

To: Susan Rogers  
From: David L. Cook P. Eng.  
Subject: Ecological Impact of "Fromme" Mountain Bike Activity  
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I have recently had an opportunity to view the area of greatest mountain bike activity in the "Fromme Mountain" area with a view to assessing the impact of this activity on the **forest ecology** and **wildlife**.

The impact that I saw takes two forms:

1. Impact related to bike trail **construction**.
2. Impact related to **use** of the mountain bike trails.

### **Impact Related to Trail Construction**

Material for construction of structures is being taken from the forest in the following ways:

- a. **Cutting of live saplings:** I should not have to elaborate on the importance of saplings in the regeneration of this second growth forest which has been recovering very well from the devastating logging of last century. Give this forest another 150 years and it will be officially an **OLD GROWTH FOREST**. The principal dynamic of a healthy forest is succession; from red alder dominant tree to western hemlock and finally red cedar. This forest is presently somewhere in the middle of this succession with the alders dead and rotted away, the hemlock presently dominating but with the cedars well on the way. I noted attempts to cover freshly cut sapling stumps with debris such as squirrel cone scale leavings, so the engineers that produced these structures were aware that what they were doing was not quite kosher. There is a preference for western red cedar over western hemlock because it is a longer lasting wood. The cedar becomes the climax species of this forest as it slowly replaces the western hemlock. With the intensity, and no doubt long term use of these forests for mountain biking, this means that this forest will never be allowed to reach the climax stage such as has happened on the west side of Mosquito Creek where a magnificent old growth red cedar forest has survived. I am not implying that the western hemlock should be used instead of red cedar for construction purposes as that species also has a purpose in the healthy development of these

forests. The forest should be left alone and the materials for construction should be purchased from the lumber yard.

- b. Cutting of coarse woody debris (CWD):** There has been extensive use of fallen logs for construction of a variety of structures, probably in the mistaken belief that such material is useless rubbish and that they are in fact cleaning up the forest; a concept held until very recently by the forest industry. Chain saws have been used to cut up rotting logs of fallen mature and old growth trees. The term coarse woody debris normally applies to snags (dead upright trees), fallen logs, wind-blown trees and large fallen branches. In this case I am referring to fallen logs, as snags seem to have been left alone, presumably because of the danger and difficulty of felling, and the fact that there is a plentiful supply of fallen material. Also, the complete removal of a log leaves no trace of it ever having been there. Let me elaborate on why removing CWD from the forest floor is not a good idea. Dead trees are no longer viewed as waste and a potential source of pests. Instead both science and industry now realize that this material is an important component of forest ecosystems linked to biodiversity and ecosystem processes. Logs on the forest floor play a key role in **soil stability, nutrient recycling, moisture retention and habitat.**
- **Soil Stability:** CWD that falls across a hill slope acts as a water run-off barrier and traps soil on its uphill side.
  - **Nutrient Recycling:** Fungi break down the log, making nutrients available for new plant growth. The humus so formed acts as a soil component, soil stabilizer and nutrient reservoir for plants.
  - **Moisture Retention:** Logs are very important sources of water for tree seedlings, shrubs and epiphytic plants, which have shallow or no root systems. As they rot the logs act like a sponge, holding water even during periods of drought.
  - **Habitat:** Logs are both food source and habitat for numerous insects, amphibians, bears and a number of smaller mammals and birds. A rotting log is in fact the most biodiverse habitat in the forest.

### **Impact Related to use of the Mountain Bike Trails**

Usage of the mountain bike trails is heavy both in terms of numbers of users and in terms of time. The activity is occurring 7 days a week and because the

area receives virtually no snow, it is year-round. It is abrasive to both the forest floor and wildlife. This equates to erosion and extirpation of both wild-life and other user groups.

- **Erosion:** My survey did not cover this aspect, but it should be expected over time, as this high impact sport creates channels down steep slopes and trail construction is diverting streams. I have had reports of this type of impact already occurring.
- **Extirpation of Wildlife:** Using the Black Bear as the canary in the mine, many species of wildlife are probably avoiding this area. Sightings of Black Bear across the North Shore during last season showed a marked lack of bears into the urban areas south of the mountain bike activity in relation to elsewhere on the North Shore. “Good thing” you say, “we don’t want the bears”. “Let them invade someone else’s backyard”. However, bears are probably not the only species that have left the area. Extirpation of species impacts the health of the forest and decreases the enjoyment of other user groups.

## Recommendations

- I. The users should be educated as to the types of impact that their activity is having on the forest in the hope that they may develop respect for the natural environment in which they choose to pursue their activities.
- II. District Hall should take steps to stop the cutting of trees and CWD as a source of materials for construction of mountain bike structures. All materials used should be dressed lumber and not raw material removed from this or some other forest.

Cc

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