United States Department of Agriculture

Forest Service

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Pest Evaluation of Laytonville Rancheria

To: Mr. Ron Recker
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On June 28, 2000, Dave Schultz and Pete Angwin from Forest Pest Management and Ron Recker, BIA Assistant Regional Forester evaluated forest pests on the Laytonville Rancheria. They met with the Tribal Chair, Tribal Administrators, and some of the Forestry Staff to share information.

The Rancheria is located several miles west of Laytonville. It consists of about 200 acres. Approximately 50 acres is forested. The Rancheria is located at about 1700 feet elevation. The forest cover consists primarily of ponderosa pine, with lesser amounts of Douglas-fir, California black oak, and Oregon white oak. The understory consists of manzanita, *Ceanothus*, poison oak, grass and forbs.

The Rancheria appears to be a fairly good growing site for ponderosa pine. Increment cores from some of the larger trees commonly showed a growth rate of 5 or 6 rings per inch. The largest trees were about 100 to 110 years of age. There was an overstory removal around the late 1960's that removed the older age classes. There are also some patches of large saplings and small pole-size ponderosa pine that date from about the time of the overstory removal.

There is current mortality of both the sawtimber-size and small pole-size ponderosa pine. The immediate cause of death of these trees was attacks by the red turpentine beetle, *Dendroctonus valens*, and the western pine beetle, *Dendroctonus brevicomis.* Both of these beetles are more successful at making attacks on trees that are injured or stressed. The most important stress factor at the Rancheria seems to be competition with other vegetation for soil moisture. Increment cores from the larger trees showed that many of them released following the overstory removal. Approximately 10 to 15 years after the overstory removal, the growth rate of the trees slowed down again in response to an increase in all types of vegetation.

There are relatively few overstory Douglas-fir trees, although there is quite a bit of understory Douglas-fir. The ages of the understory Douglas-fir correspond roughly to the overstory removal. Much of the Douglas-fir was growing either as thickets, or in a suppressed or intermediate position under other trees. The tops of many of the Douglas-firs were rounded and ragged looking, indicating that they were beginning to slow in growth rate by age 35 to 40. Several dead and dying Douglas-firs in the large sapling or small pole size were observed. Black stain root disease, *Leptographium wageneri*, was confirmed in one of these. The beetles that carry the fungus that causes black stain root disease are attracted to host trees which are

overstocked, or otherwise stressed. The black stain fungus grows best under cool conditions, such as those found in shady, overstocked stands.

The management alternatives available are limited:

1. Do nothing. The Rancheria will continue to lose overstory and understory trees. Other than an occasional load of firewood, there will be no output of products.
2. Thin the stands of trees. Historically, the Rancheria area was probably an open pine-oak woodland, with a few scattered Douglas-firs. If the understory was kept open, a spacing of about 25-30 feet between trees would probably result in reasonably good growth on the pines. This spacing would also prevent most attacks by *Dendroctonus* bark beetles. Opening up the Douglas-fir thickets to a wide spacing, and favoring only the best-formed trees should allow some of the trees to reach a commercial size. Thinning will not eliminate the black stain, but will suppress the growth of the fungus enough to allow the attainment of some management objectives.
3. Alternative 2 contains actions that would result in the prevention or suppression of forest insects and diseases. Funding is available to help implement insect or disease prevention/suppression projects. The documentation needed to request funding through the Interior Department includes: an evaluation of the project area (this report), form 3400-2, a narrative of the project, and an economic analysis.

Please contact Dave Schultz or Pete Angwin if you need further assistance.

/s/

David E. Schultz
Entomologist