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SUBJECT: Old Growth - What It Is and What It Ain't

I have been dealing with issues surrounding "old-growth forests" for several decades. When a conversation begins that involves "old growth" it is well to heed the philosopher Voltaire's admonition... "If you wish to converse with me, define your terms."

Many times people refer to "old growth" when they really mean something else or want something else.

One would assume from the use of the word "old" that the trees being discussed are indeed old. But, what is described as "old" related to a forest or tree species depends on the forest type or species or both. When is a redwood tree defined as "old" - 100 years, 250 years, 500 year, or older? How many trees or how much area occur before an "old growth" stand exists? When is a lodgepole stand "old" - 80 years, 100 years, 120 years? Such questions are not rhetorical.

People sometimes confuse old trees with big trees. For example, redwoods or Douglas firs on good growing sites under certain circumstances can be very large at well less than 100 years of age, or on poor sites and with growth suppressed by overstory trees can be much smaller.

Or, frequently, the discussion will center around "old growth" habitats for a complex of associated plants and animals. People are sometimes surprised when they find forest structure they interpret as old growth to be composed of relatively younger trees in the overstory. So, it is important to differentiate between "old growth" and stands of younger age that have begun to take on the appearance and structure of older forests. They are not necessarily the same. Further, some old stands are not particularly good "old growth" habitat due to various factors such as break-up or complete closure of the canopy. On the other hand,

some stands of younger large trees provide the characteristics required by "old growth" adapted species.

Many people do not recognize that all forest stands, of whatever age, are dynamic in that they are in a constant state of change. The rate of change can be very slow. One example is the evolution of some stands from old-large Douglas-fir forests to being dominated by hemlock over centuries of change. Or, that change can be immediate from such natural events as stand-replacing fire or blowdown by hurricane force winds or from insect and disease outbreaks coupled with drought, or from human activities such as logging or clearing for agriculture.

Then, there is confusion between reasons for preservation or production of stands of trees that are composed of large, relatively widely spaced trees. One reason is that such stands may entail significant communities of organisms - perhaps even of threatened or endangered species. Another is that many people see great beauty in such forests or even in single large, and perhaps very old, trees. Sometimes, both conditions are met in the same stand - sometimes not.

If the concern is with maintenance of late-successional forest habitats of appropriate structure, stand size, and composition appropriately spaced around the landscape, it is necessary to consider the forest dynamic. Plans must be developed and followed that will assure that new late-successional forest habitats are "on line" to replace the extant stands that will, most surely, succumb to lethal factors at some point. Such would require dedication of a significant portion of the forested land base to achievement of that objective. The older the definition of "old growth" the more land that must be dedicated to that purpose. And, as a cautionary note, there is not certainty that the replacement stands, which will mature under circumstances of its time and place, will be replicas of the stands they replace. This approach would be extremely expensive in terms of opportunity costs and likely unacceptable except on public lands and then only with full recognition of costs and benefits.

Conversely, if the management plan for "old growth" is the preservation of stands or individual trees, the approach is simple and the outcome certain. The approach would be to reserve all such stands or individual trees from being cut and protected, to the extent possible, from stand-replacing fire, insect and disease outbreaks, etc. Such

stands and trees have lived a long time relative to others and may be expected to last some time longer - perhaps centuries. But, it is also true that the longer an organism lives the closer it is to death. And, certainly, these stands and individual trees will die - some sooner and some much later. Such a strategy, in the end, assures that there will be essentially no "old growth" - no stands and few individual trees. In economic terms, relative to a dynamic approach to "old growth" retention of either relative old trees or relatively large trees or both, this approach is by far the least expensive in terms of opportunity costs.

So, it may come down to a question of "THIS" or "THAT." Is the desired management outcome a question of saving THIS particular stand or tree or is the question one of providing THAT condition of stands of large trees or old trees or both across the landscape in order to serve the purposes of retention of biodiversity?

Those are two different things and require two dramatically different management approaches. The "THIS" approach can, perhaps, be rationally accommodated on commercial forestlands. It is difficult to believe the "THAT" approach could be applied except on public lands due to extremely high opportunity costs, the magnitude of ownership, and the fact that most extant "old growth" of all kinds exists on such lands.