

I. Executive Summary

Timber Inventory Analysis of Hoopa Valley Tribe 2006 Continuous Forest Inventory

The purpose of a Timber Inventory Analysis (TIA) is to document the results of the re-measurement of the grid of 532 Continuous Forest Inventory (CFI) plots installed on the Reservation. A Forest [Timber] Inventory Analysis Report is required for a Forest Management Plan by 53 IAM Chapter 2 (9/1/2006). The BIA provided funding for the contract work in the amount of \$301,342 between 2000 and 2006. The BIA also provided funding (\$40,000) for the TIA and for updating of the Forest Management Plan.

All 532 plots were measured between May of 2006 and the July of 2007. Tribal crews measured 72 of the 532 plots, including four that were returned by the contractors. The contractors were assigned 464 plots and completed 460. This was the sixth CFI Survey, the third time the entire set of original plots was surveyed and the second survey for the plots in the recently annexed portion of the Reservation.

Concurrent with the CFI surveys, the Planning Department was working on a new Timber Stratification using the latest satellite imagery and the capabilities of the GIS programs. A new strata was developed after the completion of the survey, but before the data was sent to BoFRP for processing. This resulted in a total of 42 forest types.

The TIA is based on the CFI data that was processed using the Northern California (NC) variant of the Forest Vegetation Simulator (FVS). The Forest Vegetation Simulator is a growth and yield computer program that projects local inventory information into the future using local growth information. The reason to use the NC variant of FVS is that a substantial portion of the NC variant growth coefficients are based on the 1986 Hoopa CFI data.

The 90,766 acre Reservation has approximately 88,513 acres of forestland that is managed under the Tribe's Forest Management Plan (FMP). Of this acreage, approximately half is in cutover stands and the remaining half in unaltered stands that range from old growth forests to oak woodlands.

This combination of lands is being managed on a sustainable rotation. The 2006 total Douglas-fir net volume is down just slightly from 1,280 MMBF to 1,279 MMBF, a reduction of less than 1%. Sustained harvesting would then require a very minimal reduction in the 9.853MMBF/year Annual Allowable cut.

However, over the past several decades, there has been a growing impact on plantations from bear damage. Recent bear damage surveys indicate a loss of between 35 and 45% of the young conifers. This survey is still underway and has not been published. However, for the purposes of this analysis, a rate of 40% was used to remove the dominant trees at an age of 20 years, in an effort to account for the damage created by bears. Also the stand treatment was modified from two Timber

Stand Improvement treatments to one at an age of 5 to 10 years. This was done to save future revenues, and with the intent to minimize the future impact of bear damage.

The Tribe's FMP recommends an 80-year rotation on all plantations. The Annual Allowable Cut (AAC) is designed then for that eighty year cycle. However, simply taking the 1,279 MMBF volume and dividing it by the cutting cycle give a grossly inflated AAC. Removal of those areas unavailable for harvest reduced the Reservation acres by 54% and total number of forested acres by 50%. Using the Reservation wide average MBF per acre gave an underestimated AAC, since many of the reserve areas are also areas with a lower stocking level than the reservation average. Therefore, the AAC is calculated using the available timber on lands that are designated for intensive or partial management. This number was adjusted to factor in logging and regeneration constraints, the loss due to natural causes, including bear damage, and the projected revenues required by the Tribe. Once these factors were accounted for, **the proposed AAC was set at 8.889 MMBF per year for the next two decades.** This may be adjusted following the 2016 CFI, but reflects the best modeling that the Forestry Department and the Consultant Greg Latta have come up with.