Forest trees / Arbres forestiers

Crop / Culture: Conifer forests

Location / Emplacement: British Columbia

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Title / Titre: A SURVEY OF SUSPECT FOREST SITES FOR ROOT DISEASES AND OTHER DAMAGE IN SOUTHEASTERN BRITISH COLUMBIA.

METHODS: In the Nelson Forest Region, 429 forest sites, defined on inventory maps as polygons, were selected and inspected for root diseases, damaging insects, and other agents. Suspect sites were judged to have reduced site productivity or potential growing problems based on attributes of: past selective logging; a large proportion of hardwood trees; reduced tree height growth (site index) as compared to expected growth based on ecological features (ecosystem association); and below average crown closure. Field personnel traversed each polygon, and recorded tree data from three standard inventory plots.

RESULTS AND COMMENTS: Of the total 19 344 ha of suspect sites that was sampled, only 16 per cent was free of any damaging agents. Fifty per cent of the polygons had root diseases - mostly armillaria root disease - and the remainder had dwarf mistletoe, bark beetles, animal damage, and other damage totalling approximately 5 to 7 per cent of the area in each category. There was no damage from defoliating insects, and area damaged by other insects was 2 per cent.

From compilations of forest inventory file data, suspect sites amounted to 85 to 98 per cent of the operable forest land or 840 000 hectares for the region. From inventory data these sites were expected to produce a total of 2 300 000 cubic meters of wood volume per year. However, our sampling results indicated: 1) that the current productivity on these sites was 2 650 000 cubic meters or 16 per cent more than expected; and 2) if these suspect sites were treated and managed to prevent or suppress the damage from root diseases and other damaging agents, productivity could be 3 300 000 meters annually, 44 per cent more than currently produced.

Research results, current trials, and economic analyses, indicate that these sites could be treated, especially for root disease, to achieve almost all of these potential gains in productivity. We believe that a forest health treatment program would yield substantial economic, social and environmental benefits.