



# THE OLD GROWTH FORESTS OF CYPRESS PROVINCIAL PARK

By Terry Taylor

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**T**he remaining old growth in Cypress Provincial Park is a unique resource, due to the size and the age of the trees and to its proximity to the population centres of the Lower Mainland. Few easily-accessible old growth still exist near Vancouver and even in the less easily reached south coast valleys, the big trees have long since been logged. A hike through our local woods often reveals the rotting stumps of very large trees which took centuries to grow. When and if the current second growth reaches this stage, the world will be a very different place - culturally, technologically, and probably even climatically. From a human perspective, once an old growth forest is destroyed it is essentially a permanent loss. Much of Cypress was logged in the 1960s, but the trees which have survived still form a truly impressive forest.

The tree species most frequently encountered at Cypress are yellow cedar (*Chamaecyparis nootkatensis*), western hemlock (*Tsuga heterophylla*), mountain hemlock (*Tsuga mertensiana*), and amabilis fir (*Abies amabilis*). Just below the highway works yard, outside of the park itself, is a grove of large western redcedars (*Thuja plicata*). A golf course was proposed for this site, but the citizens of West Vancouver recognized the value of the trees and voted against the proposal.

When looking at the big trees of Cypress Park, it should be kept in mind that a forest at this elevation (about 1,000 metres) is under much greater climatic stress than those of lower elevations which are snow-free for most of the year. Here the snow stays until early July and returns again in November. The long snow period suppresses growth and the small trees growing in the shade of these elevations tend to be considerably older than their appearances suggest. Indeed, Randy Stoltmann's Hiking the Ancient Forests of British Columbia and Washington states that many of the yellow cedars are over 1,200 years old, and the oldest hemlocks over 800 years. I counted the rings on a 75-mm diameter amabilis fir which had been cut beside the Baden-



*Cabin Lake Amabilis Fir,  
Randy Stoltmann photo*

Powell Trail and found that there were about 100

It is sometimes pointed out that the logged slopes of Black Mountain are regenerating a healthy young forest to replace the previous one. However, it should be kept in mind that it will take at least a millennium to regenerate the type of forest that existed here only 40 years ago, always provided that human and climatic influences allow this to occur. Looked at from another perspective, it will take more than 10 lifetimes to re-establish this forest.

The species that really projects the age of these forests is the yellow cedar. A yellow cedar cut down in the Caren Range on the Sechelt Peninsula had about 1,700 rings, making it the oldest known tree in Canada. Beside the Old Strachan Trail is a very large specimen called the Hollyburn Giant. Its diameter is about three metres, and only a few liv-

ing branches remain. It has been suggested that the age of this tree is comparable to that of the Caren specimen, or that it is even older. Stoltmann states that these old cedars increase their radii by only 2.5 centimeters per century!

Besides their ages, yellow cedars are remarkable in that they are extremely resistant to decay. Very few fungi parasitize them so I was intrigued to hear of a bracket fungus growing from a yellow cedar. This turned out to be the rainbow fungus (*Coriolus versicolor*), a species which normally grows on deciduous wood. The Plant Research In-

Institute in Ottawa had no record of it being found on yellow cedar. The tree in question grows beside a cross-country ski trail on Hollyburn Ridge. The removal of nearby trees has exposed it to more extreme light, temperature, and drying conditions than when it was surrounded by forest. The proposed cutting of new ski corridors on Mt. Strachan would increase the impact of such changes on these ancient trees.

It has been pointed out by local wilderness educator John Clarke that yellow cedar forests are becoming increasingly rare. These ancient, slow-growing trees are worth a lot of money, and are being targeted for extraction. Technology has now made it economic to log previously inaccessible old growth remnants. Individual large trees can be located on aerial photos and removed by helicopter. After the next decade or so, except for protected areas, virtually all the large trees which presently survive will be gone. This makes it doubly important to protect areas such as Cypress.

Also of note are the very large and old mountain hemlocks, western hemlocks, and amabilis firs. A mountain hemlock and a fir, both on the unlogged part of Black Mountain, may be world records. Many of the large hemlocks are over 600 years of age, which is unusual for these species. The largest trees tend to be found in nutrient-rich sites with a thick covering of herbaceous plants, especially the rosy twisted stalk (*Streptopus roseus*). Very few such sites still exist in the coastal mountains. They have been logged because of their high timber val-

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ues. The drier, less fertile slopes are often covered by a dense carpet of pipecleaner moss (*Rhytidiopsis robusta*), a good indicator of higher elevation old growth forests. It is very rarely found in second growth areas, where it does poorly, and is probably old growth dependent.

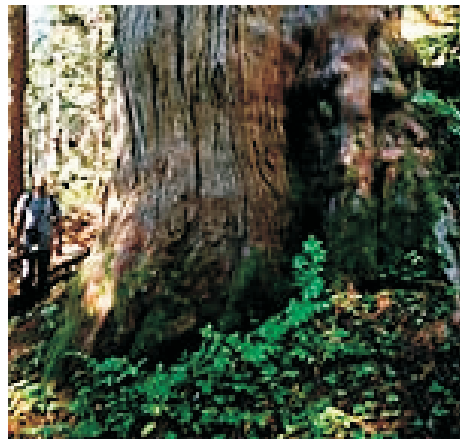
A look at the forest floor will also reveal gems for the botanically-minded. A small plant of boggy places is the three-leaved goldthread (*Coptis trifolia*). Near the Yew Lake Trail and beside Blue Gentician Lake, its three small leathery leaflets hug the ground closely. This appears to be the most southerly population of this plant in the mainland

of western North America, and it has not been found anywhere else near Vancouver. If water is diverted from Yew Lake, its survival there could be jeopardized. Another interesting plant of marshy places is the beautiful blue king gentian (*Gentiana sceptrum*). Blue Gentician Lake is aptly named, for many of these flowers grow there. It is found occasionally on other Lower Mainland lake edges, but none of these sites are

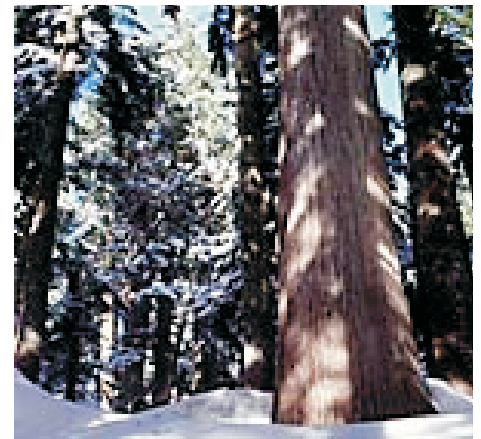
as rich as those of Hollyburn. The plant also occurs above the old West Lake Lodge site and along the Grand National Trail, near the parking lot.

Another fascinating plant, Caltha-leaved avens (*Geum calthifolium*), grows at the base of the Lions. It was first discovered about 70 years ago, and the original collections are located in the UBC Herbarium. This is a plant of the north coast mountains, and the small (1 x 2 metre) patch beside a trail is the only population known in our area. It was not rediscovered until a few years ago and is probably the most southerly outlier of this species. Neither this avens nor the three-leaved goldthread have been found in Washington State.

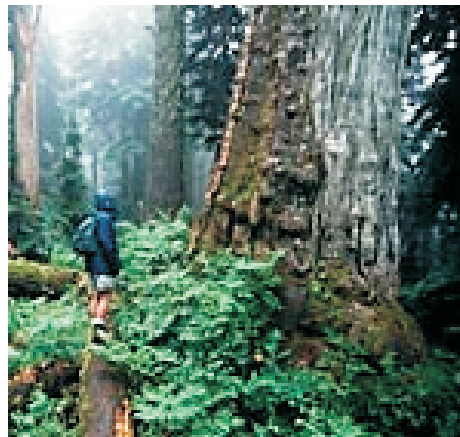
Despite all the surveys of Cypress, one important aspect of its biodiversity remains largely unknown. This is the biodiversity of soil micro-organisms. Over 99 percent of bacteria cannot be cultured and hence are both difficult to study and little known. Nonetheless, recent research into recombinant DNA has indicated that there may be 10,000 species of bacteria in a handful of soil! Obviously, bacterial ecosystems are incredibly more complex than previously believed. The forests of Cypress appear not to have had a major fire for at least 2,000 years. If there is a 2,000-year continuity does this mean that its microecology differs from what it would be if it were only as old as the oldest trees? I believe it probably does. Nobody knows, and our present technology cannot begin to find the answer. Preserving unknown micro-organisms may seem to be a low priority, but many of the antibiotics currently in use are rapidly becoming ineffective, and soil bacteria are being researched for new ones. Could this forest make a direct medical contribution to human welfare?



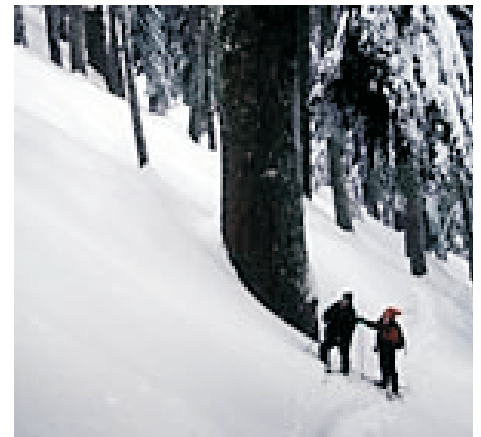
*Yellow Cedar, Mt. Strachan,  
Jeremy Williams photo*



*Snow forest - Mt. Strachan*



*The Hollyburn Giant, Andy Mons photo*



*Record Mt. Hemlock, Hollyburn*

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