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APPEAL NO. 86/17 PES

JUDGEMENT

In the appeals of William Spira, the Arrowsmith Ecological Association and the Ships Point Improvement District against Pesticide Use Permit 400-164-86/88, issued to the B.C. Minister of Forests, Port Alberni Forest District, by the Administrator of the Pesticide Control Act on May 28th, 1986.

Pesticide Use Permit No. 400-164-86/88 is for an application of Roundup (glyphosate) for site rehabilitation to 233 hectares of forest lands in the Fanny Bay area of Vancouver Island, B.C. The target species of weed growth are big-leaf maple, red alder and other herbaceous and deciduous weeds. The application rate is 2.14 kg/ha (ai), for a maximum of 477 kg (ai) for the whole project. The method of application is by powerhose and nozzle, backpack sprayer, individual tree injection and stump application.

APPELLANTS:

Mr. William Spira, Errington, B. C.  
The Arrowsmith Ecological Association, Errington, B.C.  
Ship's Point Improvement District, Fanny Bay, B. C.

DECISION:

The Environmental Appeal Board, authorized under the Pesticide Control Act and the Environment Management Act, to hear the appeal of the three appellants on PUP 400-164-86/88, has considered all of the evidence submitted to it at the hearing on September 24th, 1986, and during the site inspection trip on September 25th, 1986, and has decided that the implementation of the program could adversely affect the water supply of the people living below the application site to some minor degree.

The appeals, therefore, are upheld, and the permit is cancelled in its present form.

COMMENTS OF THE BOARD

- 1) The Panel of the Board takes the position that no one has the right to apply a herbicide directly to another person's property (owned or rented), or to his or her water supply in British Columbia without that person's permission, no matter how safe the herbicide application may be. While this application is not directly to water intakes and/or wells, etc., it is to an area which must surely feed directly to the water intakes and wells of the people living below the application site. When the Board visited the application site, which was after some 65 days of exceedingly dry summer weather (i.e. hardly no rain), it found the site to be riddled with small streams and creeks on the upper part of the site, and standing water and bogs on almost all of the lower part of the site, which would make the defining of the 10-meter pesticide-free zones impractical and virtually impossible. On this basis, the Board, in good conscience, could not approve herbicide spraying of the site by any means. The decision was unanimous.

- 2) The Chairman of the Board apologizes to the people of the Ships Point Improvement District for initially rejecting their appeal. These people obviously had no experience in launching an appeal of this nature, and the Chairman should have taken this fact into consideration. For future reference, prospective appellants must make the grounds for their appeals site-specific, and tell the Board what is wrong with the specific herbicide application.
- 3) The Board noted that Mrs. Karen Sanford, M.L.A., for the area, attended the hearing. The Board also noted that she demanded no special privilege, but appeared as a witness for one of the appellants. The Board thanks Mrs. Sanford for her participation and help in this matter.
- 4) The Board notes that both the Ministry of Forests and the Administrator of the Pesticide Control Act are not paying enough attention to properly locating application sites in permits. This is not particularly important as far as the technical aspects of the permit are concerned, but it does mislead prospective appellants as to whether the application site is in their area, and whether they should be concerned or not. To mislead a prospective appellant can be a denial of natural justice and a denial of the intent of the government, and this can be a serious matter.
- 5) Had the permit been for hack and squirt, individual tree injection, or stump application only, it might have been approved by the Board.
- 6) This permit was cancelled for the reason stated in Item 1 of the Board's Comments. From a technical assessment of the herbicide application, there is no danger that contamination of the drinking water in the area would have reached a concentration which could cause any health problems to the people in the area, whatsoever.

- 7) The technical assessment of this Panel of the Board is as follows:
- a) A spraying operation (aerial or ground) of Roundup at 2 to 3 kg/ha into standing water of 6 to 8 inches deep is estimated to produce concentrations in the standing water (i.e. of Roundup) at about 1.0 ppm. The site in question has an exceedingly large amount of water flowing over or through the site. Because of this fact, there would be considerable dilution of the herbicide. Further, glyphosate adsorbs to soil particles and would not be expected to leach into the ground more than 10 to 14 centimeters (this information is from a study on the soil conditions in the Deep Bay area). In addition, Environment Canada has conducted studies on run-off concentrations into streams when the 10-meter pesticide-free zone has been used, and has found that the worse case condition is about 0.025 ppm (this is after 7 to 8 days of rainfall, starting one day after the herbicide application). Based on all of this information, it is estimated that the highest possible concentration of Roundup which could reach a person's water supply in the Fanny Bay area would be less than 0.025 ppm. When considering a person with a body weight of 130 lbs, this would mean the safety factor on the NOEL (no observable effect level for a lifetime continuous consumption of 30 mg/kg of body weight per day) would be in excess of 50,000.
- b) This means that the estimated worst-case concentration of Roundup occurring in the drinking water would be greater than 50,000 times below the level of the first-health effects of glyphosate in human beings. These first-health effects are a running nose, headaches or upset stomach, all of which are completely reversible.

- c) Roundup has been registered and used in Canada for 10 years. The Environmental Appeal Board has checked with Health & Welfare Canada, for any reports of anyone in Canada who has ever experienced adverse health effects from exposure to glyphosate (the active ingredient in Roundup). None has been reported in this period of time.
- d) Based on the results of extensive toxicological studies in animals, it has been demonstrated that Roundup does not appear to cause cancer, birth defects, mutagenic effects or nerve damage. For a period of time, however, Roundup was considered to be a suspected mild carcinogen (in higher concentrations), but after 10 years of experience with the herbicide, this assessment has been proven to be incorrect and has been dropped early this year by the Environmental Protection Agency.
- e) Roundup is not particularly persistent in soils. The half-life of Roundup varies considerably depending on the type of soil. As an example, the following figures are representative of the eleven different soils covering the full range of soil types and geological areas in North America:

Silty clay (organic content 6%) = 3 days  
Silty loam (organic content 1%) = 27 days  
Sandy loam (organic content 1% = 130 days

In experiments on Vancouver Island, under ideal conditions, a 98.5 percent breakdown of Roundup occurred in three days in a forest setting.



F.A. Hillier, P. Eng.,  
Chairman,  
Environmental Appeal Board

Victoria, B.C.  
October 16th, 1986