases these operations were successful. In other areas the burnout transitioned into a high intensity head fire that caused high tree mortality.

*“2. Improve survivorship. We agree that it is appropriate to favor better survivorship in future fires. This should also be tied this to natural seeding and regeneration, which will cause a pulse of vegetation over the next decade, along with increased fuel hazards that nature would take care of with a follow-up burn. Ignoring this we just repeat the same old problems that led to the fires.*

*Added comment 2.b. We also note that significant areas within the project area are not forested or the forests are invading shrub steppe. We discussed this on a call and agreed that there should be an exemption from strict interpretation of stocking guidelines in some of these areas.”*

WDFW is seeking to include prescription fire as a management tool on these wildlife areas, to continue to manage the regeneration and stocking density of our forest habitat in the short and long term. We recognize this as a priority in these landscapes to keep fire present. In addition we are continuing to work with WADNR Forest Practices constantly to maintain the quality of our forested habitat, to maintain a more historically normative density and fuel density, and to reduce meadow encroachment in historically non-forested areas.

Although large woody debris will increase in the fire area over the next fifteen years due to snag attrition, flammability, other than grass, it will not increase soon. It is the intention of WDFW to monitor the fuels conditions over time and request grants to conduct scheduled underburns over time to continue to manage the fuels and stand with controlled fire.

*“3. Goal to favor survivorship by reducing post-fire bark beetles. Goal 3 to reduce future bark beetle infestations is at odds with goals of the Washington Department of Fish and Wildlife. Admittedly this is a complex issue and therefore detailed explanations need to be provided. Temporal issues are very important over the course of an infestation. What is true one year won't necessarily be true the next. For instance, the 2014 Carlton Complex fires did not have the really bad bark beetle attacks in comparison to say, the 2006 Tripod Fire. Bark beetles are an*

*important and necessary part of the ecosystem. They are the decomposers that break down wood and create soil. They are the primary source of food many species, e.g., the black-backed woodpecker, which is highly dependent on having high mortality fires for its survival. The picture provided to justify the reduction of bark beetles showing pitch tubes appears to show a tree that is too late to save; therefore if that is typical of these stands then beetle reduction is already a moot issue. There are silvicultural options that could accomplish this goal without logging, for instance favoring a species that is less susceptible to whatever beetles become abundant or favoring deciduous species (including aspen, shrubs and grasses). This could also result in leave trees retention patches being chosen from already dead trees, and using Individuals, Clumps and Openings marking (ICO) to determine where patch retention should be favored over retaining individuals. In any case, there needs to be a more quantitative presentation of the monitoring results for beetle presence and trends.”*

We recognize that bark beetles are a natural part of a forested ecosystem, playing a role in the forest succession and food chain for wildlife species. While it is believed aggressive wildfire suppression and a lack of active forest management have created stand conditions favorable to higher than historically normal bark beetle populations following wildland fire, it is true other factors can have an effect on the timing and severity of infestations. However, there is an abundance of burned forested acreage on the WDFW Okanogan Lands Complex that is not receiving treatment where the habitat for beetles and the participants in their food chain will be unchecked by thinning activities. This project represents a small acreage where we are seeking to have a higher chance of survivorship among fire-stressed live trees by reducing the availability of bark beetle habitat in and around the vicinity. The picture shown in the project proposal was intended to show an example of beetle presence for anyone unacquainted and not intended to represent a “typical” condition in this project area.

Due to the lower elevation and dry climate of the project area, unfortunately Ponderosa pine is the most dominant coniferous tree species that does well. In addition to being more fire-resilient than Douglas-fir, the other species found here. Favoring Ponderosa pine will result in a more historically normal forest habitat, and where alive is retained in a spatially heterogeneous pattern with “ICO” in mind to reduce cross-canopy beetle movement. The hardwoods, such as Quaking aspen, are already being favored over Ponderosa per the prescription and will continue to be encouraged as part of the wildlife area management.

Heavy monitoring of beetle presence is not currently feasible under current funding sources, but it has been noted to be a request for future similar projects.

*4. Improve wildlife access by selectively removing coarse woody debris (CWD). We are in favor of this part of the suggestion but would rather see the CWD left on site for habitat needs. Logs and snag jackpots are used by animals as shelter, food and nutrient cycling. If wildlife are truly being impeded, there should be monitoring to justify this objective. The purpose and need should describe what species will benefit and what species might not benefit (for instance those that use logs that are not retained) and if so there should be a mitigation component. We would favor an increase in bighorn sheep range as a part of this objective.*

*We would like to see a description of plans in case wildlife or cattle become a problem in these units, perhaps because they have been relocated to other sensitive areas while this area recovers or perhaps because they are using the area too soon after the disturbance.”*

In case it is currently unclear, we are not intending to remove trees currently on the ground, but remove standing snags. Snags that are retained and retained live trees that do not survive the post-fire stress will contribute to future CWD density on the ground and habitat needs for standing snags. If untreated, the current number of snags and coarse woody debris could occur at unnatural levels, and fire would have to be returned at more frequent intervals to compensate. In addition, as mentioned above, the project area represents a relatively small acreage of burned forest habitat, the bulk of burned areas that are not being treated ensure that there is an abundance of snags and woody debris to be used by animals as shelter, food and nutrient cycling.

WDFW restricts grazing permits following wildfire for at least one growing season, and in addition the project area does not have grazing permits on it. If cattle are found in these areas WDFW will work with the owner to have them removed as soon as possible.

We do believe that this project will contribute to improving available big horn sheep habitat. A study done (see attachment) on the Sinlahekin Wildlife Area best addresses the need for open, unimpeded spaces for bighorn sheep forage: *“Because bighorns are habitat specialists, requiring open areas that provide forage adjacent to steep, rough terrain for security cover, suitable habitat is naturally patchy and limited compared to that of other ungulates (Bailey 1980, Toweill and Geist 1999). Bighorns rely on open habitat (Toweill and Geist 1999) for predator detection and visual communication (Risenhoover and Bailey 1985) and have been found to forage more efficiently in open areas because they spend less time being vigilant, surveying their surroundings for predators or visual cues of other bighorns alerting them to predators (Bailey 1980, Risenhoover and Bailey 1980, Risenhoover and Bailey 1985).”*

*“5. Safety and access issues. The use of directional fell-and-leave logging should stay in the prescription tool box. If summer ground-based logging is to be used then dozer-piling could produce unacceptable impacts to the soils which are very sensitive to disturbance following fires. At the least there should be designated skid trails and areas protected from any soil disturbance, including walking.*

*5.b. Soil disturbance. Restoration funds should be requested for this project and used to help pay for hand piling, which should wait at least a year until the soil has healed. Ground-based mechanical piling and yarding requires a lot of mitigation like yarding over the logs, designated skid trails and low-impact equipment. Note that low-impact equipment can be hard to find. Tonasket Ranger District has a rubber-tracked forwarder that Matt Marsh obtained and it might be available for this project. If this area is logged over frozen ground or 2 feet of snow, this would mitigate a large part of our concerns about soil disturbance. “*

Direction fell-and-leave is planned for hazard tree management areas outside this project area where dead trees created by the Okanogan Complex present a danger to public safety. While it is not planned to be utilized as part of this project, the value of the practice is not forgotten.

To the degree possible skid trails will utilize existing skid trails from previous logging operations. Areas protected from soil disturbance are predominantly Equipment Limitation Zones around streams and “skips”, and Wetland Management Zones and Riparian management Zones that have already been bounded out of the project area to protect streams, wetlands, and lakes from soil disturbance. The project will operate on snow and frozen ground when available and utilize other soil protection techniques like operating on slash beds as you mentioned.

If possible, we intend to favor underburning the project area when some of the negative impacts of the fire itself had had a chance to recover and when fuel conditions will support a maintenance burn. Piles to manage logging slash are planned to be burned to the degree possible in the winter following the sale to allow curing and to burn over frozen ground to reduce soil impacts. We will take into consideration seeking low impact equipment for piling or funding for hand piling.

*“6. Detailed prescriptions. We appreciate the detailed prescriptions for the project. Can you explain why you are focusing on retaining ten-inch diameter trees? How about focusing on the largest trees? The project should add that trees and snags with woodpecker holes should be retained even if they are not as sound. There should be snag and log targets.”*

The portion of the prescription you are referring to is the “high mortality areas” requirements for “Wildlife Retention Trees” aka snag targets where live trees are not present. It focuses on retaining snags at least 10” in diameter, and marking was done to focus on larger, sound trees where available. “Wildlife value” should be interpreted as retaining trees where wildlife was evidently utilizing or was likely to utilize the snag in the future due to desirable features.

*“7. Historic range of variability. If you are going to justify this project based on meeting the historic range of variability (HRV), then you need to be prepared to treated the area more frequently. A number of recent land management plans indicate that more frequent burns, even as often as 10 years, may be necessary to mimic this fire regime (personal communication Mark Morris, Tonasket District, regarding the Lyman Lake controlled burns). Also, single burn treatments without thinning may not actually accomplish fuel reduction sufficient to make a long term difference.”*

We agree with the need for re-burn across our Okanogan County landscape to maintain the HRV, especially paired with thinning treatments. While not officially part of this project, we are seeking to utilize fire on a more frequent return interval as part of WDFW land management in Okanogan County. It is not likely to exceed ten years, unless adequate funding cannot be secured, sociopolitical issues arise, or if future assessment determines different re-burn needs.

*“8. Natural regeneration plantings. We appreciate the use of an alternative replanting procedure that will be more in line with the fire regime and historical vegetation, realizing that a long term reconciliation of policy and ecology still needs to occur.”*

We agree with this statement and will continue to work with WADNR on replanting to meet our ecological goals.

*“9. Sensitive plants. Speaking from my experience as a botanist, I have found that most TES plants benefit from fire and post-fire landscapes, but it is ground disturbance, weed invasion and short-term grazing impacts that are the big threat. Please address noxious weeds, and particularly how are you going to ensure that hounds tongue doesn't go ballistic. We are aware that St. John's wort is well established and not practical to try to eradicate, however you should make an effort to acquire some new populations of Chrysolina beetles every few years to renew their genetic ability as St. John's wort herbivores. I recommend discussing whether it might be worthwhile to reintroduce the native strain of Hypericum formosum var. scouleri, which is supposedly native here.”*

Wildlife Area Managers are planning to approach managing weeds following this past years' fires the same as the Carlton Complex. Beginning in early March, WDFW will treat a variety of invasive species early before taking hold, prioritizing disturbed areas such as bulldozer fire lines, logging, etc. Species that are biennials (thistle sps. for example) should be high on the list this spring. Following treatments need to happen throughout the spring and summer. Survey and control would continue the following year(s) as well. Treatments are mostly accomplished via herbicide but can be done by pulling and digging as needed.

WDFW is also working with the WSU Extension Office in Puyallup in re-introducing biocontrol agents following wildfires. As well as *Chrysolina*, we are also releasing *Larinus minutus* for diffuse knapweed and *Mecinus janthinus* for Dalmatian toadflax to name a few. WDFW provides funding for this specifically through a contract and focus is being put on these areas affected by wildfire.

*10. Seed mixes. Please publish the species mix of native plants and consider planting at least 2 times or even three in case of a hot summer like this year when germination doesn't occur. Make sure that you actually get the certification from Washington Department of Agriculture that all mixes have been assayed and are actually 100% free of noxious weeds.*

The native re-seeding mix includes: bluebunch wheatgrass, idaho fescue, sandberg bluegrass, and blue wildrye. Depending on the site, application strategy, and availability it may also include sand dropseed, snowy buckwheat, bitterbrush, silky lupine, basin wildrye, bottlebrush squirreltail, and possibly others. It is unlikely that we will plant more than once, but will take it into consideration if germination is an issue.

WDFW is working on a new policy where not only we are using 100% noxious weed-free native seed but we're also using site specific biotypes which take into account specific ecoregions and climatic forb and seed zones.

*The following comments were developed after our initial discussions.*

*11. Aspen Prescription. We appreciate the retention of all pre-settlement conifers. In areas where there are no pre-settlement conifers present, you should consider retention of 1 to 5 trees / acre of mature conifers (100-150 years) for old growth recruitment trees.*

We agree in this case due to the fact that a large portion of the project area is missing the older cohort due to pre-WDFW ownership management. Though it will be considered case-by-case, retaining 1-5/TPA of mature conifers for old growth recruitment is an excellent suggestion for this specific project area.

*12. Introduction. The disclaimer that “no subsequent re-entries are anticipated” should not be interpreted that thinning through controlled fire will not be considered on a more frequent basis.*

Agreed.

*13. Fire severity. Conservation Northwest looked at soil burn severity maps produced by the Forest Service BAER, and Okanogan Soil Conservation District BAER teams as well as our own in-house mortality determinations based on the normalized difference vegetation index (NDVI). The first two severity maps are compared in Figure 1 and the third (mortality map) is shown in Figure 2 overlaid on the northwest project units. All three maps are similar and indicate that the units experienced both high and low severity fire.*

Please see response to comment 1.