DRAFT MONITORING
Forest Fire Prevention Pilot Project Exemption

FOREST FIRE PREVENTION PILOT PROJECT EXEMPTION 14 CCR 1038(j)

MONITORING per 14 CCR 1038(j)(17):

"The department shall maintain records regarding the use of the Forest Fire Prevention Exemption Plot Project exemption in order to evaluate the impact of it on fuel reduction and natural resources in areas where it has been used."

Within the Northern Forest District there have been three exemptions submitted under 14 CCR 1038(j). In the Coastal Forest District there has been one exemption submitted in Humboldt County

- Two within Siskiyou County
  - 2-15EX-092 (SIS) (230 ac)
  - 2-15EX-228 (SIS) (177 ac)

- One within Plumas County
  - 2-15EX-112 (PLU) (295 ac)

- One within Humboldt County
  - 2-15EX-064 (HUM) (75 ac)

On May 8, 2015 CAL FIRE, Forester II Daniel Craig, Sacramento HQ and Forester II Steve Wilson, SKU Unit Forester visited the site of both the (SIS) Exemptions. The purpose of the visit was to gather information in order to evaluate the use of the exemption and the potential impacts on fuel reduction and natural resources per (14 CCR 1038(j)(17).

Geographic Description:

Both exemptions are in Siskiyou County. They are located approximately two miles south of the town of Weed, West of Mount Shasta Mountain in the flats at the base of the mountain, north of the Black Butte Cinder Cone and east of Interstate 5 and the Rail Lines. The latest Fire activity near the area of operations was the 2014 Boles Fire, Both exemptions are approximately 1 mile south of the origin of the fire.

East of Exemption area

South of Exemption area

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General forest stand conditions within and around the project:

Forest stands in the area were previously logged; a sign within the area of the exemptions indicated the area was planted in 1970.

Review of the stumps and ring analysis indicated the trees were 35 to 43 years of age +/- five years. The forest stand structure was homogeneous and consistent with a 35 to 40 year old plantation. Ring analysis indicated trees grew well the first 20 to 25 years but over the years the tree growth slowed significantly, potentially indicating stand density was too high and the trees were suppressed. There was very little species diversity, tree species mostly consisted of Ponderosa Pine with a few Incense Cedar. All trees were approximately the same height and diameter ranging from 13 to 16 inches at stump height. No formalized measuring was conducted to determine the height or diameter of the trees.

Surrounding stands not included within the exemption areas, represent more of a natural stand structure and less of a plantation structure. The adjacent areas contained a more diverse tree species type, ponderosa pine, incense cedar, red fir, white fir, and Douglas fir. The trees appeared to be older, exhibiting graying bark, larger diameters on the dominate trees, mature canopy structure, decadent trees and/or snags and varied diameters from 12 inches to 22 inches. The exemption areas were focused more on the forest stands consistent with the plantations and less on more natural stand structures.

Pre stand conditions evaluated in the adjacent unlogged areas represented an overstocked thick canopy forest stand with a thick live brush understory. Canopy closure in these stands exceeded 75% due to the number of trees per acre and vertical continuity of the understory vegetation.

Considering the plantation structure of the forest stand, harvesting operations were consistent with a commercial thinning silvicultural prescription. From an ocular estimate it appeared the stems per acre were reduced by approximately 50%. Considering the stand diameter was consistent throughout the stand, the quadratic mean diameter appeared to remain consistent or increase slightly.

PHOTO – 9
PRE STAND CONDITIONS
Looking West from logging road B4.

PHOTO – 21
PRE STAND CONDITIONS,
Photo shows the brush component of the pre stand Looking east from logging road identified as the B line road,

Timber harvesting operations opened up the canopy and reduced the horizontal crown continuity. In most areas the live brush component was reduced significantly to slow the spread of fire. No dead fuel loading was identified within the drip lines of the remaining tress.

PHOTO – 12 PHOTO – 10

The above photos represent the post stand conditions and shows the separation for tree crowns within the canopy.

<u>Topography and equipment use</u>:

Slopes in both the exemption areas did not exceed 10% and no watercourses or wet areas where located during the visit. The ground conditions consisted of gentle slopes trending up in an easterly direction.

Stumps were cut approximately 6 inches to 12 inches above the ground level and had a flat surface indicating a Hot Saw / Feller Buncher was used to fall the trees. There were several large slash piles left at landing locations to be burned next winter. The size of the landings and the type of slash present within these piles indicated the trees were whole tree logged to the landings and a de-limber utilized. No significant slash component was left in the exemption areas except for the occasional tree top and a few broken branches. Slash depth were minor and well below the 18” minimum required by the rules.

PHOTOs represent the slash piles created from whole tree yarding to landings.

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PHOTO – 15

PHOTO – 17

Photos represent ground fuels remaining after harvest.

- Photo 17 shows the remaining brush component.
- Photo 15 represents how whole tree yarding removed approximately 95% of the slash and reduced ground fuels.

<u>Wildlife Considerations</u>:

Due to the plantation type stand structure of the exemptions it was difficult to identify wildlife stand structural elements. Wildlife elements where more evident within the natural forest stand structures outside of the exemption areas, however, the RPF did identify "special treatment areas" identified as "BIO" areas in the field. Three of these areas where located during the visit and they ranged in size from ¼ acre to ½ acre in size. Wildlife features were identified within these areas and consisted of large woody debris, a few small snag features and older more decadent broken trees.

PHOTO – 4
(Special Treatment Area)

PHOTO - 5
(Special Treatment Area)

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(BIO area identified by RPF)

PHOTO – 7
Wildlife features identified within ½ acre BIO clump.

PHOTO – 8
Red ant nest within the BIO clump

PHOTO – 19
Looking west into ¼ acre BIO clump located within 2-15EX-092 SIS
The above pictures also represent the pre stand conditions prior to operations.

PHOTO – 20
Looking west into ¼ acre BIO clump located within 2-15EX-092 SIS
The above pictures also represent the pre stand conditions prior to operations.

SUMMARY:

Exemptions 2-15EX-0092 SIS and 2-15EX-228 SIS where designed to be within the boundaries of a 40 to 45 year old plantation. Tree diversity was limited and the stand height and diameter where consistent throughout the stand. The stand structure was homogeneous with little to no variation, diameters varied between approximately 13” to 16”.

The pre stand conditions consisted of a heavy canopy component with an understory of brush and sapling size trees. Harvesting was conducted with a hot saw /feller buncher and whole trees were yarded to the landings; this eliminated the slash component in the harvesting area. Based on ocular estimates it appeared that approximately 50% of the stems had been removed and the quadratic mean diameter either remained consistent or increased slightly, however no formalized measurements were taken. The canopy was opened with little or no understory within the drip line of the trees. Horizontal and vertical continuity were eliminated to reduce the rate of fire spread, duration and intensity, fuel ignitability, and ignition of tree crowns.

Overall forest health appeared to have been enhanced by reducing overcrowding within the stand. Growth ring analysis of the stumps showed good growth for the first 20 to 25 years but as the stand became more suppressed the growth rings showed little growth rates. After completion of harvesting in the exemptions stand conditions are no longer suppressed and tree growth will potentially increase allowing tree height and diameter to be increased.

The RPF took wildlife values into consideration, where stand structure components existed. “Special treatment areas” / “BIO” areas approximately ¼ acre to ½ acre in size where created around potential wildlife features of the stand. Falling and harvesting operations were eliminated within those areas. Despite the homogeneous stand structural elements the RPF identified and retained elements for wildlife values within the exemption post harvest.

Based on 14 CCR 1038(j) opening statement:

“*The harvesting of trees in compliance with PRC 4584(j)(11), Forest Fire Prevention Exemption Pilot Project, limited to those trees that eliminate the vertical continuity of vegetative fuels and the horizontal continuity of tree crowns, for the purpose of reducing the rate of fire spread, duration and intensity, fuel ignitability, or ignition of tree crowns, when the following conditions are met”*

Use of the exemption was conducted in a manner consistent with 14 CCR 1038(j).

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