Health and Safety in the Tree Planting Industry

Introduction

This paper outlines the goals and methods for an assessment of occupational health and safety performance in the tree planting industry. The study will take place in the spring and summer of 2006, beginning in March and concluding in August. Companies and workers will be visited at their worksites, and a short questionnaire will be distributed that assesses worker behaviour and the level of training, instruction, and supervision received in the workplace. A minimum of 30 work locations will be visited, including a mixture of coastal and interior operations, and a minimum of 800 workers will be surveyed. An emphasis will be placed upon visiting operations of varying sizes and operational characteristics, including a mixture of camp, motel, and commuter based operations. The final product will be an accurate description of worker activities with a focus on occupational health and safety related behaviours. These observations will be matched with information concerning the level of employee training and education supplied by the employers. Information will also be collected regarding job satisfaction and industry involvement in order to assist in understanding current issues surrounding industry capacity and worker retention.

The study will be designed in a manner that allows for comparisons with previous and future research to assess changes in the industry. This information will assist the industry in determining the success of efforts to improve health and safety practices, tracking changes in the composition of the workforce, and gauging levels of job satisfaction. All company and individual identities will be protected during the research, and no information will be released in this regard. The research data will be processed and summarized in a report that will be finalized by the end of September 2006. The final report and a complete summary of all data (with the exception of the names of participating parties) will be submitted to the Silviculture Advisory Committee of the British Columbia Forest Safety Council.

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Past Research

In 1997, quantitative study of the tree planting industry and its workforce was completed by the Coopers and Lybrand Corporation. The study was focused mostly on characteristics of companies in the industry. The study also included a telephone survey of 50 workers, regarding demographics and industry involvement. However, the small size of the sample limited the accuracy of the findings and the telephone-based methodology excluded workers that may not have been available by phone (such as students and workers who live outside of the province or the country). Nonetheless, the survey provided some basic indicators of workforce characteristics, and supplied a useful method of categorizing workers according to their involvement in the industry.

In the spring and summer of 2004, a more in-depth study of the industry was conducted as part of a masters thesis in criminology. The study focused exclusively on the characteristics of the workforce, and attitudes and behaviours related to various health and safety issues. A total of 27 different worksites were visited in various regions throughout the province, including sites in the coastal region, the southern interior, and areas north of Prince George. The study included a mixture of camp, hotel, and commuter based operations. A total of 661 questionnaires were collected with a response rate of over 85%. The high response rate reflected a positive interest in health and safety issues within the workforce, and indicated that field-based methodologies are capable of attracting high rates of participation.

The results of the research indicated the presence of a highly transient and youthful workforce consisting of a minority of career workers combined with a larger group of individuals who participate in the industry on a temporary basis. Comparisons between the academic study and the first study by Coopers and Lybrand indicated that during the 7-year period between the studies, the workforce became younger, more highly educated, and less likely to identify silviculture as a career. There also appeared to be increases in the percentage of women involved in the industry and the percentage of workers arriving from outside of British Columbia. However, due to the limited sample size in the first study, and differences between field-based and telephone-based survey methods, these apparent shifts may be related to methodological issues, rather than actual changes. A second in-depth field study similar to the academic study would likely provide a more meaningful method of gauging any changes in the workforce.

The health and safety measures included in the 2004 research indicated the presence of a wide range of behaviours and attitudes towards issues such as seatbelts, personal protective equipment, personal hygiene, and refusal of unsafe work. The research also examined the relationship between variables such as age and experience with health and safety related attitudes and behaviours. However, the study did not focus on information related to the health and safety programs of the companies visited, and the only activity of this variety that was examined was the likelihood of supervisors to correct planters for engaging in unsafe behaviour. While the study was able to produce a set of recommendations regarding which patterns of behaviour require attention, it did not provide insight into the types of health and safety management and training that are being relied upon in the field, and which styles of management are most effective in producing a health and safety conscious workforce. Therefore, it would be useful for future studies to also collect information regarding the type of training that workers have received by their employers, and the manner in which health and safety programs are administered in the workplace.

Although the 2004 study produced a valuable examination of the worker safety, it was designed for academic purposes as well as industry use. Therefore, it focused on some issues that were not central to the goals of the industry, and excluded other issues that were not compatible with academic objectives and the limitations imposed by the university research guidelines. Furthermore, the questionnaire was an exploratory instrument, and important feedback was gathered from the workforce during the research on how to refine the questionnaires and make them more reflective of the situations that workers confront on a daily basis.

Needs Analysis

With the increasing activity of the BCFSC and the impending development and availability of health and safety programs for the silviculture industry, there is an immediate need to obtain a current assessment of workforce performance and company activities so that an evaluation of program impact can be conducted at a later point in time. It is important to have an accurate and meaningful measure of health and safety performance before and after any substantial efforts to reform industry practices occur in order to determine if changes in practices have actually occurred, and if such changes have corresponded with appropriate changes in worker behaviour.

The main issues that need to be examined are the measures that companies are taking to ensure health and safety in their workplaces, and the state of health and safety performance among their workers. Only by assessing these two variables at the same time, can a clear relationship between them be established. This study will supply a baseline assessment of these issues, and provide a replicable model for a subsequent study 3 or 4 years from now.

Another issue that has arisen in the industry is the retention of workers and the maintenance of a skilled and experienced workforce. Comparisons between the 1997 and 2004 data support the belief that fewer workers are choosing the industry as a career, and older workers are leaving the industry. The concern surrounding this issue is twofold. Firstly, retention of a skilled and experienced workforce is essential for the success of the industry and the ability of companies to complete their objectives on a year-to-year basis. Secondly, the effort to increase training and education in the area of health and safety will only be strengthened if workers remain in the industry long enough to utilize the skills and knowledge they acquire, thus increasing the return on the investment in training programs.

The BCFSC Silviculture Advisory Committee has formed a workforce capacity sub-committee to discuss issues surrounding workforce retention, and efforts are being made to explore methods and strategies of increasing the attractiveness of the industry to the workers. However, there is limited knowledge of job-satisfaction among the workforce, and only anecdotal understandings of why workers may be leaving the industry. Thus, there is a need for a more in-depth understanding of the forces that influence workers to remain in or exit the industry. This study will include a number of questions that will assist in understanding this issue.

Methodology

This study utilizes the same general research model that was employed in the 2004 study. A pair of questionnaires will be administered to planters and supervisors in a number of different worksites throughout the province. The questionnaires are based upon the 2004 model, with some notable modifications listed below.

- The questionnaires are 6 pages long, and 40% shorter than in the previous study. While the questionnaires used in 2004 required up to 20 minutes of respondents' time, the new questionnaires have been designed so that they can be completed in less than 10 minutes.

- Questions identified as unsuitable by respondents in the past have been removed. The feedback collected in 2004 has been used to eliminate questions of limited value, and to refine the questionnaire to be more representative of actual workplace situations. However, a large portion of the questions have remained unchanged, which will allow for accurate comparisons with the 2004 research

- The 2004 research included a number of open-ended questions that received limited responses, and required considerable time to complete. As such, questions requiring written answers have been minimized; multiple choice and yes-and-no questions are the dominant formats.

The questionnaires include the same demographic questions that were used in the 2004 study. In addition to basic inquiries concerning age, experience, sex, and place of residence, workers will be asked questions regarding issues included in the following categories:

- Likelihood to engage in unsafe behaviour
- Likelihood to report unsafe behaviour
- Likelihood to stop working under unsafe conditions
- Likelihood of unsafe behaviour to be corrected
- Level of health and safety training received

Both planters and supervisors will be included in the research, and a separate questionnaire will be supplied that applies to their respective roles in the workplace. Respondents will also be asked a number of questions regarding their level of job satisfaction and attachment to the industry. They will initially be asked to classify themselves as either career, temporary, student, or occasional workers. Additionally, they will be asked questions regarding the following issues:

- Satisfaction with earnings
- Satisfaction with accommodations
- Whether or not they have achieved their earning expectations
- Whether or not they plan on returning to the industry next year
- Whether or not they are able to obtain enough tree planting work throughout the season
- Whether or not they visit tree planting webpages on the internet
- Whether or not they use webpages to find work

The final two issues have been included in order to evaluate the utility of the internet as a forum for establishing communication between workers and employers. A copy of the planter questionnaire is included in Appendix 1, and a copy of the supervisor questionnaire is included in Appendix 2.

In addition to the questionnaires, companies will be asked to provide basic information on the way in which they administer health and safety in their workplace. The information collected will cover the following questions:

- Has the company participated in programs developed by the BCFSC? If so, which programs?
- Does the company have an official occupational health and safety worker-management joint committee? Or (in the case of smaller operations) an official worker OHS representative?
- Has the client or licensee visited the camp/crew and discussed health and safety matters with the workers?
- Does the company have a written H&S policy?
- Has the licensee been given a written copy of the company H&S program?
- How frequently are health and safety meetings conducted?
- Are records kept for health and safety meetings?
- Do workers participate in health and safety drills?
- Does the company owner maintain an on-site presence?
- Are supervisors/forepersons commissioned or salaried?

A list of the questions that will be asked of the companies is included in Appendix 3.

Methodology: Sampling

Obtaining a truly random sample of the industry workforce has always been a challenge to conducting research on the tree planting industry, and continues to pose obstacles to producing research that is representative of the entire workforce. However, it is possible to obtain a representative sample, even if the sample is not truly random, as long as there is no reason to believe that the individuals selected are no different from the individuals that comprises the rest of the population.

The primary objective of the sampling process will be to obtain a representative sample of all workers in the industry. However, because there is no list available of all workers in the industry, entire crews will be selected and surveyed in their entirety. The secondary objective will be to obtain responses from workers from companies of varying characteristics in order to provide a cross-section of the methods and styles of administering health and safety in the industry. Using this design, it will be possible to use worker responses as dependent variables, and company programs as independent variables. The goal of this design is to determine what effect company programs (independent variables) have on worker behaviours (dependent variables). The result of this design will be a set of observations that will help company owners understand how different methods of health and safety administration influence worker behaviour.

If companies were randomly selected from a list, a representative sample of all the workers in the province would not necessarily be obtained, because workers are not evenly distributed among all of the companies in the province. There are a wide variety of company sizes, ranging from just a few workers, to companies including hundreds of employees, and it is believed that a large portion of the workforce belongs to a small number of companies. Therefore, in order to obtain a representative sample of the workforce, it is neither necessary, nor necessarily desirable to randomly select a predetermined number of companies from a list.

Furthermore, there is no list of companies according to the exact number of employees as companies have generally been classified according to the size of the payrolls. The payroll classification scheme obscures company sizes as smaller companies with longer work seasons may have payrolls resembling larger companies with shorter payrolls. However, it would not necessarily be desirable or practical to classify companies according to their number of employees, as this number may change significantly over the course of the work season. Therefore, payroll classification may be the most appropriate method of classifying planting companies. However, until a detailed list of companies according to payroll is made available, an alternative method of selecting companies to study will have to be utilized.

Therefore, the most practical strategy is to visit a variety of operations in a variety of different locations, and make a record of company sizes as the research progresses. One of the goals of the research is to examine the various different methods of administering health and safety in the field, so the inclusion of a variety of different operations will only assist the purposes of the research.

Because of the unpredictable nature of scheduling in the industry, it is not practical to base the research schedule exclusively on long-term advance arrangements to visit specific companies. It would be very difficult to produce a schedule that could accommodate the availability of pre-selected companies and the timeframe in which the research must occur. Attempting to do so would likely prolong the length of time required for the study beyond the limits of the available resources. Instead, a partial schedule will be assembled based on companies selected from a list of active contractors. Once a company is selected, an arrangement will made to visit a crew in a specific area of the province at an approximated time. Following this tentative arrangement, additional companies will be contacted for participation based on their activity in the specified area at the same time. During past research, the identification of companies working in specific areas was easily accomplished in the local area by inquiring with local forestry companies and other local businesses. If companies based in the local area and companies based outside the area are both found to be operating at the time of the research, an effort will be made to visit both styles of operation.

This study will include a larger number of respondents than the 2004 study, and will improve on the reliability of observations of the industry. Moreover, the availability of two studies of sufficient size (the 2004 study and this study) will allow for significantly reliable comparisons and accurate estimations of changes in the industry. Comparisons between the 1997 study and the 2004 study were severely limited due to the small number of respondents included in the former study. However, this study will create the opportunity to make reliable observations of change, even if the differences are smaller.

Research schedule

In order for this research to proceed in a timely manner, approval must be obtained by March 17th. This will supply enough time to print the questionnaires, acquire necessary supplies, and initiate contact with companies so that the spring coastal section of the research can be conducted before the work season shifts to the interior.

The research will begin in March on the coast, move to the interior in May and June, and conclude in August. A minimum of 30 worksites will be visited, with a goal of reaching a minimum total of 800 workers. The research schedule will be adjusted based on the amount of participation obtained from the industry. The tentative research schedule is shown below, along with a brief summary of the areas of the province that will be visited.

March:	2-4 crews	Coast
April:	2-4 crews	Coast-South Interior
May:	2-6 crews	South Interior – Central Interior
June:	20-25 crews	Central Interior-North Interior
July:	2-4 crews	North Interior
August:	2-4 crews	Coast
Total:	30-35 crews	

Additional Information for Respondents

The researcher will provide workers with a variety of information sources on important health and safety issues. Visiting workers in the field provides a valuable opportunity to interact with a substantial portion of the industry workforce, and the ability to promote valuable health and safety information would be entirely compatible with the goals of the research. Visiting the worksites also provides a valuable opportunity to inform members of the industry of the activities of the BCFSC and the BC Safe Silviculture Project. Therefore, it is proposed that workers at each location will be provided with an information package containing leaflets or brochures dealing with the following issues:

- Nutrition and wellness information based upon the research of Dr. Delia Roberts
- Bear safety information from the Get Bearsmart Society
- Basic health and safety recommendations for silviculture workers from WorksafeBC
- Information on the BC Safe Silviculture Project

The information would be provided to the workers after completion of the questionnaire in order to avoid any potential influence upon their responses.

Final report

A final report will be delivered to the BCFSC Silviculture Advisory Committee by September 30th, 2006. The report will include a detailed summary of all data collected, and a copy of the database. No information will be provided regarding the identities of companies or individuals participating in the research. The results of the research will be printed in a hard copy format as well as an electronic document.

The report will include a comparison with the study completed in 2004, and an evaluation of any substantial differences between the two studies.

Appendix 1: Planter Questionnaire

Please read this carefully before proceeding

Your assistance is requested in this research project on occupational health and safety in the tree planting workplace. This research is an important step in determining the range of activities and attitudes that exist within the workforce, so that effective programs can be developed to reduce the number of injuries that are occurring in the industry.

This study is being conducted by Jordan Tesluk, an independent researcher who has worked as a tree planter and a first aid attendant for the last 14 years. He is working in cooperation with the British Columbia Forest Safety Council (BCFSC) and the Western Silviculture Contractors Association (WSCA). The information gathered in this study will be submitted to the BCFSC for health and safety program development and to evaluate changes in the industry, and determine the best ways of protecting the health and safety of all workers.

The BCFSC has also sponsored research on the hazards of fertilizer exposure for tree planters and the physical demands of tree planting. The council is committed to developing health and safety training programs that fit the needs of the industry and assist in protecting workers from the hazards of their job.

Knowledge of your identity is not required. You will not be required to write your name or any other identifying information on research materials. **Your identity, and the identity of your company, will not be revealed** to anyone as a result of this research. Any information that is obtained during this study will be kept confidential to the full extent permitted by the law. The results of your questionnaire will be included with the results of hundreds of other questionnaires from other workers at different companies, and used to create an overall description of the industry. The questionnaires will be kept secure within the possession of the researcher, and not shared with your employer, other members of industry, or any regulating or government agency.

What follows is a questionnaire that deals with a number of health and safety issues in the tree planting environment. No question will ask you to identify an individual or company. Please do not include your own name, or the name of anyone else anywhere on the questionnaire.

Your participation will make a valuable contribution to the research. However, **your participation is strictly voluntary**, and you are under no obligation to participate in this research. Nobody in your workplace will take any action towards you if you decide not to participate.

If you have any concerns about this research or want to find out more about it, you can contact the head researcher by email at jdtesluk@sfu.ca.

Please remember that you are only being asked for your PERSONAL OPINIONS on these matters. Your answers do not in any way imply that you have participated in or are aware of any such behaviour in your agency.

***Please note that the term "SUPERVISOR" in this questionnaire includes supervisors, forepersons, crew chiefs, checkers, or any supervisor-type personnel in your workplace.**

How many years have you been working in tree planting? _____

How many years have you been working with your current company? _____

How many days have you worked so far this year? _____

What is your age? _____

Are you male or female? O Male O Female

Are you a year-round British Columbia resident? O Yes O No

Do you currently have a valid first aid ticket? O Yes O No

What is your current level of education? (check one)

O Some high school O High School O Vocational training

O Some University/College O University/College Diploma/Certificate/Degree

How would you classify yourself? (check one)

O Career Silviculturalist: silviculture is your main source of employment. You return each year to the silviculture industry and work for more than 4 months per year.

O Regular seasonal: you return each year, working 4 months or less

O Student: you are working to put yourself through school and will leave the industry upon graduation.

O Occasional worker: you take the occasional job in the silviculture industry when they are available- silviculture is not your preferred occupation but you work in it when you need employment.

Do you do any other jobs in silviculture on a regular basis? (check all that apply)

O Firefighting O Chemical brushing or weeding O Chemical tree thinning, or spacing

O Cone-picking O Mechanical brushing or weeding O Mechanical tree thinning, or spacing

The next section of this questionnaire deals with specific health and safety issues in the tree planting workplace. You will be presented with a number of scenarios. Each scenario will be followed by a number of questions. You will be asked to either circle a number on a five-point scale, or fill in a blank. An example of a five-point scale is shown below.

EXAMPLE: How likely do you think you will be to plant trees again next year?

Very likely	1	2	3	4	5	Very Unlikely

The response shown for the question would indicate that you think it is quite likely that you will be planting trees again next year. Circling “5” would indicate you are almost certain you will not be planting trees again next year. Circling “3” would indicate there is about a 50% chance that you will be planting trees next year.

Please be sure to read the scenarios carefully. Try not to give the same answer for every question automatically. The first 6 scenarios will be followed by identical questions.

1 **At the end of the day, a planter returns to camp for dinner. The planter does <u>not</u> wash their hands before sitting down to eat with the rest of the crew.**

How likely do you think OTHER PLANTERS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would YOU be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely do you think a supervisor would be to correct a planter who is seen doing this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

2 **A planter finishes a bag-up at the top of a steep hill, and runs at top speed down the hill to the cache, and barely avoids falling down.**

How likely do you think OTHER PLANTERS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would YOU be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely do you think a supervisor would be to correct a planter who is seen doing this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

3 **A planter is smoking pot during the day while tree planting.**

How likely do you think OTHER PLANTERS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would YOU be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely do you think a supervisor would be to correct a planter who is seen doing this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

4 **A planter is <u>not</u> wearing a seatbelt while traveling as a passenger in a company vehicle on the way to work.**

How likely do you think OTHER PLANTERS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would YOU be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely do you think a supervisor would be to correct a planter who is seen doing this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

5 **A planter is working without wearing gloves. Although the trees have been treated with pesticides and warnings on the box say that gloves are required, the planter continues to work <u>without</u> gloves on**.

How likely do you think OTHER PLANTERS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would YOU be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely do you think a supervisor would be to correct a planter who is seen doing this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

6 **A planter is working on a steep piece of ground (a 45 degree slope) where the ground is littered with many dead trees that were left over by the logging operation. The planter has to walk on the logs to move around the land, and is <u>not</u> wearing caulked (spiked) boots.**

How likely do you think OTHER PLANTERS at your workplace would be to work in this situation without wearing caulked boots?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would YOU be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely do you think a supervisor would be to correct a planter who is seen doing this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would you be to stop working in the following situations?

You are working in rocky ground and your shovel hand has started to become sore. Half way through the day you notice your wrist has become slightly swollen and you feel a very slight creaking sensation when you flex your wrist.

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

You are working in a selectively logged area. The wind has increased during the day and at 2:00 you notice that the tops of the trees are swaying and small branches are occasionally breaking off and falling to the ground. At one point, a 50 foot tree at the other end of the block falls over, but there is no one close to it and it is about 500 feet away from you.

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would you be to report the following behaviour?

A supervisor is driving a crew to work. The supervisor is travelling at 90 km per hour on a road where the speed limit is 60 km per hour. One planter asks the foreperson to slow down, but the foreperson continues at the same rate of speed.

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

At the end of the last day of a shift in a planting camp, a planter drinks 6 cans of beer in 2 hours and then leaves for town in their personal vehicle.

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

Please indicate your overall level of job satisfaction

How good of a job do you feel your current company is doing to ensure the health and safety of the workers?

Very Good	1	2	3	4	5	Very Poor

How SATISFIED are you with the camp or accommodations supplied to you by your company?

EXTREMELY Dissatisfied	1	2	3	4	5	Extremely SATISFIED

How SATISFIED are you with the wages you are currently earning?

EXTREMELY Dissatisfied	1	2	3	4	5	Extremely SATISFIED

How would you describe your earnings so far this season?

Exceeded my expectations	1	2	3	4	5	Below my expectations

Met my expectations

How many days of tree planting work do you expect you will be able to obtain this year?

Not Nearly Enough	1	2	3	4	5	Far More Than Enough

Just the Right Amount

Please check either <u>yes or no</u> for the following questions

Has a supervisor in your current workplace <u>checked on you</u> during this season to ensure that are complying with a health and safety requirement?	**O Yes O No**
Has a supervisor in your current workplace ever <u>corrected</u> you during this season for an activity related to health and safety?	**O Yes O No**
Has a supervisor in your current workplace ever clearly told you that you <u>must</u> report any unsafe work practices or potentially dangerous problems in your workplace?	**O Yes O No**
Has a supervisor in your current workplace ever clearly told you that you have the <u>right</u> to refuse any unsafe work?	**O Yes O No**
Has a supervisor in your current workplace ever warned you or given you specific information about specific hazards in your workplace?	**O Yes O No**
Has a supervisor or another worker in your current workplace ever informed you of the activities of the company occupational health and safety committee or invited you to participate in such a committee?	**O Yes O No**
Have you ever received a printed copy of your current company's health and safety rules?	**O Yes O No**
Did you sign a contract with your current company that addressed health and safety issues?	**O Yes O No**
Would you know <u>exactly</u> where to find a first aid kit if you were asked to go and get one during an emergency?	**O Yes O No**

If you had to call for help during an emergency on the worksite, would you know exactly how to use a radio in order to reach assistance?	**O Yes O No**
Have you ever visited tree planting webpages on the internet?	**O Yes O No**
Have you used tree planting webpages on the internet to learn about companies or find yourself a job?	**O Yes O No**
Do you plan on working in the tree planting industry again next year?	**O Yes O No**
Did you fill out one of these questionnaires two years ago?	**O Yes O No**

Please feel free to use this space to include any comments or concerns you may have in regard to this research

This concludes the questionnaire. Thank you very much for your participation in this research. If you have any further questions regarding this research, please refer to the front page of the questionnaire, which you can detach and keep for your own purposes.

Please hand the rest of the questionnaire back to the researcher.

Appendix 2: Supervisor Questionnaire

Please read this carefully before proceeding

Your assistance is requested in this research project on occupational health and safety in the tree planting workplace. This research is an important step in determining the range of activities and attitudes that exist within the workforce, so that effective programs can be developed to reduce the number of injuries that are occurring in the industry.

This study is being conducted by Jordan Tesluk, an independent researcher who has worked as a tree planter and a first aid attendant for the last 14 years. He is working in cooperation with the British Columbia Forest Safety Council (BCFSC) and the Western Silviculture Contractors Association (WSCA). The information gathered in this study will be submitted to the BCFSC for health and safety program development and to evaluate changes in the industry.

The BCFSC has also sponsored research on the hazards of fertilizer exposure for tree planters and the physical demands of tree planting. The council is committed to developing health and safety training programs that fit the needs of the industry and assist in protecting workers from the hazards of their job.

Knowledge of your identity is not required. You will not be required to write your name or any other identifying information on research materials. **Your identity, and the identity of your company, will not be revealed** to anyone as a result of this research. Any information that is obtained during this study will be kept confidential to the full extent permitted by the law. The results of your questionnaire will be included with the results of hundreds of other questionnaires from other workers at different companies, and used to create an overall description of the industry. The questionnaires will be kept secure within the possession of the researcher, and not shared with your employer, other members of industry, or any regulating or government agency.

What follows is a questionnaire that deals with a number of health and safety issues in the tree planting environment. No question will ask you to identify an individual or company. Please do not include your own name, or the name of anyone else anywhere on the questionnaire.

Your participation will make a valuable contribution to the research. However, **your participation is strictly voluntary**, and you are under no obligation to participate in this research. Nobody in your workplace will take any action towards you if you decide not to participate.

If you have any concerns about this research or want to find out more about it, you can contact the head researcher by email at jdtesluk@sfu.ca.

Please remember that you are only being asked for your PERSONAL OPINIONS on these matters. Your answers do not in any way imply that you have participated in or are aware of any such behaviour in your agency.

***Please note that the term "SUPERVISOR" in this questionnaire includes supervisors, forepersons, crew chiefs, checkers, or any supervisor-type personnel in your workplace.**

How many years have you been working in tree planting? _____

How many years have you been working with your current company? _____

How many days have you worked so far this year? _____

What is your age? _____

Are you male or female? O Male O Female

Are you a year-round British Columbia resident? O Yes O No

Do you currently have a valid first aid ticket? O Yes O No

What is your current level of education? (check one)

O Some high school O High School O Vocational training

O Some University/College O University/College Diploma/Certificate/Degree

How would you classify yourself? (check one)

O Career Silviculturalist: silviculture is your main source of employment. You return each year to the silviculture industry and work for more than 4 months per year.

O Regular seasonal: you return each year, working 4 months or less

O Student: you are working to put yourself through school and will leave the industry upon graduation.

O Occasional worker: you take the occasional job in the silviculture industry when they are available- silviculture is not your preferred occupation but you work in it when you need employment.

Do you do any other jobs in silviculture on a regular basis? (check all that apply)

O Firefighting O Chemical brushing or weeding O Chemical tree thinning, or spacing

O Cone-picking O Mechanical brushing or weeding O Mechanical tree thinning, or spacing

The next section of this questionnaire deals with specific health and safety issues in the tree planting workplace. You will be presented with a number of scenarios. Each scenario will be followed by a number of questions. You will be asked to either circle a number on a five-point scale, or fill in a blank. An example of a five-point scale is shown below.

EXAMPLE: How likely do you think you will be to plant trees again next year?

Very likely	1	2	3	4	5	Very Unlikely

The response shown for the question would indicate that you think it is quite likely that you will be planting trees again next year. Circling “5” would indicate you are almost certain you will not be planting trees again next year. Circling “3” would indicate there is about a 50% chance that you will be planting trees next year.

Please be sure to read the scenarios carefully. Try not to give the same answer for every question automatically. The first 6 scenarios will be followed by identical questions.

1 **At the end of the day, a planter returns to camp for dinner. The planter does <u>not</u> wash their hands before sitting down to eat with the rest of the crew.**

How likely do you think PLANTERS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would you be to correct a planter that you see doing this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

2 **A planter finishes a bag-up at the top of a steep hill, and runs at top speed down the hill to the cache, and barely avoids falling down.**

How likely do you think PLANTERS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would you be to correct a planter that you see doing this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

3 **A planter is smoking pot during the day while tree planting.**

How likely do you think PLANTERS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would you be to correct a planter that you see doing this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

4 **A planter is <u>not</u> wearing a seatbelt while traveling as a passenger in a company vehicle on the way to work.**

How likely do you think PLANTERS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would you be to correct a planter that you see doing this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

5 **A planter is working without wearing gloves. Although the trees have been treated with pesticides and warnings on the box say that gloves are required, the planter continues to work <u>without</u> gloves on.**

How likely do you think PLANTERS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would you be to correct a planter that you see doing this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

6 **A planter is working on a steep piece of ground (a 45 degree slope) where the ground is littered with many dead trees that were left over by the logging operation. The planter has to walk on the logs to move around the land, and is <u>not</u> wearing caulked (spiked) boots**

How likely do you think PLANTERS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would you be to correct a planter that you see doing this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

The next series of questions deal with the activities of <u>supervisors</u>

7 **A supervisor is operating a chainsaw and is not wearing protective cut-resistant leggings.**

How likely do you think OTHER SUPERVISORS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would YOU be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

8 **A <u>supervisor</u> is using an all terrain vehicle (a quad) and is <u>not</u> wearing a helmet.**

How likely do you think OTHER SUPERVISORS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would YOU be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

9 **A supervisor is driving a company vehicle without wearing a seatbelt.**

How likely do you think OTHER SUPERVISORS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would YOU be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

10 **A small crew of workers must walk into a block that cannot be accessed by truck. The supervisor suggests that they can save 45 minutes of planting time if the planters ride on the quad while the supervisor drives.**

How likely do you think OTHER SUPERVISORS at your workplace would be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

How likely would YOU be to do this?

VERY LIKELY	1	2	3	4	5	VERY UNLIKELY

Please indicate your overall level of job satisfaction

How good of a job do you feel your current company is doing to ensure the health and safety of the workers?

Verv Good	1	2	3	4	5	Verv Poor

How SATISFIED are you with the camp or accommodations supplied to you by your company?

EXTREMELY Dissatisfied	1	2	3	4	5	Extremely SATISFIED

How SATISFIED are you with the wages you are currently earning?

EXTREMELY Dissatisfied	1	2	3	4	5	Extremely SATISFIED

How would you describe your earnings so far this season?

Exceeded my expectations	1	2	3	4	5	Below my expectations

Met my expectations

How many days of tree planting work do you expect you will be able to obtain this year?

Not Nearly Enough	1	2	3	4	5	Far More Than Enough

Just the Right Amount

Please check either yes or no for the following questions

Has another supervisor or an owner in your current workplace checked on you during this season to ensure that are complying with a health and safety requirement?	**O Yes O No**
Has another supervisor or an owner ever corrected you during this season for an activity related to health and safety?	**O Yes O No**
Has another supervisor or an owner ever clearly told you that you have the right to refuse any unsafe work?	**O Yes O No**
Has another supervisor or an owner ever clearly told you that you must correct any unsafe behaviour that you witness in the workplace?	**O Yes O No**
Has another supervisor or an owner ever warned you or given you specific information about specific hazards in your workplace?	**O Yes O No**
Has another supervisor or an owner in your current workplace checked on you during this season to ensure that you are complying with a health and safety requirement?	**O Yes O No**
Have you ever received a printed copy of your current company's health and safety rules?	**O Yes O No**
Did you sign a contract with your current company that addressed health and safety issues?	**O Yes O No**
Would you know exactly where to find a first aid kit if you were asked to go and get one during an emergency?	**O Yes O No**
If you had to call for help during an emergency on the worksite, would you know exactly how to use a radio in order to reach assistance?	**O Yes O No**
Do you plan on working in the tree planting industry again next year?	**O Yes O No**
Did you fill out one of these questionnaires two years ago?	**O Yes O No**

Please feel free to use this space to include any comments or concerns you may have in regard to this research

This concludes the questionnaire. Thank you very much for your participation in this research. If you have any further questions regarding this research, please refer to the front page of the questionnaire, which you can detach and keep for your own purposes.

If you have any comments or concerns to make in regard to this research, please use the back of this page.

Please hand the rest of the questionnaire back to the researcher.

Appendix 3: Company Information

Site: Date: Site type: No. planters: No. supervisors:	
Does the company have an official occupational health and safety worker-management joint committee? Or (in the case of smaller operations) an official worker OHS representative?	
Are records of committee or representative activities available?	
Has the client or licensee visited the camp/crew and discussed health and safety matters with the workers?	
Does the company have a written H&S policy?	
Has the licensee been given a written copy of the company H&S program?	
How frequently are health and safety meetings conducted?	
Are records of health and safety meetings available?	
Do workers participate in health and safety drills?	
Does the company owner maintain an on-site presence?	
Are supervisors/forepersons commissioned or salaried?	
Has company had representatives attend WSCA confrence?	
Has the company participated in programs developed by the BCFSC?	
If so, which programs?	