Building up the forest

by Craig Blencowe, Fort Bragg CA

My philosophy is simply this: if I can maintain an ever-increasing timber inventory (up to some predetermined maximum yield), then the related forest values of wildlife, watershed, recreation and aesthetics will also have the basis to be sustained.

This involves establishing a long-range sustained yield goal and then managing the stand to realize this goal. In a nutshell, management involves two components: Increasing inventory (a quantitative goal) and improving stand structure (a qualitative goal).

Inventory is increased simply by cutting less that the forest is growing, until the sustained yield goal is attained. For example, if, during a 15-year cycle, a property grows 1 million board-feet, then a harvest of 600,000 board feet will allow the remaining 400,000 board-feet to be added to the future growing stock.

By repeating this pattern over several cycles, I can continually build stand inventory and eventually attain the long term sustainable harvest level or "allowable cut." Once the allowable cut is attained, I can harvest the periodic growth without ever depleting the inventory.

I like to view the forest inventory as principal and the annual growth as interest earned on the principal. The essence of a sustainable forest is the ability to continually harvest the interest without having to touch the principal.

This concept is best illustrated by one property which has been under sustained yield management for 25 years. The volume is almost triple what it was in 1972. Over this period, we have harvested significantly more timber than was present when management began in 1972.

However, establishing a sustained allowable harvest only addresses how much volume is cut. It does not consider which trees are removed or what the forest will look like following harvest. It is essential to retain the biggest, best quality and most vigorous trees in the post harvest stand to build future inventory.

Thus, in developing the sustained yield forest, it is important not only to cut less than the periodic growth, but equally important to refrain from cutting the best trees. My personal criteria for tree removal can be lumped into three strategies:

1. First, mark the damaged, dying or diseased trees. These are generally trees which will die before the next harvest. (I make exceptions for trees I'm leaving to turn into snags) This is a "sanitation" strategy.
2. Second, mark suppressed and intermediate crown class trees. These are trees which are not contributing growth to the stand, nor will they be expected to do so over the next cycle. This is a "thinning from below" strategy.
3. Lastly, mark larger trees which improve spacing for the high-quality "crop" trees which will be retained. This is a "spacing improvement" strategy.

In general, I try to use each harvest as an opportunity to upgrade overall stand quality by choosing which trees I leave and how they are spaced.

In this way, I may initially enter a stand as early as 35 years old in a commercial thinning, and return two, three or more times until the stand is more than 80 years old and target diameters of 26 to 40 inches have developed. I like to favor redwood, but not to the exclusion o f all other species; I seek a natural ecological balance and biological diversity.

It is ultimately necessary to regenerate the stand - allow trees to make a fresh start. This will be accomplished by removing trees in small groups (one fourth to one and a half acres) where adequate light will encourage sprout and seedling growth. The small openings will

ensure continued presence of Douglas Fir, which would otherwise be lost in a closed-canopy coastal forest.

On better growing sites, I strive to attain overall long-term annual growth rates of around 4 percent on standing inventories of 25,000 to 35,000 board-feet per acre. This translates to roughly 1000 to 1200 board feet per acre per year, which seems to be about the maximum production on most Mendocino County timber lands.

Because it is possible to grow trees faster and cut trees sooner that I do, my management style does not maximize short-term net return. But that is not what my clients or I really want. In virtually every case, we are willing to accept less that optimum production where necessary to preserve related forest values.

My clients are concerned that there be both trees and income not only for them, but also for their children, and their children's children. At the same time, they want to enjoy the immediate non-monetary benefit of an aesthetically pleasing, well-stocked productive forest. My management style aims to provide that.