Maintaining Biodiversity in a Cutblock on Southwestern Vancouver Island

Complaint Investigation 990209

FPB/IRC/28

April 2000

The Investigation

In July 1999, the Board received a complaint from an individual who works as a faller. He was required, as part of his job, to cut down small trees in a specific cutblock, but was concerned that was not a sound forest practice.

In June 1999 the complainant was hired by a contractor to work on a cutblock in Tree Farm Licence 46, administered by TimberWest Forest Ltd. ("the licensee"). The cutblock was beside the McClure River, a tributary of the Caycuse River, 35 kilometres west of Lake Cowichan on Vancouver Island.

The cutblock was in a plantation of 50-year-old Douglas fir with some scattered immature stems of other species. The approved silviculture prescription[1] specified a silvicultural system of "clearcut" (with reserves). Although the stand overstory is generally removed in one harvest under clearcutting, that was not the approach here. A stand-tending phase was included. Since the stand had reached 50 years of age, commercial thinning was carried out to reduce the number of trees left on the site to a density of 160 to 250 stems per hectare[2]. The objective is to concentrate growth on the remaining crop trees. In addition, removal of the understory trees will simplify harvesting of the crop trees in thirty years.

The complainant worked on the thinning operation. He had received training in wildlife tree retention and had developed an interest in biological diversity. He questioned the environmental value of the uniform, even-aged stand that would result if the understory trees were removed. He thought that the young trees would provide some wildlife habitat values and that there was no ecological value in removing them. Therefore, he felled the required number of 50-year-old Douglas fir trees, but decided to leave healthy small trees and firm snags.

The complainant's supervisor told the complainant to cut down the small trees that he had left standing. The complainant did so, but still believed that was not reasonable. He believed that the retention of healthy immature trees would be sound forest management and decided to ask the Board to examine whether or not the approved silviculture prescription was appropriate for the site.

[1] Section G, Silvicultural System, at page 5 of the silviculture prescription for TFL #46, Cutting Permit 1C, Block No. 1-7-D, McClure River.

[2] At page 6, "Leave Tree Specifications", of the silviculture prescription for TFL #46, Cutting Permit 1C, Block No. 1-7-D, McClure River.

Investigation Findings

1. Complainant's concerns about planning

The complainant was concerned that, once the silviculture prescription had been approved, there was no opportunity to modify the treatment to allow retention of regenerated understory trees in light of new information. The Board considered the options to members of the public to comment on proposed treatments. The formal avenue for public input is review and comment on the applicable forest development plan. The cutblock had been proposed in a 1998-2002 forest development plan that went through public review and comment[3] in 1997. The complainant did not live in the local area and so did not attend the plan viewing. No reviewing member of the public expressed concerns about the cutblock. The Board was satisfied that the review and comment process provided an opportunity for the public to suggest changes to the treatment.

The silviculture prescription does not necessarily come under public review and comment. The silviculture prescription for this block was approved in December 1998 and did not go through public review. Nevertheless, the licensee indicated that the company is generally open to comments from contractors at any time. The complainant did not comment to the licensee before filing a complaint with the Board because he did not want to risk affecting his employer's (the contractor) relationship with the licensee. The Board was satisfied that the silviculture prescription could have been amended if the complainant had provided compelling new information to the licensee.

Finding #1

Although the silviculture prescription was not subject to public review, the cutblock of concern to the complainant was part of a forest development plan that was reviewed and commented upon by the public. There was adequate opportunity for public review and the public expressed no concerns about clearcutting in the complaint area. In addition, the silviculture prescription could have been amended if new information emerged to require changes.

2. Complainant's concerns about forest practices

Concern about the silvicultural system of clearcutting with reserves

The complainant was not convinced that clearcutting was appropriate in the circumstances. The block of concern is in a wet variant of the coastal western hemlock biogeoclimatic zone. This zone has relatively mild temperatures and heavy rainfall with little snow. In the absence of a major disturbance, such as clearcutting, an uneven-aged forest would develop with hemlock,

[3] Section 39 of the *Forest Practices Code of British Columbia Act* and sections 25-27 of the *Operational Planning Regulation* set the rules for public review.

cedar and amabilis fir. The complainant recognized that managing the block as an uneven-aged stand would mimic the natural forest. He assumed that a silvicultural system that imitated the rarely-disturbed forest would be more appropriate than one that created an even-aged stand.

The silvicultural system should reflect the site type, stand structure, requirements of the desired tree species, health and vigour of the stand and local forest management objectives[4]. In this case, the licensee's desired tree species was Douglas fir, which is shade intolerant on the coast. An even-aged silvicultural system such as clearcut with reserves would be appropriate to manage the block for Douglas fir, but the Board considered whether management for Douglas fir was ecologically appropriate in the circumstances.

Douglas fir is not a recommended tree species for the wet variant of the coastal western hemlock biogeoclimatic zone, according to the Ministry of Forests' regional guide to site identification[5]. Hemlock and cedar are the primary species, with amabilis fir in some conditions. All are shade tolerant, so a silvicultural system, such as selection harvesting[6], that maintains an uneven-aged stand would be ecologically appropriate. Nevertheless, it is appropriate to manage for Douglas fir in this zone on southern Vancouver Island, where the species naturally occurs on well to rapidly-drained slopes on steep south-facing slopes.

Although much of the cutblock of concern faced east rather than south, the vigour of the 50-year-old Douglas firs in the stand indicate that the species does well on the site. The Board finds that it was reasonable for the licensee to choose, and the district manager to approve, clearcut with reserves as the silvicultural system in the circumstances. It follows that even-aged management, including removal of the understory during the commercial thinning, was reasonable.

Finding #2

The silvicultural system that had been proposed and approved for the cutblock of concern to the complainant was clearcut (with reserves), which was a reasonable choice in the circumstances. Removal of understory regeneration during thinning was reasonable for a clearcut system.

Concern about biological diversity

The complainant was also concerned about the environmental value of a "monoculture" of even-aged Douglas fir forest after the understory was removed. This concern related to the need to maintain biological diversity. Biological diversity (or biodiversity) is the diversity of plants, animals and other living organisms. The *Biodiversity Guidebook* recommends an ecosystem

[4] *Silvicultural Systems Guidebook*, 1995, pg. 2.

[5] Green and Klinka, 1994. A *Field Guide to Site Identification and Interpretation for the Vancouver Forest Region*, pgs. 156, 157.

[6] General characteristics of selection systems include harvesting small groups of individual trees at repeated intervals one-third or less of the planned maximum age of the oldest planned trees, encouraging and maintaining an uneven canopy and an uneven-aged stand structure of at least three well-represented age classes.

management approach[7] to provide suitable habitat conditions for all native species. Habitat diversity is used as a surrogate to maintain biodiversity. The underlying assumption is that biodiversity is best maintained by managing forests so that they resemble those forests created by the activities of natural disturbance agents such as fire, wind, insects, and disease.

The silviculture prescription divided the cutblock into four treatment units. Although the unit that the complainant worked on was to be clearcut, the licensee pointed out that biodiversity was being addressed over the block as a whole, not in each treatment unit. In addition to the 17 hectare harvest unit of concern to the complainant, there were three non-harvest units covering an equal area[8]. In other words, half of the block was being managed for timber production and the other half was being managed for biological diversity. That approach is supported by the *Biodiversity Guidebook*. Planning to maintain biodiversity should occur at both the landscape and stand levels. Biodiversity management at the landscape level is beyond the scope of this complaint, which considers management at the stand level. Nevertheless, the Board noted that the licensee's management plan[9] refers to an extensive system of forest ecosystem networks to reduce fragmentation and maintain connectivity in managed forest landscapes. One non-harvest unit in the block is specifically a part of that forest ecosystem network.

The Biodiversity Guidebook also recommends practices to maintain biodiversity at the stand level, including the retention of wildlife tree patches and coarse woody debris. Areas of naturally-occurring plant communities should be retained. Taking the entire block as a unit, the provisions of the silviculture prescription are consistent with the suggestions in the Biodiversity Guidebook. One unit is a small wildlife tree patch. Another unit sets 30 percent of the block aside as riparian reserve. Another 16 percent of the block is a unit that is temporarily deferred from harvesting (not to be harvested under the approved prescription) for at least the short term.

Finding # 3

Although the harvest unit of direct concern to the complainant had few attributes to maintain biodiversity, almost half of the block consisted of non-harvest units. Those units, in conjunction with landscape-level features such as forest ecosystem networks, met Code standards to maintain biodiversity in the complaint area.

CONCLUSIONS

The complainant's concern for maintaining biological diversity values during commercial thinning was reasonable. However, removal of understory regeneration during thinning was consistent with sound forest management in the circumstances. The approved silviculture prescription for the cutblock was clear-cutting and the prescription adequately provided for biodiversity management elsewhere in the cutblock, through a series of non-harvest units.

[7] *Biodiversity Guidebook*, 1995, pg. 2.

[8] Block 1-7-D of Cutting Permit 1C in Tree Farm Licence 46.

[9] Management Plan No. 3 for Tree Farm Licence 46, December 1, 1996 to November 30, 2001, pg. 67.

The panel of the Board that concluded this report was John Cuthbert. The complaint analyst was Ben van Drimmelen

Location of Complaint