



APPEAL NO. 83/03 PES

J U D G E M E N T

PERMIT NO: 104-400-83/85 issued to the British Columbia Minister of Forests for an application of not more than 5 kg. of a.i. per hectare of 2,4-D Amine (P.C.P.Act Reg. No. 16995) on 103 hectares in the Dean River Valley north west of Bella Coola (Lot 48 VCL). The permit is for control of deciduous brush for conifer release purposes.

APPEAL: The appeal was taken against the application of 2,4-D Amine by spot treatment of individual stems or stumps using injection (hack and squirt) techniques or manually operated spray equipment and was due to the appellant's expressed concerns for the environment and the people, and the possibility that the application will cause an unreasonable adverse effect which will result in damage to man or the environment.

HEARING INFORMATION:

The hearing was held on May 18, 1983, in the Cedar Inn, Bella Coola, B.C. before the Panel of the Environmental Appeal Board.

The members of the Panel in attendance were:

Mr. A.J. Lynch	Panel Chairman
Dr. B. Morrison	Member
Mr. L. Osipov	Member

Miss Shirley Mitchell acted as recorder of the proceedings.

REGISTERED APPELLANT:

The registered appellant was Ann Cameron Hill, represented by:

1. Mr. K. O'Neill	Spokesman
2. Ms. A. Hill	Witness
3. Mr. R. Stewart	Witness
4. Mr. D. Hodson	Witness

LIST OF EXHIBITS

- "1" - Presentation of Ms. A. Hill - Appeal, Pesticide Use Permit #104-400-83/85, Bella Coola, B.C., May 18, 1983.
- "2" - Statement by Theodore D. Sterling, Ph.D., Professor, Simon Fraser University, British Columbia; Larry Stoffman, B.A., TDS Limited, Vancouver, British Columbia; Henry Nedergard, International Woodworkers of America, Local 1-85, Port Alberni, British Columbia.
- "3" - Presentation of Mr. M. Scott, Stock Tending Co-ordinator, Ministry of Forests

SUMMARY OF THE APPELLANT'S PRESENTATION (In Part)Mr. K. O'Neil

Some of Mr. O'Neil's comments were as follows:

1. Pesticide applicators in the area have complained of health effects.
2. The site in question is unsuitable for a hack and squirt operation.
3. The issue of possible detrimental effects on salmonoid stocks has not and cannot be addressed by the Ministry of Forests because of the absence of hydrological data.
4. There is no guarantee of worker safety.
5. There is an absence of soil data which is needed to determine if this application is necessary.
6. It is very difficult to determine the location of water courses in the area.

Ms. A. Hill

Ms. Hill outlined her objection to the use of 2,4-D Amine on public lands in the Mid-Coast Forest District. Some of her comments were as follows:

1. 2,4-D is carcinogenic, mutagenic and teratogenic, causing changes and abnormal formation in animals and plants.

2. Workers involved in hack and squirt operations are at risk due to their exposure to 2,4-D and the nature of the site terrain.
3. Manual release is less expensive than hack and squirt applications, and resprouting does occur with herbicide applications.
4. The proposed area for release on the Dean River, covered by this permit, is one of countless many which have been logged to a degree that the soil may simply not support the growth of young conifers.
5. Alder, by its nitrogen-fixing abilities, actually increases the growth rate of Douglas fir trees when maintained in a co-dominant position.
6. The area is used for food gathering by native peoples of the Kimsquit reserve.
7. Fishermen and their guides use the area as an access to the Dean River steelhead fishing grounds: the application is a potential hazard, and a threat to the guiding business.
8. Bona fide questions exist as to the safety of 2,4-D.

Mr. R. Stewart

Some of Mr. Stewart's comments were as follows:

1. For several years, use has been made of the road that traverses the area to transport fishermen to the Dean River. He was concerned about their safety, and, also, how his clients will react to passing through the application area.
2. The Dean River is the best steelhead river in British Columbia.
3. There is a possibility of contamination of the Dean River if heavy precipitation occurred following application. The site drains to the river and is traversed by a number of small streams and wet areas, some of which may be dry in the summer months.

Mr. D. Hodson

Some of Mr. Hodson's comments were as follows:

1. There is a fair number of wildlife in the area (willow grouse and deer) and vegetation and berries.
2. A previous application at a location known as "Five Mile" was not successful.
3. It is difficult to predict precipitation in the summer; sometimes there are periods of protracted rain.
4. There is no one living in the site area, but two persons reside in a Fish and Wildlife cabin, approximately 200 yards from the site. The water supply is a stream which passes through the spray site.

SUMMARY OF THE PERMIT HOLDER'S PRESENTATION (In Part)

The following persons appeared as representatives for the permit holder:

Mr. M. Scott -	Stand Tending Co-ordinator, Vancouver Forest Region, Ministry of Forests, Burnaby
Mr. G. Burns -	Resource Officer, Silviculture, Mid-Coast District, Ministry of Forests, Bella Coola

Mr. Scott

Some of Mr. Scott's comments were as follows:

1. The growth rate of the conifers will be increased due to the reduced competition for light, nutrients and moisture.
2. 2,4-D Amine has a registration for forestry use issued by the Federal Government, which is the recognized agency for certifying herbicide use patterns
3. The project will be carried out under the supervision of personnel with appropriate certificates and licences.
4. The British Columbia Ministry of Forests encourages the public to express interest and to state concerns as well as to receive information about Ministry policy and activities.

5. The Ministry of Forests uses fire and mechanical methods as well as herbicides to manage vegetation. The potential alternatives for the removal of the deciduous trees are girdling and felling. Felling is unacceptable because of damage to crop trees as well as considerable hazard to the cutters. Girdling generally costs more than hack and squirt. This technique is frequently used within the buffers. The release results from girdling are delayed and mean a loss of 3 to 4 years' growth. Forestry decisions are, of necessity, site specific, and, in this case, hack and squirt is deemed the most efficient method.
6. Alder has insufficient value to justify allocation of land to its production instead of valuable coniferous species.
7. The problem area was planted. The most recent surveys show that the area is fully stocked with conifers; however, their growth is being suppressed by vigorous deciduous trees.
8. The cost of the hack and squirt method is estimated to be between \$500 and \$800 per hectare. While it is true that some manual brushing programs have cost as low as \$400 per hectare, manual brushing could not be used in this case because of the danger of damage to conifers.

With the aid of slides, Mr. Scott described the application and safety equipment used in applying 2,4-D by the hack and squirt method.

In cross-examination, Mr. Scott indicated that normally the Ministry of Forests acceded to requests of the Fish and Wildlife Branch for exclusion of areas, but is not bound by their requests. In a case of a dispute, the Ministry of Forests would request the Ministry of Environment to adjudicate the dispute.

Mr. Burns

Mr. Burns described the topography and physical characteristics of the application area with the visual aid of slides. He indicated that the larger alders will be hacked and squirted while the smaller ones will be severed and treated with herbicide.

Thinning of the conifers is not anticipated at this time.

In cross-examination, Mr. Burns stated that a member of his staff, possessing a valid applicator's licence, will monitor the application which will include -

- (a) Daily checks of the quality of the job.
- (b) Ensuring the contractor is meeting the standards of the contract and abiding by the Workers Compensation regulations.

Mr. Burns said that, in general, water bodies will be marked and defined by the staff member with the pesticide applicator's licence, and that the water courses are easy to identify. He indicated that the chances of survival of the conifers is minimal if they are not released from the effects of the alder growth.

Mr. Burns stated that the Ministry of Forests would notify the inhabitants of the Fish and Wildlife cabin prior to the herbicide application.

DECISION:

The Panel of the Environmental Appeal Board has considered all of the evidence submitted to it in the appeal hearing on Pesticide Control Permit 104-400-83/85, and has decided to add or amend the following conditions to the permit:

- 1) Warning signs shall be posted in prominent public access places when the pesticide application commences.

- 2) Permit condition 11 be amended to read:

"That the Fish and Wildlife Branch in Victoria (Ms. S. Von Schuckman, 387-1493) be given at least two weeks' advance notification prior to the commencement of the project to arrange an on-site inspection for the purpose of ensuring that the marked pesticide-free zones will provide adequate protection of the fisheries resources".

The Panel has also decided that with the above-noted additional conditions, the implementation of the program will not cause an unreasonable adverse effect to man and/or to the environment, and on this basis, the appeal is hereby dismissed.

Upon coming to this decision, the Panel takes note of the following:

The Panel accepts the evidence that 2,4-D, like most other chemicals, is potentially a toxic substance and when misused, may have acute and chronic adverse effects. Therefore, human exposure to the chemical should be minimized and every effort should be made

to apply it as sparingly and discriminately as possible. The Panel does consider that the application by the hack and squirt method, as proposed in this permit, as being one of the most site-specific and safe methods of chemical usage which will keep contamination of the environment to a minimum.

With this method of application, the stipulation in the permit of 10 meter buffer zones for the protection of water bodies, the pre-application inspection by the Fish and Wildlife Branch and the application monitoring by the Ministry of Forests, the possibility of significant contamination of water bodies and hence fish stock would appear to be virtually non-existent. The Panel has made this decision, recognizing the importance of the Dean River as the prime steelhead river in B.C. and its ecological and economic value.

In considering the possible contamination of food sources, the Panel notes that 2,4-D breaks down rapidly in soil, particularly in warm moist conditions typical of Bella Coola in the summer months. Although the Panel does not expect any contamination of berries or other wild plants, it notes that 2,4-D is used in the cultivation of food crops and, in fact, the Federal Food and Drug Directorate permits a maximum residue limit for citrus fruit and asparagus of 2 and 5 parts per million, respectively.

Attached as an Appendix is the latest update on 2,4-D by the Health Protection Branch of Health and Welfare Canada.



A.J. Lynch
Panel Chairman
Environmental Appeal Board

VICTORIA, B. C.
October 6, 1983