

Talking About Old Growth.

General Characteristics. Old growth forests are recognized as supporting the widest variety of species diversity and complexity of ecological relationships. The characteristics that are associated with old growth forests include not just old trees but in fact trees of all ages and also dead trees in all stages of decomposition. Typically, the old growth canopy layer is dominated by the old trees with younger trees growing in the understory. Usually old growth forests have a more open stand structure than is typical of mature second growth forests. Small scale disturbances occur naturally in old growth forest and this creates habitat for species that are disturbance specialists. In short, old growth forests have an ecological richness that support a wide diversity of living things and a great complexity of ecosystem expression.

An arbitrary figure. In coastal British Columbia forest professionals and related specialists use an arbitrary figure of 250 or more years of forest stand age to define “old growth” or, in the language of forest inventory, Age Class 9 stands. Age Class 8 refers to stand ages between 140 to 250 years of age while the lower age classes are defined in 20-year increments.

Determining stand age class. Stand ages are determined with reference to the age of the dominant tree layer. In practice this means that the age of the leading species in the canopy layer determines the stand age class. There may be a larger number of stems in the under story, but these are not the dominant trees. Quite often in our region veteran trees are present in small numbers. These are large old trees that have survived stand-altering events like fires or wind storms but are not present in large enough numbers to form or dominate the canopy. That said these old “vets” are hugely significant to the genetics of biodiversity and should always be retained in the managed landscape.

About seral stages. Forest stands change rapidly as they progress through the lower age classes or seral stages; this is the process of ecological succession. This is particularly true in lower elevation forests. Seral forests, except in the youngest age classes, feature dense canopies and vigorous growth that exceeds the rate of decay. By contrast old growth stands, or to use a more meaningful term, climax forests have achieved a dynamic equilibrium where growth and decay are in balance.

Climax characteristics. The purpose of protecting old growth is to maintain a component of natural forests that are either in climax condition or will eventually

achieve climax condition. The term climax refers to forests that have outgrown seral stages and achieved a balance between growth and decay. These forests support the fullest measure of ecosystem complexity and ecological expression. As mentioned above, we use the arbitrary figure of 250 year of age to denote old growth but a climax condition may not necessarily be achieved at this age. For example, growth in the Mountain Hemlock Zone (MH) is very slow due to a short growing season, shallow, nutrient-poor soils and harsh weather conditions. A 250 year old stand in the MH may have only achieved a mid-seral stage.

Comments. In the course of landscape unit planning, there are often insufficient old growth stands available to meet the required retention targets. In this situation, planners will select the next oldest stands to serve the purpose of biodiversity protection. These are referred to as “recruitment” Old Growth Management Areas (OGMAs). While climax forests have the most ecological value, late seral stage forest are also diverse and important for the protection of biodiversity. This discussion is not intended to denigrate the ecological value of late seral stage forests.

Natural forested landscapes, meaning those landscapes that are not disturbed by human industrial activity, are typically not all old growth but will show a diversity of age classes. Natural stand altering events, such as wildfires and wind-throw, are responsible for this diversity of age classes. Each biogeoclimatic sub-zone has its own disturbance regime. Our lower elevation coastal forests, for example, are frequently subject to natural stand altering disturbances. Industrial foresters often speak of mimicking the natural disturbance cycles of nature. However, the level of industrial disturbance, primarily clear cutting, is vastly greater in our low and mid-elevation forests than could be expected to occur in natural landscapes.

What is needed for the purpose of maintaining biodiversity in coastal forested landscapes, is protection of a larger, more representative percentage of each biogeoclimatic subzone within each landscape unit. As well, it would be enormously effective to simply limit the amount of land in the managed forest that is allowed to be in Age Class 1 at any given point in time so that eventually the natural balance between old forests and seral stage forests could be more appropriately represented.