

APPENDICES A, B & C

Suggested References for More Information on Pesticides
Government Libraries Available to the Public
Audio Visuals on Forestry Pesticides

PART II: A REVIEW OF PUBLIC INFORMATION ON PESTICIDES
in
PUBLIC INFORMATION ON PESTICIDES:
SUGGESTED GUIDELINES AND
A REVIEW OF AVAILABLE PUBLICATIONS

British Columbia Ministry of Forests
Victoria, British Columbia
Forest Service Internal Report
PM-PB-22

Not for Publication
For Internal Use, Only
Prepared by Diane Swanson
for Information Services Branch

July, 1986

(The contents of this report may not be cited in whole or part without the written approval of the Director, Information Services Branch, Ministry of Forests, 1450 Government Street, Victoria, B.C., V8W 3E7)

APPENDIX A

Suggested References for More Information on Pesticides

Agencies and associations contacted for this report suggested the references listed below for people who want more technical details than public information publications provide. There are also two detailed bibliographies attached: (1) a selected bibliography of forest pesticide literature, divided into three sections: herbicides, insecticides and pesticides (from Forest Pesticide Handbook of B.C.); (2) the Forest Pest Management Institute Bibliography (1977-1982) plus a computer up-date.

Anon., 1977. Conference on Fraser Canyon Budworm Spraying Programme, Victoria, Hansard Report, B.C. Ministry of Forests.

Anon., 1984. Pesticide Background Statements, Vol. 1, Herbicides. Forest Service, U.S.D.A. Agriculture Handbook No. 633.

Boateng, J. D., 1984. Estimates of Forest Brush Problems In British Columbia, Ministry of Forests, Silviculture Branch Report, BCMF-SH-R84001.

_____, 1984. Guidelines for Vegetation Management, SX Trials, Ministry of Forests, Silviculture Branch.

Boraiko, Allen A., 1980. "The Pesticide Dilemma," National Geographic, 157, 2, pp. 145 - 183.

British Columbia Ad Hoc Committee on Forest Pesticides, 1985.

Communication Gaps and Perception of Risk in the Use of Herbicides in Forest Management, a collection of papers presented at the Media Centre panel discussion in Vancouver, October 24, 1984.

Canadian Council of Resource and Environment Ministers, 1984.

Proceedings of Seminar on Herbicides and Forest Renewal. Ottawa, November 15, 1984.

Canadian Pulp and Paper Association, 1985. Proceedings of Public Affairs and Forest Management: Pesticides in Forestry Seminar. Toronto, March 25-27, 1985.

Coates, D. and S. Haeussler, 1985. A Preliminary Guide to the Response of Major Species of Competing Vegetation to Silvicultural Treatments. Victoria, B.C. Ministry of Forests.

Conrad, Susan G., 1984. Forest Vegetation Management in British Columbia: Problem Analysis, B.C. Ministry of Forests Research Report, RR84001-HQ.

Doliner, L.H. and J.H. Borden, 1984. PesTerms: A Glossary of Forest Pest Management Terms, B.C. Ministry of Forests, Pest Management Report Number 3.

Haeussler, S. and D. Coates, 1985. Autecological Characteristics of Selected Species that Compete with Conifers in B.C.: A Literature Review. Victoria, B.C. Ministry of Forests.

- Herring, L.J. and J.C. Pollack, 1985. Experimental Design Protocol for Forest Vegetation Management Research: Level B Trials, First Approximation, B.C. Ministry of Forests Research Report RR84013-HQ.
- Hildebrand, Lloyd D., Druscilla Sullivan & Thomas Sullivan, 1980. "Effects of Roundup Herbicide on Populations of *Daphnia magna* in a Forest Pond," Bull. Environm. Contam. Toxicol., 25, pp. 353 - 357.
- Humphreys, Pat, 1984. Pesticide Use in British Columbia Forestry 1983, Forest Service Internal Report PM-PB-13.
- MacDonald, Vanessa, 1985. Draft, Decision-Making Profile for Herbicides and Alternative Brush Treatments. Victoria, B.C. Ministry of Forests.
- Pesticide Control Branch, 1980. Handbook for Pesticide Applicators and Pesticide Dispensers. Victoria, B.C. Ministry of Environment.
- Pollack, J.C. and L.J. Herring, 1985. Experimental Design Protocol for Forest Vegetation Management Research: Level A Trials, First Approximation, B.C. Ministry of Forests Research Report RR84012-HQ.
- Ross, D.W., 1982. Forest Pest Management on British Columbia Parklands, Ministry of Forests Protection Branch Report, PM-PB-6.
- Silviculture Branch, continuously updated. "Vegetation Management," Chapter 12, in Silviculture Manual. Victoria, B.C. Ministry of Forests.

Sullivan, D.S., Thomas Sullivan & Thana Bisalputra, 1981.

"Effects of Roundup Herbicide on Diatom Populations in the Aquatic Environment of a Coastal Forest," Bull. Environm. Contam. Toxicol., 26, pp. 91 - 96.

Sullivan, T.P. & Druscilla Sullivan, 1979. "The Effects of Glyphosate Herbicide on Food Preference and Consumption in Black-Tailed Deer," Canadian Journal of Zoology, 57, 7, pp. 1406 - 1412.

_____, 1981. "Responses of a Deer Mouse Population to a Forest Herbicide Application: Reproduction, Growth and Survival," Canadian Journal of Zoology, 59, 6, pp. 1148 - 1154.

Workers' Compensation Board of B.C., 1985. Standard Practices for Pesticide Applicators, second edition.

APPENDIX B

Government Libraries Available to the Public

The public has access to research material on pesticides at the following government libraries:

Fisheries and Oceans Canada Fisheries Management Regional Library 1090 W. Pender Vancouver	666-3851 Hours: 8 to 4 (M-F)
Pacific Forest Research Centre 506 West Burnside Road Victoria Note: Use is at librarian's discretion	388-0637 Hours: 8 to 4 (M-F)
Ministry of Environment Library Third Floor 780 Blanshard St. Victoria	387-5194/5195 Hours: 8 to 4:30 (M-F)
Ministry of Forests Library 31 Bastion Square Victoria	387-3628/6785 Hours: 8:30 to 4:30 (M-F)

APPENDIX C

Audio-Visuals on Forestry Pesticides

Two of the agencies approached indicated that they had produced audio-visual public information material related to forestry pesticides:

Canadian Pulp and Paper Association

Video cassettes and slide-tapes:

- "Protecting the Forest Resource," 16 min.

Presents information on the registration of forestry pesticides.

- "The Essential Edge," 17 min.

Presents information on the use of pesticides in forestry.

Ministry of Forests

A. Motion Pictures:

- "Decision," 27 min., 1979, #290

Shows the decision-making process used by the Ministry of Forests, using the 1977 ministerial budworm spraying meeting as an example.

- "Regan's Choice," 25 min., 1977, #279

Shows the public's influence on forest protection policy in Nova Scotia during a spruce budworm epidemic

- "Trees are Brown," 13 min., 1977, #275

Describes the Douglas fir Tussock Moth suppression program of 1976 in the North Thompson area.

B. Slide Shows:

- "Western Spruce Budworm," #ssl09

Identifies the pest and describes the damage caused and possible control measures.

- "Pesticides Control and Regulations," #ssl40

Covers federal, provincial and forest service regulations and permit systems pertaining to the storage, transportation, application and disposal of pesticides.

- "Herbicides," #ssl41

Describes the actions, characteristics and methods for the use of many currently registered forest herbicides.

APPENDIX B

Summary of Printed Material Used in Developing Guidelines

PART I: GUIDELINES FOR PUBLIC INFORMATION ON PESTICIDES
in
PUBLIC INFORMATION ON PESTICIDES:
SUGGESTED GUIDELINES &
A REVIEW OF AVAILABLE PUBLICATIONS

British Columbia Ministry of Forests
Victoria, British Columbia
Forest Service Internal Report
PM-PB-22

Not for Publication
For Internal Use, Only
Prepared by Diane Swanson
for Information Services Branch

July, 1986

(The contents of this report may not be cited in
whole or part without the written approval of the
Director, Information Services Branch,
Ministry of Forests, 1450 Government Street,
Victoria, B.C., V8W 3E7)

AREAS OF PUBLIC CONCERN RE PESTICIDES AND PESTICIDE USE,
AS EXPRESSED IN NEWS CLIPS, APRIL TO DECEMBER, 1985

NOTE: The news clips examined do not represent all the news coverage given to pesticides during this time period--nor can they be called a scientific sample. In short, they are what we could put our hands on. Still, the exercise gives us an idea of some of the concerns the public has. And because those concerns are being reported in the press, no doubt they have also become concerns of a number of newspaper readers.

Concerns about food and pesticides:

- endangering supply (eg., of salmon berries, Kitsumkalum Band)
- contaminating fish and wildlife used as food

Concerns about seedlings and pesticides;

- dying on sprayed planting sites

Concerns about fish and wildlife, and pesticides;

- harming fur-bearing animals
- wiping out food supplies for moose, deer, grouse and rabbits
- damaging salmon-rearing channels

Concerns about health and pesticides:

- endangering safety of those who contact chemicals directly
- polluting water supply
- causing cancer, possibly by combining with other chemicals
- causing problems related to the horror stories of Agent Orange, heptachlor in mothers' milk in Hawaii and the Union Carbide negligence in India
- having long-term, cumulative effects on health
- causing headaches, nosebleeds, dizziness, and skin rashes
- leading to miscarriages and birth defects
- endangering future generations

Concerns about the environment and pesticides:

- polluting ground water, rivers and streams
- disturbing ecology
- staying in environment for long time without people being aware of the presence

Concerns about pesticide control:

- testing is fraudulent
- testing is kept quiet
- testing is conducted beyond labs
- registering of pesticides is kept quiet
- monitoring of the amount used is not always done

-use of pesticides is not limited to those that are certified safe

-application is not safe

Concerns about forestry/foresters:

-working against nature, not with it

-weeding when not really necessary

-turning to pesticides as panacea for all forest ills

-ignoring methods of weed control that do not involve spraying,

eg.:

-using newspaper mulch to keep down weeds

-staking young trees

-using hack and squirt method

-spraying repeatedly to control weeds

-making spraying appear cheaper than it really is

-failing to involve public in planning of forest management

-failing to inform residents, well in advance, of plans to spray

NEWS CLIPS EXAMINED, APRIL TO DECEMBER, 1985

	MONTH									
NEWSPAPER	AP	MA	JE	JU	AU	SE	PC	MP	DE	TOTAL
The Tribune Wm. Lake	1					1				2
Free Press 100 Mile	1	1								2
The Province Vancouver					2			1	1	4
Times-Colonist Victoria					2		1		1	4
The Times Squamish									1	1
The Question Whistler								1		1
Daily News Nelson			1	1	4		2			8
The Sun Vancouver		1		1	12		1			15
News Advertiser Kitimat				3	1					4
Observer Quesnel						1				1
Town Crier Powell River					1					1
Globe and Mail Toronto					2					2
The Citizen Prince George					1					1
Daily News Prince Rupert					1					1
TOTAL	2	2	1	5	26	2	4	2	3	47

D.M. Wilson, Environmental Protection Service, Pacific Region,
"Some Observations on Court Actions to Stop 1985 Garlon Herbicide
Trials in the Skeena River Floodplains," Sept. 1985

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Public skepticism of industry arises from well-publicized incidents re the use, manufacture, storage, transportation or testing of chemicals in or out of Canada.

-The attitude that government agencies are not adequately protecting the public from pesticide use is ironic because pesticides are probably the most heavily regulated of commercially manufactured chemicals.

-Information in communication programs was presented by experts with vested interests in using Garlon. Outside experts would have had greater credibility in discussing risks and benefits.

PUBLIC CONCERNS AND INFORMATION GAPS

-There seems to be an underlying mistrust of chemicals arising from:

- the low credibility of the chemical industry

- suspicion of the government's ability to protect the public from misuse of chemicals.

-The public has a perception of inadequate regulation and evaluation of pesticides.

-The community of Terrace is skeptical of the real need for herbicides in forest management.

-There were concerns that the publicity given to spraying would adversely affect tourism.

-Local fisheries officers were concerned about the effects of spraying on fisheries-sensitive waters.

Consensus Statement of the Forest Land Use Liaison Committee of
British Columbia on Pesticide Use in Forest Management, Dec.,
1985*

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Effective forest management needs the support of a knowledgeable, informed public.

PUBLIC CONCERNS AND INFORMATION GAPS

-Some British Columbians have serious concerns regarding the risks to human health and to the natural environment. They would prefer that pesticide use be strictly limited or forbidden.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-The Pesticide Control Branch should try to provide broader circulation of pesticide use applications in order to permit earlier public review.

-Encourage active and timely participation in pesticide programs by government, industry and the general public.

-Encourage the forest manager to give early notice to local land owners and users when a permit application is filed. Early consultation helps to avoid confusion and misinformation.

-Encourage active cooperation among the responsible government agencies, pesticide users and interested organizations to improve public understanding of forest pesticide use.

-Conduct hearings to address public concerns.

*Participating Groups: B.C. Hydro and Power Authority, B.C. Wildlife Federation, Council of Forest Industries of B.C., Federation of B.C. Naturalists, Federation of Mountain Clubs of B.C., International Woodworkers of America, Outdoor Recreation Council of B.C., Pacific Salmon Society, Sierra Club, Society for the Promotion of Environmental Conservation, Steelhead Society of B.C., Truck Loggers Association, Guide-Outfitters Association of B.C.

Task Force on the Use of Herbicides in Forest Management, a report prepared for the Department of Parks and Renewable Resources, Government of Saskatchewan, May 15, 1985

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-The majority of the 53 briefs submitted to the Task Force strongly opposed herbicide use. This seemed mainly due to a fear of the unknown and a lack of awareness/understanding of the technical information.

-The general public had scant knowledge of the forests--its harvest and its renewal.

PUBLIC CONCERNS AND INFORMATION GAPS

-Health concerns re:

- toxicity of pesticides
- long-term impact on the food cycle
- effects of direct exposure to herbicides on leaves
- long-term cancer risks
- teratogenic risks of herbicides
- invalid test results from laboratories
- basic nature of pesticides (designed to kill)
- effects on non-target organisms
- interaction of pesticides with other chemicals
- technological mistakes in the past

- allergic reactions to pesticides
- effects on water
- risks of mutations
- effects of dioxins used in Vietnam
- Fears of ecosystem disturbances, eg.:
 - long-term effects on forest ecosystem
 - effects on ability of ecosystem to ward off diseases and destructive insects
 - risk of forced migration of wildlife
 - risk to animals directly in spray area
 - loss of forage
 - impact of herbicides on muskeg, bogs and fens
 - effects on water system via runoff
 - persistence on leaves
 - effects on non-target flora, eg. flowers
 - risks of erosion through the killing of plant roots
 - risks of loss of humus
- Forest management concerns, eg.:
 - effectiveness of chemical weeding
 - costs of weeding
 - effectiveness of weeding in improving crop trees
 - registration of herbicides
 - training and supervision of herbicide applicators
- Fears of socio-economic impacts, eg.:
 - effect of pesticides on resources that are a source of income
 - effect on recreation and tourism

-conflicts re land claims

-right to be consulted and to affect decision-making

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-Public awareness programs should include public meetings and the preparation of non-technical pamphlets.

-Ensure that the public is aware of stringent federal regulations controlling registration.

Attitudinal Study, Canada/Manitoba Forest Renewal Agreement,
February, 1985

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Use of chemicals is an issue now and it will likely continue to be one--with high profile possibilities.

-The most believable sources of information are the professional forester and a representative of the Manitoba Forestry Association, followed closely by a university scientist. The Minister of Natural Resources, the manager of a pulp mill and a civil servant are considerably less credible than the first group. Most people would not believe a labor union leader, a reporter or a politician other than the cabinet minister involved.

PUBLIC CONCERNS AND INFORMATION GAPS

-Just over 50% of the people questioned believed that use of chemicals in forest management is a bad idea. But 57% of those people later said that the use of chemicals is okay if controlled by professional foresters.

-One quarter of the total number of people in the tree belt were opposed to chemical use under any circumstances.

-People were uncertain about whether or not chemicals are used extensively in Manitoba forests.

-When asked about causes of loss of prime timber in the province, the public did not mention pests. Forest fires were named by 88% as the number one or two cause.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-People need a lot of information on the use of chemicals in forest management.

-References to the use of chemicals should always point out that they were used under the control and supervision of a professional forester.

-People need to be made aware that pests destroy a lot of prime timber.

-The story of "man helping nature" would be well received by the public. It can help rationalize the use of chemicals in forest management.

-By pointing out the beneficial use of chemicals in reforestation, foresters can diffuse some criticism.

-In any public communication program, the spokesperson must know how to use the media and still retain credibility.

-Professional foresters, representatives from the Manitoba Forestry Association, university scientists or the Minister of Natural Resources should be used as major spokespersons. Print material should include their statements. Brochures should include their signatures.

Public Opinion Study, Canada/Saskatchewan Forest Resource
Development Agreement, May, 1985

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Spokespersons perceived to have the most credibility re forestry and forest management issues are (in order): the professional forester, a member of the Saskatchewan Forestry Association, a locally elected official, a university scientist, the Minister of Parks and Renewable Resources, the manager of a pulp mill, a civil servant, a reporter and a labor union.

-About 48% of the people interviewed thought that the media exaggerated forest management issues.

PUBLIC CONCERNS AND INFORMATION GAPS

-The general public was confused as to whether or not chemicals were being used extensively in Saskatchewan forests.

-About 54% thought it was a bad idea to use chemicals in forest management. They gave reasons such as:

- chemicals are dangerous to wildlife.
- chemicals are not natural.
- chemicals may cause side effects.
- chemicals may cause health problems.
- something could go wrong in the application.

-Chemicals could affect berries.

-Chemicals cause pollution.

-Chemicals can get into the water.

-Half of those who either thought chemicals were a bad idea or "didn't know" agreed it was fine to use them if the application was controlled by a professional forester to make the forest more productive.

-The most opposition to the use of chemicals centered in the tree belt areas.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-Over 95% agreed that man needs to help nature with reforestation. This indicates a strong direction for public information to take.

Attitudinal Study Report for the Canada/Alberta Forest Resource
Development Agreement, October, 1985

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-About 47% of the people interviewed thought that the media exaggerated forest management issues.

-More people in urban areas approved of chemicals in forest management than those who lived in forest/fringe areas.

PUBLIC CONCERNS AND INFORMATION GAPS

-About 27% disapproved of using chemicals in forest management.
They cited reasons like:

- chemicals harm wildlife.
- chemicals create pollution.
- chemicals are detrimental to health.
- the long-term effects of chemicals are unknown.
- using chemicals is an unnatural way of doing things.

-Only 5% mentioned insects and disease as a major cause of loss of prime timber.

-When asked about insects and disease, 37% said they were a serious problem, 36% said they weren't and 27% didn't know.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-About 78% strongly agreed that man needs to help nature with forest renewal--a good direction to take in public information programs.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

(The Canadian Forestry Service, Edmonton, Alberta, did a wrap-up of the attitude studies in the three prairie provinces. These suggestions are from that report.)

-Concentrate education programs in areas where people are less familiar with forestry issues--i.e., areas that are not close to forests.

-Focus programs on a credible spokesperson.

-Point out the benefits of having a strong forest industry and managed forest land in terms of employment, tourism and recreation.

-Present information about the long-term potential of the forest.

-Raise the public's awareness of agencies and departments responsible for forest care. Promote their activities. Publicize instances of government-industry cooperation.

-Educate the public re laws regulating forest land and forest industry.

-Explain the processes of forest management and reforestation.

-Always point out the professional controls used in application of chemicals.

-Stress the need for pesticides.

-Explain serious forestry problems as part of the rationale for using chemicals.

-Present the costs and benefits of forest care, research and management.

John Hendee, USDA Forest Service, "Factors Contributing to Public Concern about Forestry," SAF National Convention, Oregon, 1983.

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Adverse public opinion about any one issue can spread to forestry as a whole.

-Public opinion may deal in images more than in facts.

PUBLIC CONCERNS AND INFORMATION GAPS

-More than one out of three citizens is likely to think that pesticides in forestry are widely abused.

-People are concerned that herbicides contaminate water, and cause cancer and other health problems.

-Half of the people feel that insecticide use should be more strictly regulated.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-We should address public concerns directly and attempt to lead people to more informed choices.

-Promote positive symbols to cultivate the image of forestry.

-Stress forestry's involvement with people in land use, community planning and recreation.

-Stress the economic importance of forestry.

-Stress non-commodity forest uses and forestry's role in providing things the public enjoys--hunting, fishing, hiking, camping, wildlife viewing and environmental education.

APPENDIX A

Summary of Interviews Used in Developing Guidelines

PART I: GUIDELINES FOR PUBLIC INFORMATION ON PESTICIDES
in
PUBLIC INFORMATION ON PESTICIDES:
SUGGESTED GUIDELINES &
A REVIEW OF AVAILABLE PUBLICATIONS

British Columbia Ministry of Forests
Victoria, British Columbia
Forest Service Internal Report
PM-PB-22

Not for Publication
For Internal Use, Only
Prepared by Diane Swanson
for Information Services Branch

July, 1986

(The contents of this report may not be cited in
whole or part without the written approval of the
Director, Information Services Branch,
Ministry of Forests, 1450 Government Street,
Victoria, B.C., V8W 3E7)

John Henigman, Protection Branch, Ministry of Forests

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Even in forestry-based communities, where the public is fairly knowledgeable about forestry issues, plans to use pesticides have received negative public response. In the attempt to spray for spruce budworm in 1977, public upset was partly caused by a lack of public involvement. The public had very little information on either the pest or the insecticide.

-Typically, the public has not been well-advised on forestry problems and has not been given time to see proposed solutions.

-In areas where agriculture is important, there is little objection to spraying forests. Attitudes to spraying crops seem to be totally transferable to spraying trees. In areas where agriculture is somewhat important, the public appears to be fairly neutral and generally open to information about herbicides.

-At public meetings, we are not often exposed to a cross-section of people. We cannot assume that people at those meetings are representative of British Columbians.

PUBLIC CONCERNS AND INFORMATION GAPS

-The average person in Terrace (at the time of the Garlon trials) seemed very unaware of the state of the forests that supply Terrace. The public didn't see the forest as being crucial to the town so the weed problem did not seem terribly relevant.

-The Indian band at Terrace seemed to object particularly to the experimental nature of the proposed testing in a significantly sensitive fish-and-wildlife area.

-If plans for vegetation management appear to affect economic success in a community, more people are attracted to public meetings on the topic.

-The closer the people live to an area slated for spraying, the more concerned they are about their health. In particular, mothers worry about spraying affecting the health of their children.

-Some communities are concerned about the actual chemical involved while others are more concerned about the ministry's ability to use chemicals in a safe manner.

-Negative attitudes towards spraying seem to be tied in with the whole image of the Ministry of Forests. If prescribed burning or logging has been unpopular in an area, spraying is unpopular, too.

-During spraying time, especially in late August and early September, news stories of the use of other unrelated chemicals increases concern about herbicide use.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-We need to direct most of our information efforts to rural communities where the public is close to the spraying.

-We need to convey information on reforestation on a regular, on-going basis. We need to get across the idea that we must maintain and manage young trees and that we must use herbicides when appropriate.

-We need to demonstrate the need for vegetation control by showing the costs and benefits to the community. We also need to show a comparison of the costs of various methods of vegetation control.

Mike Wyeth and Jacob Boateng, Silviculture Branch, Ministry of Forests

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Many people cannot accept that there is a shortage of wood in B.C. so they don't see the need to do vegetation management.

-We are winning the appeals, but not the public.

-That part of the public that objects to pesticide use doesn't necessarily represent all the public.

-There is a general distrust of government programs.

PUBLIC CONCERNS AND INFORMATION GAPS

-The public has a fear of pesticides. People think that pesticide use will devastate an entire area.

-There is a lack of understanding of forestry in general so people don't see a need for herbicides. They don't understand that we are losing a lot of trees each year due to weeds.

-People are concerned about the impact of pesticides on the environment. They worry that pesticides will get into the water and the soil, and that fish and wildlife will be adversely affected.

-In places like Nelson, people are concerned that pesticides will affect tourism by making the area unattractive. Most people assume that pesticides will eliminate vegetation for a long time.

-Health is a key concern. People worry that pesticides might cause cancer and genetic problems. They fear adverse effects on pregnant women.

-The general public doesn't understand how a chemical is registered for use.

-People think that chemical companies do all the testing that is required to register a chemical.

-People don't understand that anything can be toxic. Further, they don't accept that there is risk involved with nearly everything.

-The public doesn't realize, or doesn't believe, that some of the same chemicals used in forests are used in agriculture and in home gardening.

-There is a lack of trust of foresters, an attitude of "How do we know you can do it right?"

-Employment is a concern. People who need jobs promote the use of manual methods. They don't understand that they are not feasible in some areas.

SUGGESTIONS FOR PUBIC INFORMATION PROGRAMS/APPROACHES

-Organize walks through the forests so more people can see, for themselves, what is happening.

-Prepare fact sheets on the toxic nature of chemicals for use at appeals. Questions about health should be answered, not passed off by saying, "The federal government deals with that."

-Present material in a positive manner, i.e., herbicides are used to save trees (as opposed to being used to kill brush.)

Henry Benskin, Research Branch, Ministry of Forests

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-We are dealing with what is, partially, an emotional issue yet it is important that the public be rational about the use of chemicals. The inconsistencies in public perceptions are costing us all a lot of money.

-It is largely the media reports of herbicide abuses that scare people.

-The public questions the credibility of technical data because of previous test scandals.

PUBLIC CONCERNS AND INFORMATION GAPS

-There is a general lack of understanding of herbicides and of the need for herbicides.

-The public does not relate the use of chemicals in the house and on the farm with their use in the forest.

-People are concerned about their health and about the effects of pesticides on fish and wildlife.

-The public doesn't realize what would happen if herbicides were not used on forests. In general, people don't understand the need for vegetation management in relation to timber supply goals.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-Most material on herbicides is not easily understood. We really need fact sheets that explain things in lay terms.

-Educational efforts should also be directed towards executives in the government and industry. They should be more aware of the facts associated with herbicides so they could speak about them more confidently.

-Third parties, in the medical profession or the universities, should be encouraged to speak out regarding herbicide use.

-An information campaign must be backed by research to supply missing items of information, eg., the effects of herbicides on non-target organisms.

John Pollack, Prince Rupert Forest Region, Ministry of Forests

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Opponents to pesticides present many misconceptions. Some of them perceive a war-like situation where the end justifies the means.

PUBLIC CONCERNS AND INFORMATION GAPS

-A commonly repeated concern is that foresters don't know what they are doing. Foresters are seen as trying to speed up succession unnecessarily. The public seems to think that the forest should be left alone to fix itself naturally.

-People often think that the ministry objects to manual weeding solely because of the costs.

-The ministry is seen as part of a conspiracy to take the easy, cheapest solution to forestry problems and to cover up mistakes.

-There is a fear that the process of registering chemicals for use as pesticides just involves a rubber-stamping of "quick and dirty" information provided by chemical companies.

-There is a persistent and nagging doubt about the safety of pesticides. Many people simply don't want any chemical used.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-A public information campaign must show that we have done our homework. It must point out that we are losing trees every year and that we have tried other means of saving them. Pesticides are used as a last ditch effort.

-We need to be squeaky clean about forestry uses of chemicals. Troubles we have had in the past should not be down-played. We should try to foster the opinions that we don't deliberately use harmful chemicals.

-It is important to be well-informed about the pesticide situation in the United States, including the litigation re herbicide use. Coalitions against pesticide use bring up this sort of information at meetings so we must be able to talk about it.

-Anyone involved in public information programs must understand the pesticide registration process and be able to discuss it easily. A good understanding of the re-testing of chemicals is important, too.

-We must convince the public of the magnitude of the problems in vegetation management and the costs involved. We must explain that foresters should be able to use herbicides if needed.

-Let's brag about our good sites. Perhaps we can use pictures of examples of good forestry to show that we really can grow trees. We can also use pictures to show how some sites have deteriorated and need treatment.

Gary Lloyd, Prince Rupert Forest Region, Ministry of Forests

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-The pesticide issue appears to be very hard to put into layman's terms.

-Many of the questions we receive from the public/media are worded in such a way that they are difficult to handle, a "Have you stopped beating your wife?" approach. No matter how we respond, we're in trouble.

-We are criticized for giving out information that is either too general or too specific.

-Questions from reporters usually centre on the effects of herbicides. They are upset if we don't claim to know all the effects.

-The herbicide issue seems to be largely an emotional one.

-The public appears to have a general mistrust of government projects and that affects attitudes towards spraying. Past mistakes in the forest industry have also created mistrust.

-The credibility of the ministry and of all those involved in a spraying program suffers when there are disagreements among resource people from the various branches and ministries.

-We are encouraged by the number of "neutral people" who seem to want to know more about vegetation management but we are not sure what is the best way to communicate with them.

PUBLIC CONCERNS AND INFORMATION GAPS

-The risk to health is a major concern.

-Generally, there is a widespread misunderstanding of spraying as a technique. The public seems to think that the spray travels for miles and miles, stripping all vegetation and creating a desert of sorts.

-We receive a lot of very specific questions from people with very specific concerns. For example, trappers want to know the effect of herbicides on the quality of fur on the animals they trap. When we can't provide specific answers to all questions, the public reacts negatively.

-People don't realize that all chemicals, not just pesticides, are toxic.

-Few people have any understanding of the process of registering pesticides.

-Despite the fact that people accept the use of pesticides in agriculture and in the home, they don't usually accept their use in forestry.

-The general public in B.C. seems very unaware of forestry and forestry practices in general.

-The public seems convinced that the Ministry of Forests is bent on using chemicals and that alternative techniques are not considered.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-We would like to be able to refer the public to an independent network of authorities (preferably local) on pesticide issues. Authorities with obvious vested interests in using pesticides are seldom taken seriously by the public.

-A high profile acknowledgment of vegetation management problems is needed. Perhaps a major forum on the herbicide issue would clear the air.

-We need to stress that all chemicals are toxic so that herbicides can be put into some perspective. Perhaps this can best be done through simple, straight-forward fact sheets.

-We need to stress that the forest is constantly being manipulated by man through logging, fighting fires, etc., so we must further manipulate the forest by controlling competition. If we need vegetation management but we are not doing any, we are wasting millions of dollars.

-We must inform the public about the amount of vegetation control that is done manually as opposed to aerial spraying.

-We need to point out that, through spraying, we are not trying to decrease employment. Instead, we are trying to make vegetation management affordable.

Les Andersen, Chilliwack Forest District, Ministry of Forests

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Generally, people in this area seem to be much more accepting of pesticides today than they were a year and a half ago. I think this is because they understand more about Round-up and they realize that we can buffer streams. They also understand that the people doing the spraying are certified.

-We likely avoided a number of problems by writing letters of explanation to all the people who would be directly affected by spraying. We received no negative reaction from any of them.

-The press seems to be the key avenue of information and it often presents herbicide use in a bad light. Most reporters are not willing to listen to an explanation of a spraying program. They just ask if we are going to use the herbicide and if it has been tested.

-The general public, even the special interest groups, are not interested in complex or detailed information about pesticides.

-Most pamphlets and government-produced information is considered propaganda.

PUBLIC CONCERNS AND INFORMATION GAPS

-Most people do not understand what a herbicide is and they often confuse it with stronger chemicals.

-The public doesn't realize that 2,4-D is also used in agriculture and on lawns. Instead, many people liken the use of herbicides to things like Agent Orange.

-There seems to be a real fear of spraying. People think that the herbicide is going to float well beyond the designated area. They also think that it will drench leaves and run off onto the ground.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-Public meetings are very useful. We should hold them as early as possible so that we can give people the facts before they begin to worry.

-It is important to show people (through slides) that spraying is done close to the canopy and is well controlled. We have also had favorable results by showing the public how much of the herbicide--a mist spray--actually falls on the leaves.

-We could use some very simple, direct material on herbicides to hand out on request. Even special interest groups are not willing to read complex material.

-It would be best to have material prepared by some objective authority.

John Ingram, Campbell River Forest District, Ministry of Forests

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Just a small segment of the public in this area objects to pesticide use.

-Anti-pesticide groups are not open to new information. It seems useless to try to change their views.

-Unless there are fairly immediate plans to spray, the public does not seem interested in becoming more informed about pesticides.

PUBLIC CONCERNS AND INFORMATION GAPS

-Most people speak against pesticides out of ignorance.

-The protesters in this area are philosophically opposed to the use of pesticides.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-Reply to all "letters to the editor" in newspapers.

-Talk to small groups about pesticide use.

-Help to improve the performance of district staff at:

-appeal hearings.

-public meetings and protest demonstrations.

-media interviews.

Gordon Grunerud, Kootenay Lake Forest District, Ministry of
Forests

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Over the last year, the public has shown a greater tendency to trust us. People tend to feel that we can apply pesticides safely.

-If there are 100 experiments that have had good results with a pesticide and just one that hasn't, the public will keep referring to that one.

-Many of the people who attend the appeals seem to have their minds made up before they come.

-When logging is down, the public is more willing to listen to information about pesticides.

PUBLIC CONCERNS AND INFORMATION GAPS

-There have been more environmental problems with insecticides than there have been with herbicides but the public lumps them together.

-The Ministry of Forests doesn't make evident all the work it is doing.

-There is a general lack of knowledge on the subject of pesticides. People don't seem to trust the information they are given. They feel that scientists can be bought off.

-Environmental groups do not understand the system of pesticide controls and regulations that exist.

-Most people don't realize that they commonly use herbicides on their lawns.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-In our area, we try to use public meetings to inform and update.

-Information on forestry should be reaching the public through newspaper articles all year long. It should include the use of herbicides as one silvicultural tool.

-Foresters need to start bragging a little about all they have been doing in reforestation. The public is not aware of what they have achieved.

-If more people could see areas that have been sprayed, they would be surprised. They wouldn't find the devastation they seem to expect.

-We need to demonstrate, for the public, all the precautions we take when spraying an area with herbicides.

-It is important to admit to past mistakes and to be open with the public. We can gain a lot by offering to present slide shows on issues to outdoor groups.

-We can increase our opportunities to educate more people about forestry practices by giving some background training to all temporary crews on "make work" projects.

John Manville, Pacific Forestry Centre

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-The public demands absolute safety from pesticides without asking that from any other collection of chemicals.

-The public is poorly equipped to understand what pesticides are. The information coming at people is adverse and one-sided so they naturally have a negative image of pesticide use.

PUBLIC CONCERNS AND INFORMATION GAPS

-People do not realize that they live and breathe chemicals. They are not aware that they have the ability to filter out or withstand many chemicals that are hazardous.

-The public does not understand that each chemical is unique. People think that pesticides share the same characteristics. When there is a problem with one, the public transfers it to all.

-A major concern is that pesticides may poison the food chain. In the past, there have been cases of chemicals being bio-magnified in the food chain.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-Explain what chemicals are and how they are a normal part of everyday life. Explain what a pesticide is.

-Explain that there is no such thing as total safety from any chemicals, including water and oxygen, and that everything is toxic under some conditions.

-Explain that the potential for danger from any substance relates to:

- the type of exposure, eg. on food, in the air
- the amount of the substance
- the duration of the exposure to the substance

-Explain that there have been past indiscretions and misuses of pesticides, especially with regard to chemicals that are persistent in the environment. Today, shorter-lived chemicals are registered so they are not as likely to cause unforeseen problems.

-The prime target in an information program should be the media. Pamphlets and brochures are a waste of time.

-It needs to be stressed that there is no such thing as absolute safety.

Roger Whitehead, Pacific Forestry Centre

PUBLIC CONCERNS AND INFORMATION GAPS

-The public seems to feel that foresters see the use of pesticides as a panacea for dealing with forest management problems.

-People tend to worry that the use of pesticides will expand to encompass more and more of the province, that is, if they allow its use in one small area then larger areas will be sprayed later.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-Inform the public about vegetation management in general and tie in pesticide information.

-Explain that pesticides are used only when there is no other, solution, that in some situations there are other better ways of controlling a problem.

-Don't attempt to convince the public that there is no risk in the use of herbicides. Instead, talk of the calculated risk in relation to the benefits.

Wayne Coombs, Pacific Forestry Centre

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Foresters have not done a job of selling themselves and what they do.

-We may not be able to influence the positions adopted by the vocal minority, but we should improve the way we address the rest of the public.

-The distribution and effect of brochures on pesticides is very limited.

PUBLIC CONCERNS AND INFORMATION GAPS

-Heath is a major concern. People are worried about coming into direct contact with pesticides. They are also concerned about effects on the food chain.

-The public perceives a "herbicide mind set" in foresters. Further, many people don't believe that foresters know what they are doing.

-SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-We need to make an effort to educate the press and encourage reporters to use more accurate, concrete information in their articles.

-Foresters have generally been too defensive. We should admit to past mistakes and we should attack the issues, but in a positive way.

-The public needs to get into forest stands. Perhaps we could encourage a course in forestry through the schools.

-Foresters should present more information on the alternatives in vegetation management and on the costs and benefits of each.

-A documentary might be useful--one that shows a well-managed area that must be sprayed. It would be best to have some neutral figure present it.

Ron Kobylnyk and Dan Cronin, Pesticide Control Branch, Ministry of Environment

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Disagreements among government agencies really decrease the credibility of those involved with a pesticide program.

-The pesticide issue provides the public with a way to shout at the government or at a particular ministry. The concern is often for more than pesticides.

PUBLIC CONCERNS AND INFORMATION GAPS

-Health is a major concern. People are also worried about the affects of pesticides on future generations.

-The public is very concerned about risks to the environment, to wildlife browse and to the potential effect on salmon.

-About half the concerns relate to jobs. People see employment opportunities in manual clearing.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-Permit holders should interact with the public as early as possible.

-The Ministry of Forests is not handling the questions about manual clearing very well. The public needs a good explanation of the costs and other factors involved. It would be good to have a display that compares the different methods used in vegetation management.

-The ministry needs to stress the fact that non-chemical weeding methods are used whenever they are appropriate.

-Arrange to take people on walks through an area that has been sprayed to show that it is not defoliated.

-Present the public with figures that compare the size of the area sprayed with the size of the area that is either untreated or weeded another way.

-Present more Canadian material and fewer American hand-outs. Canadian material is more relevant.

-Prepare background material in a simple question/answer format. It would be useful for the media and staff, as well as the public.

-Take a multi-institutional approach when producing public information. The result will be more credible.

-Initial inquiries from the public should be handled in depth before people develop strong attitudes. Respond with a lot of information that deals directly with the concerns.

-Take part in mall displays, trade fairs and home shows. Meet the public and explain pesticide use when people are not emotionally involved with any specific plan to spray.

Frank Hillier, Environmental Appeal Board, Ministry of
Environment

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-At appeal hearings, the need for pesticide use is not always well presented.

-Local foresters are often not well informed about pesticides and their use.

-Foresters are not addressing the main concerns expressed by appellants at hearings.

PUBLIC CONCERNS AND INFORMATION GAPS

-The main concerns are the potential dangers to health and wildlife.

-Many people are concerned about concentrations of pesticides left in the environment.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-Appeal hearings should be used as platforms to educate the public and the press.

-It might be better to have one well-informed person represent the Ministry of Forests at hearings all around the province.

-At hearings, a forester should:

- present a brief covering necessary silvicultural information.

- respond to the reasons for the appeal, i.e., the concerns about the risks of using pesticides.

- talk about the specific local site involved.

-Be well prepared when talking with public groups. Offer detailed information about things like what registration involves and what studies have been done.

-Present information on what would happen in a worst case scenario in the application of pesticides.

-Compare the risks of using pesticides with the risks of smoking, drinking coffee, etc.

-Pass on information--like new research results--to the media on a regular basis.

-Take the time to talk frequently with the public.

Marie-Jose de Saint Victor, Pesticides Directorate, Agriculture
Canada, Ottawa

OBSERVATIONS ON PUBLIC INFORMATION PROBLEMS

-Many people are very emotional about pesticide use. Their questions are extremely difficult to handle, no matter how much information you have to offer.

PUBLIC CONCERNS AND INFORMATION GAPS

-The major overriding concern of the general public is that the government is hiding information and data.

-Use of a pesticides call line in 1985 revealed concerns over:

- chemical composition and registration status of pesticides.
- efficacy and usages of a pesticide in a given situation.
- effects from the use of pesticides on non-target organisms/bio-accumulation.
- safety and precautionary measures related to the user, or the effects of pesticide use on by-standers.
- amount or nature of pesticide residue on food and the effects of residues on human health.
- registration process, provincial jurisdictions, spray equipment and policy issues.

SUGGESTIONS FOR PUBLIC INFORMATION PROGRAMS/APPROACHES

-The more information you can give, the better. It helps to dispel fears of a cover-up.

-In any information program, it is better to be on the offensive than on the defensive.

-There is a demand for basic information on pesticides. Simple facts sheets would be very useful.

-There is no point in saying that chemicals are not toxic. Stress the strict controls on the applications of pesticides instead.