1. **To fully understand the significance of the problem, the Board asked that CAL FIRE bring forward some measure of how often fire suppression efforts are impacted by untreated slash following timber operations.**

**LMU** - Over the past 10 or more years, the Unit has increasingly been finding that wildland fires that burn into treated stands that have clearcut units with heavy fuel loading are resulting in ever increased fire behavior. Most recently, the Hog Fire and the Dixie Fire are examples of fires that can be cited. The Hog fire was expected to be caught at just over 300 acres. The Incident commander ran the fire toward clearcut units with the intent of running the fire out of fuel. The clearcut units instead had significant quantities of dead fuel slash from in-unit mechanical processing that served as an immediate receptive fuel bed and resulted in losing control of the fire with both long-range spotting and increased fire intensity. This fire threatened a community. Air tanker support was ceased as it was of no effect. During the Dixie Fire, on one ownership, top piles were present that resulted in long-range spotting and dramatically increased fire activity. The result was long-range spotting in conjunction with wind that carried fire over several contingency lines and an established 600-foot wide fuelbreak. In both circumstances cited, the dead fuels were not within the defined Hazard Reduction Zone and there was not a community immediately adjacent at that point on a map.

Residual slash left following timber operations has increased fire severity and resistance to suppression and can lead to changes in suppression tactics due to fuel loading and/or a receptive ember bed leading to spot fires ahead of the main fire. Post-fire residual slash that has not been fully consumed by the fire can lead to reignition.

**NEU** - On the Mosquito Fire, a Unit Inspector did observe slash issues in clearcut units causing significant control challenges and demand for greater resources to address the control challenges. Hand crews simply could not work through the numerous down dead dried logs and trees such that direct control was not possible and indirect methods were required. Also, burning out was made difficult due to large amounts of large diameter logs. Ultimately the delays in control allowed the fire to spot ahead and all effort was lost.

**BTU** – The Units Vegetation Management Program (VMP) Battalion Chief (BC) frequently supervises divisions on large fires. He reports that residual slash has made plantations less favorable locations for fire lines since timber companies have stopped burning their clearcuts.

**TCU** - The only incidents known to have been impacted by slash were:

- During the Pondosa Fire in 2012 in Shasta and Tehama Counties, I saw instances of red slash from recently thinned and pruned plantations significantly increase fire behavior. Slash mitigation was not enforceable on these areas because the plantation areas had been written off for stocking 3-5 years prior.

-During the Hog Fire in 2020, we observed evenaged units where slash had been deep tilled into the soil. These areas repeatedly re-kindled as oxygen blew into the smoldering buried material. None of the current slash mitigation FPRs prohibited this.

**HUU** – The Unit has had problems with slash piles being lit at the wrong time by landowners and arsons.

From 2017 to 2020, three separate arson fires were started off Bald Hills Road, a paved public road connecting Highway 101 to the Yurok Reservation at Martins Ferry. Hazard reduction along the road met the minimum standards in all three cases, which consisted of mechanically piling the slash generated out of the 100-foot hazard reduction zone. The landowner is an even age management company and by nature a lot of slash is generated. Slash piles are compounded by cut to length processors that leave many piles through the units. Most units in the area are full of tan oak (30%+/-) which has a small market and is generally limited to haul distances. The largest fire was 5 acres.

In 2020, a Unit representative spoke with the company after fire suppression response and requested they burn the piles they create along Bald Hills Road, as it is becoming an issue as well as causing the landowner to replant the burned areas. The landowner recognized the issue as well and put in the effort to mitigate future arson and burned all the remaining piles adjacent to bald hills road within the units. Approximately 50 piles were burned.

A CAL FIRE Field Observer on fires saw logging slash increase fire activity on the Camp Fire, Dixie Fire and one fire in Humboldt.

During the King Fire in 2014, the untreated logging slash added to the intensity of the fire when the uncontrolled fire’s edge reached the logging units located on industrial timberland owner’s ground.

During the Panther Fire in Butte’s Ishi Wilderness, an industrial timberland owner’s slash piles and clear cuts hindered containment efforts.

The first time one inspector observed impacts from slash while on a wildfire was in 2008 during a set of fires ignited by lightning. Slash left in a Timber Harvesting Plan (THP) ignited and carried the fire.

The second time this was observed, was in 2012 in Mendocino County where an accidentally ignited wildfire burned through areas that had been harvested about 10 years earlier. The slash left from harvest and the brush that grew after harvest, increased the fire intensity, and inhibited the suppression. The residual timber was burned beyond salvage.

An Inspector has seen fire in slash piles that have been ignited through lawful slash treatment escape and extend into the wildland.

One Forest Practice Inspector expressed having long had concerns about slash piles within sight of a public road being ignited by an arsonist. That Inspector usually has several conversations with the LTOs and responsible foresters to find out if they have been treated or when treatment is scheduled.

An Inspector successfully took enforcement action against an LTO that left 30-ton slash pile 15-feet from an occupied residence. There was a heavy fine imposed upon this LTO through this case. This was necessary as the LTO would not comply with the slash treatment requirements.

Untreated slash presents common challenges to suppressing wildfires in the Humboldt-Del Norte Unit.  This has been an on-going challenge throughout the entire tenure of one Inspector who spent time in CAL FIRE’s Resource Management and Fire Control Programs.  On a percentage basis of incidents, an estimate of at least 25 to 30% of wildfires are adversely affected by the presence of untreated logging slash.

**TUU/KRN** – There has not been much logging recently; however, where they have had logging/Timber Operations, it has been primarily hazard tree removal. Along with those activities, complete removal of slash has been required or followed up with by a fuel reduction project. There are several areas where there was a project (Timber Ops/hazard reduction) that has then been impacted by fire. A vast majority of these areas have been very effective in reducing the intensity of the wildfire. Alta Sierra, for example, was one of the best success stories we have. The area was logged/thinned and all the slash was treated along with the other hazardous fuel loading. As a result, the entire community of Alta Sierra was saved.  If the slash would have been treated just to the FPR standards, we would have easily had a different outcome.

The Unit had an area near Mountain Home Demonstration State Forest (MHDSF) where timber operations were conducted under 14 CCR § 1038(d) and slash was left pursuant to FPR standards (i.e., lop and scatter). This did increase fire intensity in that area and several homes were destroyed.  It is hard to say if the houses would have been saved if the slash would have been treated to a higher standard; however, just down the road from this location trees were removed due to tree mortality and the slash was treated to a higher standard than the FPRs as well.  This location ended up being a control line for the SQF “Castle Fire”.

A bigger issue is the lack of treatment of any kind on federal land adjacent to MHDSF, and their property. This was very evident on the SQF “Castle Fire” when it impacted Mountain Home. The impacts to the areas where the adjacent property was not treated, regardless of whether we had treated the adjacent MHDSF fuels, was devastating.  The Unit has seen this in several of our communities over the last few years where treatment was done on the private lands adjacent to federal lands; however, the adjacent federal lands were not treated, and the fuel loading was very heavy. The private structures impacted by the fire did not stand much a chance.

**AEU** - Suppression resources have had issues with slash piles on at least 3 incidents within the last 15 years. The incidents occurred on a Less than 3 Acre Conversion Exemption, a THP on an industrial timberland owner property, and a THP on a small private landowner property.

**TGU** – The Unit has had two incidents in the past two years where an abundance of slash accumulations (doodle piles within hazard reduction zone) has impacted suppression efforts.

**CZU** - It is unclear when slash on conventional Timber Harvests have been shown to have affected suppression efforts on fires in CZU. We rarely have had fires into the harvest units. We did see some impacts when a shaded fuel break was created as part of Timber Harvest activities. The 2008 Summit Fire on Redwood Empire Lands and the 2009 Lockheed Fire on Cemex lands were held or stopped by suppression resources when they used the SFB’s created by the harvests. The 2020 CZU Fire had numerous areas that had been logged that burned intensely, but there has not been an analysis on slash treatments after THP’s and burn intensity or difficultly in suppression activities. Slash piles have not been an issue in CZU.  When you look at non-traditional timber harvesting, then we see an issue of not having FPRs followed. I have seen this on illegal conversions (e.g., marijuana, home building, vineyards) and powerline vegetation clearing projects. The standard slash FPRs are not followed and therefore we have an issue when a fire is introduced. More stringent FPRs on slash generated from non-THPs or NTMPs should be evaluated.

**SHU** - Most piles are eventually burned or chipped (even where they are not required to be). These piles, mostly landing piles (top and slash piles), are not created for the purpose of burning. Thus, per the FPRs, they are not required to be treated by April 1 of year following creation per 14 CCR § 937.2 (a).

Landing piles are generally being created outside the “Fire Protection Zone”, so the required treatment timelines are avoided. These piles may persist for several years until a chip market is profitable to allow treatment or other subsidies (e.g., grants) become available.

Per the Battalion Chiefs, these landing piles were a concern in developing suppression tactics and containing the Dixie Fire.

When slash piles are not created, it is hauled back into the unit. This adds to the untreated slash and fuels that remains in the units. The FPRs do not address slash accumulations interior to harvest units. It is interesting how some exemptions and the fuel emergency require treatment of slash and ladder fuels in the harvest area, but no requirements exist in the THP process. We understand that based on site conditions, we can make recommendations and we have.

When the landing slash is hauled back into units, it is dropped from the skidders relatively quickly, resulting in increased fuels in proximity to existing roads.

**FKU** - I am told by our field Battalion Chiefs that no incidents in recent memory have been impacted by slash.

**BDU** - Too date, no incident in BDU has been impacted by slash.

1. **How often do we see slash accumulations in areas that could impact communities; within or outside of the** **Fire Protection Zone.**

**LMU** - Due to changes in the fire environment, the Unit is going to have to reconsider how it looks at cumulative fuel loading elements that could impact communities. Slash and fuel loading from timber operations and related to distance from a community as a point of concern needs to be looked at more critically. The FPRs allow that no treatment of slash is required outside of the Hazard Reduction Zone unless determined to be in a high-risk area as defined or related to a community risk. Following past incidents where slash loading has resulted in significantly increased fire behavior, the Unit will seek support in finding mutually beneficial ways to effect change in practices.

**NEU** - The first thing that comes to mind is clearcut units that are not within the Fire Protection Zone (FPZ) where the landowner has chosen not to treat the slash. Ground based equipment is often used to track over the material created during logging operations which helps with the height of the material but after seeing these areas after fire, it is obvious that they burned with much higher intensity than the adjacent stands. This is especially of concern on steeper sloped cable units where there is no ground-based activity to smash the material down. Having said that, the Landowner has their hands tied with the existing liability associated with controlled burning and the lack of outlets for biomass.

**BTU** - Frequently we find that slash is being lopped to the minimum standards next to roadways.  Too often the quantity and arrangement of the residual slash continue to present a significant fire hazard.  Significant fuel loads on harvested lots just outside the 200-foot Fire Protection Zone are frequently found in our unit and this is a serious fire hazard in our WUI areas.

**TCU** - With our largest industrial timberland owner no longer burning, slash is prevalent in even-aged units.  The fire protection zones are lopped as the FPRs require, but outside of these areas slash can be deep.  In units where ripping can occur the slash is tilled into the soil within one to two years.  In steeper units the slash remains. The cessation of burning has happened in the last few years, and we have yet to experience fire activity in these areas. If we have a fire in one of these units, I expect fire activity to significantly increase.

**HUU** - Any amount of accumulated slash around a community isn’t good.

Biggest slash issues are on 150’ fire safe exemptions. Such a short window to mitigate slash. This exemption could benefit to allow more time for burning, like the 150’ – 300’. Piles shall be burned prior to the April 1 regardless of the date of creation. Pile in May and burn when climatic available.

Most LTOs want to burn as it is the cheapest method. Some LTOs just figure getting a violation is part of the game. I generally work with them if they are honest and worth the time. With that I have written a case report on slash on Exemptions to a repeat offender.

Behind Trinidad and Westhaven, the industrial timberland owner has miles of piles 1-20 years old. We are getting climatically drier, and it is only a matter of time before a fire threatens structures. The entire area is HIGH fire hazard severity. Negative effect on homeowner insurance for sure.

Most logging activity around communities have slash piles in the units away from houses and public roads; however, if fire were to start in the harvest unit it could cause major problems with embers starting houses in the community on fire.

In my inspection area, all plans meet the minimum requirements for hazard reduction within the Fire Protection Zone; however, it is permissible to have numerous 20-foot-tall piles 201 feet from a residence or 101 feet from a public road indefinitely. Typically, slash is removed from the fire protection zone and piled but not treated. Concern over slash and slash piles are the number one public complaint I receive regarding timber operations near residential communities.

The Department can require an additional 300 feet of lopping 14 CCR § 917.2(c) around approved and legally permitted habitable structures if “unusual fire risk or hazard exist”. I believe this should requirement be applied for all THPs proposed in residential areas.

During summer of 2012, in Mendocino County, an industrial timberland owner logged several thousand acres and treated the hardwoods with herbicide near the community of Comptche. There was logging slash on the ground. There were dead leaves still on the herbicide treated hardwoods. This situation was in my administrative area. All summer long, me and the local fire chief fielded calls from the public regarding this situation. In fall of that year, an accidentally set wildfire burned toward this area. The fire gained intensity when it burned through previously harvested timberland and approached this area. The incident commander recognized this dangerous situation and focused the firefight and resources toward the fire head to keep the fire from reaching this freshly harvested/herbicide treated area. Through aggressive firefighting, the fire was not allowed to progress into this area. This could have been a fire that impacted homeowners.

Outside of areas requiring slash treatment specified in the FPRs, significant slash accumulations adjacent to communities is common throughout the Humboldt-Del Norte Unit.  Based upon preliminary analysis, at least 40% of cities, towns, and communities within the Humboldt-Del Norte Unit are adversely exposed to elevated fire hazard that has been increased sue to timber slash resulting from timber harvest operations.  Somewhat common in the Humboldt-Del Norte Unit is the ineffective practice of relocating slash to areas barely exceeding boundaries of areas requiring slash treatment.

**TUU/KRN** – Slash used to be very common; however, over the last few years there has been a large push to reduce fuel loading in these areas.  The Unit has been looking at locations that have slash, not because of the slash per say, but because of the added fuel load around these communities. The slash from these operations over the years was left in compliance with FPRs, but recently we have been looking at reducing all the fuel loading and we have been doing this through grants or in Unit projects.

**AEU** – The Unit has concerns about the frequency and amount of slash piles generated by Timber Operations that can increase fire behavior and impact communities, especially in the Tahoe Basin. Not only are there concerns regarding initial attack, but there are also concerns regarding the commitment time of resources during mop-up due to fires with high slash concentrations.

**TGU** – There is relatively little land zoned Timberland Production Zone (TPZ) and few communities within the Unit. However, the past two incidents in the past two years were located adjacent to the communities of Mineral and Mill Creek.

**CZU** - It is rare that we see this issue come up that could impact communities except on the illegal harvests.

**SHU** – The Unit has recommended slash treatment along what we felt was a "permanent road”, which was argued against by industry as the road being "seasonal." The road was rocked, but we lost this argument due to the definition of Permanent Road in14 CCR § 895.1 of the FPRs. The argument was the road is not appropriate to haul on under large weather events thus seasonal. Industry is reluctant to classify roads as permanent because of the requirements of slash treatment along permanent roads with public access (it is a financial concerns)

Public/Permanent road argument has arisen in conjunction with Coop roads. Signed, rocked, USFS roads, open to the public year-round are seasonal at property lines. We have successfully argued against this, but these are areas of potential concerns.

Consider adding private "seasonal" roads open to the public to the Northern Forest District. Reliance on "Permanent" roads limits where the slash treatment is required.  And the definition of permanent road in the FPRs is wide open to interpretation. This would get pushback from Industry, and we could see a lot more gates going up.

A small tweak to the definition of Permanent Roads would help.  Add … throughout “most” of the year or re-define Fire Protection Zone (maybe also include a distance from communities).

**FKU** - Slash is relatively common in the field, but not widespread. Most of the harvest over the last two years has been within the Creek Fire footprint, and that is also where most of the slash is located.

**BDU** - Slash in the field is rare.

1. **We would also like to know if and how often the Units/Regions are recommending treatment outside of the Fire Protection Zone during plan review/PHI and what types of treatment is being recommended (timing, lop and scatter).**

**LMU** - The Unit is making recommendation during the PHI process on nearly every plan that includes mechanical harvesting and most directly, in-unit processing. The recommendations though are merely requests and not formal because there is no regulatory requirement in most circumstances to back up the request. In several situations, we have had heated arguments over fuel loading and fuel depth, both pre- and post-harvest. Again, without a regulatory mandate or requirement, it is merely a request to effect change. Treatment requests have varied by situation. Here are some examples: Do not process logs/tops adjacent to the road or landing (e.g., stay back 50 to 100 feet). Do not make top piles and leave them without creating a bare soil ring around the pile. Do not create piles along/near the roadway. Spread or walk over the in-unit slash to break it up and knock down the slash height. If your property is not gated or locked and the public has unrestricted access regardless of signage, the RPF must explain why the road should not be treated as a public road. If you do not reduce the fuel bed depth and choose to leave the unit with that level of slash, the Inspector will not consider the unit obviously stocked when you turn in a final stocking report but will reject it, issue a violation, and require that you prepare a comprehensive stocking survey. The definition of “permanent road” related to slash treatment is problematic also. The slash treatment FPRs were developed to address conventional logging where hand fall, buck, lop and scatter was the primary logging method. Today, the average harvest utilizing mechanical processing will only see at best a very small percentage of hand fall during the cutting stage and there, the tops are generally not lopped and scattered but left intact and if not merchantable, left where they lay.

**NEU** - FPRs do not define requirements for fuel reduction in Fuelbreak silviculture, but rather leave it to the RPF. The following is language for slash treatment in Fuelbreaks that I have used in previous THPs and seems to be generally accepted by RPFs and Inspectors:

“All slash will be treated by chipping, mastication, burning, removal, or a combination of these methods prior to April of the year following creation.  Depth of treated slash shall not exceed 18” for no less than 80% of the area.”

I cannot speak for the efficacy of these treatments as I have not seen them tested firsthand, but suppression activities utilized my fuel break for burning operations along Deadwood Road.

**BTU** - Burn piles can sit for almost two years in some situations.  The piles are attractive to arsonists.  Periodically we have asked that the piles that will be sitting over the summer be spread out and replied prior to burning or that an alternative disposal method be used.  This stern request is not made until operations have commenced.  It is unlikely that we could issue a violation for non-compliance.

**TCU** - During Pre-Harvest Inspections, the only issue with slash has been in association with fuelbreaks. The FPRs have clear enforceable language on basal retention standards in the overstory, but fuel reduction (including slash mitigation) is vague and left up to the RPF to propose. On Pre-Harvest Inspections for recent THPs, TCU has worked with the RPFs to develop enforceable language for retention trees, slash, and ladder fuels.

**HUU** - The landowner knows there is not a FPR to abate slash outside the Fire Protection Zone (FPZ). The industrial timberland owner saw the issue and took ownership of the situation.

One inspector indicated they have never seen a recommendation that requires the logger to treat slash outside the FPZ.

Only once in Del Norte in last 5 years was there a request for additional slash treatment above what is required by the FPRs. A plan was proposed between a network of homes and critical infrastructure (i.e., cell phone and radio towers). The landowner was required to lop an additional 300 feet from the habitable structures.

One Inspector indicated they were not aware of any such requests for additional slash treatment above what is required by the FPRs.

I have not done this though I would have liked to. I was not able to find FPR based rational to impose this requirement on the landowner. There is an FPR-based pathway though as one Inspector was able to impose slash treatment in a timber harvest plan outside of the 14 CCR § 917 provisions. The Inspector utilized an FPR and rationale that an unusual fire danger to homes and infrastructure would be created by a timber harvest and associated untreated slash.

Very seldom. Historic direction within the Humboldt-Del Norte Unit and at higher ranks within CAL FIRE’s Resource Management program have provided direction to not require slash treatment beyond the minimum requirements of slash treatment. Furthermore, past direction was given to Humboldt-Del Norte Unit Resource Management personnel to not include adverse forest fuel loading in the cumulative impacts analysis of timber harvest plans. In one specific situation approximately 10 years ago, a large timberland owner lodged a complaint against a CAL FIRE Forester within the Humboldt-Del Norte Unit for requesting additional slash treatment beyond the requirement of the FPRs. Past direction to avoid requesting additional and prudent slash treatment above the minimum requirement of the FPRs no longer stands in the Humboldt-Del Norte Unit.

**TUU/KRN** – There have been very few PHIs to make these recommendations; however, as we move forward looking at the fuel loading in the area, I will be much more likely to required slash treatment, at least in areas that will lead into communities or homes.

**AEU** - During past periods of significant beetle infestation and subsequent tree mortality, the Unit has made PHI recommendations for the treatment of slash outside the Fire Protection Zone.  Recommendations were in alignment with the best practices described in BOARD OF FORESTRY TECHNICAL RULE ADDENDUM NO. 3 - BROOD MATERIAL.

**TGU** – The Unit is not recommending treatments outside of the Hazard Reduction Zone.

**CZU** - We are recommending incorporating fuel reduction work in addition to the standard FPRs. This is usually when a plan intersects with a strategic fuel break that could be identified in the unit CWPP or Fire Plan. Most of these are Shaded Fuel Breaks.

**SHU** - We also make recommendations of slash treatment in the fuel break prescription per 14 CCR § 933. Many in industry are not willing to accept slash treatment of anything less than 30" as this is the standard in the FPRs for lop and scatter. Hard to argue for a higher standard than what the FPRs already accept as "hazard reduction."  Based on site conditions where we have made this recommendation, it has not caused an issue with the fuel breaks.

The unit may want to require all slash piles be treated regardless of location prior to completion, even those outside the Hazard Reduction Zone. This issue was considered in other units in the past, landing on the fact that slash treatment is required only the Hazard Reduction Zones and that if the Unit feels differently, they can declare a nuisance or approach though a potential cumulative impact recommendation.

**FKU** - There has only been one PHI since I became the forester for Fresno-Kings. It was for a NTO in an area that had burned with very high severity. No recommendations were made regarding slash treatment on PHI. The RPF mentioned that he planned to pile and burn the slash, which was completed.

**BDU** - Too date, no PHI has recommended slash mitigation.

1. **Is there any other information about the effectiveness and enforceability of the current rules the Board should consider?**

**LMU** - Loss of biomass chipping and an available market has directly impacted this and resulted in the change we are seeing. Further, where pile burning has ceased due to threatened loss of insurance or litigation, the material must be left on site. The FPRs related to slash treatment were not written with mechanical harvesting and large scale industrial in-unit processing that can realistically result in a jack-strawed continuous fuel bed depth of 30 inches across a 20-acre clearcut. Yes, you can plant it; however, in the east side pine type dry forest, the slash will not break down rapidly and remains a receptive fuel bed for years. Breaking up the continuity of fuels does not keep it from burning in the presence of fire. As fire gets established in one of these units, it becomes difficult to stop or put out and then results in fire spread through flame length, heat and spotting beyond the unit boundary and project area. We should also look at harvesting practices adjacent to untreated stands, including where Federal land is nearby. One potential place where a more considered discussion in the harvest plan analysis could result in change is through the Cumulative Impact Assessment. The level of true site-specific analysis carried out by the Timber Harvesting Plan preparer has been significantly lacking in data and analysis that would lead to or directly result in considered change based on the assessment write-ups that come through.

**NEU** - I spend about 80-90% of my time on exemptions which often call for a higher degree of fuel treatment and I see no need to modify these requirements.  I have only seen one instance in Nevada County where these standards were not met, and a violation was issued with a pending follow-up inspection

**BTU** - Slash created in the Hazard Reduction Zone is not required to be treated until the completion of operations, which can be up to 7 years.  There is no reason that this cannot be completed at the end of each seasonal operation.  Some LTOs and companies have gone to “whole tree logging” and either chip and remove or burn the landing slash.  This significantly reduces the slash left within the harvest area.  This practice should be encouraged.

**TCU** - The current slash FPRs as written are easily enforceable. The FPRs clearly state where slash needs to be mitigated, and how it must be accomplished.  In TCU, when pile burning was prevalent, we had to monitor piles to ensure they were burned in the prescribed time period. Violations were rare, but we had to monitor them. Lopping along roads and removal around structures has generally been done in a timely manner and issues have been limited to isolated jackpots of material.

**HUU** - The idea that cutting trees in the coastal/fog belt reducing the fire hazard is ridiculous. Structure Protection Exemptions allow landowners to remove the canopy and promote heavy brush to grow in. Anytime the overstory is removed on the coast brush and ladder fuels grow in extremely fast. Rarely is this managed by landowners.

As written in 14 CCR § 917, the intent of hazard reduction is to protect against insect and disease attack and to prepare the area for reforestation while retaining wildlife habitat. I suggest revising this Article 7 to specify that hazard reduction is for of fuel reduction/modification to address wildfire behavior and risk in the Fire Protection Zone.

Timing of lopping to 14 CCR § 917.2 is not specified. Recommend all required lopping shall be completed prior to April 1st of each year.

I support reducing lopping standards to 18”in the Fire Protection Zone.

Lopping and Lopping for Fire Hazard Reduction definitions differ. Lopping for Fire Hazard Reduction states “…no part of it generally remains more than 30 inches above the ground.” “Generally” is generally difficult to enforce.

Slash treatment is an issue sometimes requiring the LTO or landowner to do additional work.  Usually, the requirements of the THP/NTMP or exemption are adequate for enforcement if the inspector has the proper amount of time to inspect the harvest area prior to the LTO moving out. I think the current regulations addressing slash treatment are adequate on timberland, where it gets harder to enforce is where the Wildland Urban Interface (WUI) and ever-increasing urban interface meet.

When we have a timber harvest plan that shares a common property line with a property that people live on, I would appreciate a FPR that requires slash treatment along that common property line. I would like to see a 75-foot clearance that either removes or chips the slash. A tethered excavator with a masticating head, a Ponsse with a masticator head, or even a skid steer with a masticating head would be the most efficient way to accomplish this. Perhaps this zone could be burned for clearance if the climatic access was favorable.

I would also appreciate if the requirements of 14 CCR § 917 could be extended to the minor conversion (i.e., 14 CCR § 1104.1) requirements. Having a clear and FPR-based nexus of 14 CCR §§ 917 to 1104.1 would strengthen the Departments enforcement ability and legal argument.

The current FPRs for slash treatment are effective, but do not include geographic areas large enough to significantly alter or reduce slash to a manageable level for assurance of successful wildfire suppression. The number of areas within timber harvest documents subject to the minimum slash treatment accounts for less than 5% of the cumulative area under timber harvest documents.

In 2017, a wildfire in northeastern Humboldt County occupied areas where timber was harvested less than three years prior.  While the slash was partially piled in these Units, the intensity of the fire was so great that significant additional augmentation of aircraft was ordered in the fire’s initial operational period, but the complexity of the incident resulted in the assignment of a Type I CAL FIRE Incident Management Team to the incident.  Had slash within the harvested areas been fully or partially treated prior to the start of the wildfire, containment of this fire would have easily been managed by resources within the Humboldt-Del Norte Unit.  There are numerous incidents where similar situations were abated relatively quickly, but not inexpensively despite the high slash loading resulting from timber harvest operations.

**TUU/KRN** – The Unit does not have much of an enforcement issue. We have two main LTOs that do 90% of the logging in the area. The LTOs know the need to treat the slash, especially when adjacent to communities. When it is out on the landscape and away from the structures, it is not as needed.

**AEU** - 14 CCR § 957.7 - Protection of Residual Trees, is specific to slash burning and fire hazard abatement and for the protection of trees retained for "silvicultural and stocking requirements". However, the accumulation of slash up against any residual trees where no future treatment is intended is not specifically addressed in the FPRs. Slash left piled up against trees is a potential future fire and pest hazard. A FPR addition regarding the prevention of slash accumulations up against any live trees may warrant consideration.

**TGU** - The issue with slash accumulation within the Hazard Reduction Zone is that currently there is no enforceability to have slash that is created by Timber Operations adjacent to public roads or private roads open to the public be treated concurrent with their production. These accumulations can remain for the life of the THP (e.g., 7 years). With the increase in catastrophic wildfires in forested settings, limiting the accumulation of manmade slash (slash from timber operations) should be considered by the Board. Piles created have a FPR requiring their disposal; there should be a FPR requiring the disposal of slash accumulations on public roads prior to the completion of timber operations (e.g., concurrent with creation). Currently, plans that go the full seven years before being closed out can have slash remaining on the landscape during that full period.

**CZU** - I recommend looking at Utility ROW slash FPRs, as they tend to be linear treatments that could benefit communities better than broadcast-area-wide treatments.

**SHU** - The THP form regarding hazard reduction needs to be clarified. There is confusion on whether the questions are referring to hazard reduction zone or entire plan area.

Per discussions with a BC, the 30" lop and scatter seems excessive along roads.

The language in 14 CCR § 927.2 (a) and (b) should mirror (c) and (d), in that it should state “slash and woody debris”.  A top pile next to a county road, but that only contains material greater than 4” diameter. I could argue that all those trees were not knocked down but cut down, and that they are not slash because they are greater than 4” diameter.

**FKU** - Most of the issues related to slash in Fresno involve piles that are not burned or otherwise disposed of in time.

Particularly on emergency notices, I am having a hard time finding language in the FPRs that addresses slash treatment in areas not specified in Article 7 (i.e., within 100’ of roads, 200’ of structures, etc.). It does not come up frequently, but on one or two occasions, I’ve found areas of heavy slash that just look ugly (for lack of a better descriptor) but haven’t found a FPR that requires it to be addressed. These areas might pose a challenge to fire suppression, but in the greater context of a stand that received 100% mortality, I am not sure how much of an additional challenge the slash poses.

**BDU** - Since May 2019, most of the timber operations in the Unit have been less than 3-acre conversion exemptions or THPs/TCPs. Due to the nature of the conversions, there is no slash left in the field at the completion of timber operations. We do have one landowner in Mono County who submits an annual 14 CCR § 1038(b) harvest document.  We inspect his property annually and he is very good about cleaning up slash. We did have a grant in Mono County that did some work under a 14 CCR § 1038(c) harvest document that generated and disposed of slash.