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# Forest Education and Careers: Phase Two Report

## A STRATEGIC PLAN OF ACTION

*Addressing the challenges facing forestry education and careers in  
Newfoundland and Labrador*

*Made possible through funding by the:*

**Government of Canada – Employment Insurance (EI) Account**

Human Resources and Skills Development Canada (HRSDC)

Canada – Newfoundland and Labrador Labour Market Development Agreement

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# INTRODUCTION TO THE RESEARCH AND DEVELOPMENT PROCESS

## Setting the Stage

Following the analysis and release of the results from the Phase One research, (Forest Education and Careers (<http://www.wnmf.com/main/vision/annual/forestry%20education/smallwood,%20careers.pdf> ) it was quite apparent that further work needed to be done in order to develop a series of strategic plans and actions to try to address the problems identified by this research.

As a result, application was made and approved for this funding through the Labour Market Development Agreement (LMDA). Work began in July of 2005 with the final report due by March 2006.

The questions arising from Phase One identified several areas/issues where investigation was necessary in order to develop a series of strategic plans for the future. These questions were identified in the proposal as:

1. How can the forestry sector labour market be sustained to ensure a viable work force? Are there viable alternatives to the hiring of recent graduates to meet these needs? Can laid-off employees fill forest technicians' jobs without significant retraining? Can proper learning assessment tools combined with formal continuing education meet employers' needs?
2. Will new graduates have all the skills necessary to obtain work and to function well? Do our colleges and universities teach the right skills and knowledge for graduates to perform the required tasks? Or do employers have to use expensive and time-consuming in-house training and continuing education to get their employees' skills and knowledge to the level necessary for independent work?
3. Can existing forestry employees be advanced without significant retraining? Have new developments in forestry practice reached these employees and if not has this caused some of the public perception problems identified in Phase One research? What continuing education is necessary if this is found to be true? Also, do existing employees have the right mix of skills to meet the emerging multiple-value approach to forest management?

4. How can current professionals be used to help overcome negative public perceptions about forestry professions? What tools and skills do they need to work within the school system and in other public fora in order to improve forestry's image. Will this make the forest professions more appealing as a first career choice?
5. What changes need to be made to the existing secondary school curriculum to make the learning of forest issues more objective and balanced? What sorts of information and programming do teachers need?
6. What information on forest-based careers needs to be available for guidance counselors?
7. What models exist in other jurisdictions that might provide a basis for the development of a fully accredited forestry degree program in Newfoundland and Labrador, one that meets both accreditation standards AND provides graduates that are fully employable? Is this possible in our province? What linkages are possible between the university and college system to expedite such a process?

These questions formed the parameters of the research into the development of a plan of action for the forestry community and formed the basis of the interview process used to develop both the vision and mission statements and then the action steps.

### **The Strategic Planning Process**

There are many different views on how to strategically plan. Literature on strategic planning is full of references to the planning processes available and to how best to design and implement them.

In this study, the primary process used was to try to get a consensus from forestry professionals in our province as to the best methods to address the problems identified in Phase One of the research. These are the individuals who live and work in the forestry environment and who will benefit most from any plans developed. They represent government, industry, NGOs and other interest groups and are professional foresters, educators, scientists and administrators. Some are close to retirement age while others have just started their careers. Their qualifications range from diplomas to higher degrees.

The process used for this report involved an attempt to get consensus from groups of professionals involved in the forestry sector by using an open-ended interview technique. The following groups were interviewed as part of this process:

1. Foresters and Forest Technicians currently employed by industry and government;
2. Managers of forest departments/divisions in both industry and government;
3. Educators involved in providing or planning for Forestry Education at the post-secondary level;
4. Educators teaching in secondary schools; and
5. Educational leaders involved with curriculum design and implementation.

Through the answers given to specific and general questioning, and with the help of ideas from the literature, an analysis was performed to attempt to arrive at a consensual viewpoint to help in the development of strategic plans addressing the above issues.

The methodology employed was quite simple. Participants from the forestry sector were asked to set up a time for an interview, generally about an hour, and the interviewer posed set questions to elicit answers on the topics under review. In many cases particularly among the non-management foresters and forest technicians employed by government and industry, anonymity was requested. As a result all interviews were held under these parameters. The writer feels the responses reflect an honest unbiased reporting of their views and opinions and not those of the employer.

The interview questions were developed by the research consultant and pre-tested on a randomly selected group of professionals whose ideas were incorporated into the next draft. After further development, the questions were circulated to the project's Advisory Committee for comment and further suggestions. The final questions reflect the input from all sources.

Interviews held with professionals in senior management/policy forestry positions were advised that if they wished to speak off the record they could

do so with assurance they would not be quoted. The specific questions asked can be found in [Appendix B](#).

Educators were also interviewed but with a different set of open-ended questions. The format used was the same as for the forestry sector. The specific questions asked can be found in [Appendix D](#).

These interviews were used to:

1. Develop a vision and mission statement for the strategic plans; and
2. Provide a set of prioritized goals and objectives (action steps) for the strategic plan which reflects the views and opinions of those interviewed.

Phase one research pointed out a general lack of specific information on forestry, the forest products industry and the role of the forest professional is being taught in our school system. The results of Phase one show a low level of understanding of the role that forestry plays in our province even among high school students in their last year of secondary education. To try to get a more comprehensive picture of the "state" of forestry understanding in our young students, informal sessions were held in both Grade 6 and Grade 8 classrooms throughout the province to try to better understand the level of understanding among these 12 and 14 year olds. While each classroom visit had a different dynamic, the general format was one of informality; no attempt was made to try to quantify these young opinions but rather to gather an informal perspective of the level of information they had and their understanding of the issues. Their teachers were also interviewed.

Each objective relates to three levels of implementation. High cost, medium cost and low cost strategic approaches are suggested to achieve the results of the activity generated by each objective. Monetary values, even though helpful are not relevant at this stage. Once the forest sector partners agree with the strategic approach being suggested, a full accountability and performance evaluation framework will be established allocating responsibilities to various departments and organizations. Monetary values would be uniquely diverse depending on the capabilities of the responsible parties.

## **FUTURE DIRECTION OF THE FOREST SECTOR**

Before the vision and mission statements can be created we have to ask “on whose behalf?” Whose vision and missions are being developed? This study is being conducted under the auspices of the Canadian Institute of Forestry and the Western Newfoundland Model Forest. These two groups represent, in one way or another, most members of the forestry community who work toward sustainable forest management in our province. After some extensive consulting as to who really is the “we”, this project will create vision and mission statements on behalf of all members of the “sustainable forestry community”.

### **The Development of a Vision Statement**

A vision statement is meant to convey a group’s view for their ideal future, describing this future in terms of both direction and growth. It reflects where the group wants to be in an agreed upon period of time. Visioning asks the question “What is our preferred future?”

As a statement that manifests the group’s values, it should be positive and inspiring. It should be precise, practical and achievable. It should reflect the knowledge, philosophy and actions of all members. The vision statement is a key component of strategic planning in that it is the logical consequence of a series of outcomes caused by implementing strategically directed activities.

Recently, the literature has shown that many organizations have been using the vision statement as an organization’s motivator. It uses highly idealistic phrasing and activities describing an organization’s future that it cannot reasonably aspire or achieve in the short term. This separates the vision statement more clearly from the mission statement in designing action steps.

From the interviews with foresters, technicians and other key forest-related professionals and scientists, it became clear that there was a general consensus on the direction that should be taken if full

sustainable forestry is to be a permanent part of the Newfoundland and Labrador landscape.

***Key Words and Phases Identified from interviews***

- Full employment maintained
- Increased employment
- Multiple values accepted and implemented
- Communication to public
- Educational tools developed
- Post-secondary education encouraged
- Sound science and research encouraged

Using these keys words and phrases, the following is the proposed vision statement.

The forestry community sees the future of Newfoundland and Labrador forests as providing its citizens with an economically viable forest products industry, providing optimal employment to a well educated and permanent workforce and using science, public communications, and a multiple values approach to manage the forests for sustainability.

**The Development of a Mission Statement**

The key elements of a mission statement can be defined as those that address the organization's purpose and function. It follows naturally from the vision statement, should be future oriented, should portray the future as the organization wants it to be, should focus on one common purpose and should be specific.

Another way to describe the mission statement is in terms that describe the overall purpose of the organization. It should be stated in a way that can be realistically achieved with some order of priority.

To be fully developed, a mission statement needs to be clear and concise and written in such a way as to clearly separate the

organization from other similar organization. It should strive towards uniqueness.

Generally, mission statements are short, culture-specific and achievable.

***Key Words and Phrases Identified from Interviews***

- Better communications
- Appropriate post-secondary education for province's needs
- Involvement in the process by all players
- Success in getting out the message about sustainable forest management
- Adequate human resources to do the job
- Adequate money to do the job
- Appropriate tools to do the job

With these phrases in mind, the following is proposed as the mission statement.

The mission of the sustainable forestry community is to achieve its vision by full participation in the process by forestry professionals, their associations, scientists, educators and politicians. The process must be equipped with adequate monetary resources, political will, and professional communications programs. These programs must develop and use sustainable forestry educational materials appropriate for all grade levels in our secondary school system. The community must work together to ensure the existing post-secondary forestry programs are sustainable and new are programs encouraged and developed where appropriate. It must ensure adequate human resources are available in the province to accomplish the goals.

## **THE STRATEGIC PLAN**

The opinions and attitudes of the forestry community concerned with the future of our forests will form the basis of a set of action steps if our province is to address the issues and problems identified in the Phase One research.

These action steps are prioritized according to the priority given and frequency of the referral by those interviewed. In some cases, the researcher felt it appropriate to provide background information on the terminology used or the organization referred to by the interviewees.

The research process attempted to gain a consensus from over 40 interviews conducted with forestry professionals, educators, government and non-government officials and other interested parties as to what steps are necessary to address the problems identified in the Phase One research.

Many different opinions, frustrations, and expectations were received and it fell to the research process to attempt to find a set of reasonable action steps that reflect the consensus of those interviewed. These action steps need to be reasonably attainable given the realities of budget and human resources. These steps must reflect the needs of the group to help move toward a viable and sustained future for our forestry community within a multiple values framework.

In summary, Phase One research identified a set of problems.

1. A significant decline in enrolment in post-secondary forestry programs both provincially and nationally.
2. The potential of a province-wide shortage of forestry professionals to fill vacancies due to an expected large retirement cohort in the next five to ten years.
3. A lack of educational materials, for all grade levels within our secondary system. These materials can be used by teachers to promote a multiple-values approach to our forest sector and

- help our young people appreciate the values of forestry to our economy and our way of life.
4. A lack of materials and general information for use by guidance counselors about the employment opportunities for forestry professionals within our province.
  5. A negative, wide-spread public perception about forest professions and indeed most industrial forestry related activities.
  6. A wide-spread feeling among the professional forestry community that they need and want a more vigorous professional association, particularly in the areas of continuing education and outreach to the community.
  7. A provincial and national media that is biased against industrial forestry.

These issues, along with the problems identified for the Phase Two proposal process as stated above, were used as the basis of the interview questions in an attempt to find a consensus as to how the sustainable forest sector wished to proceed to address these findings.

What follows is an attempt to prioritize these views into a set of action steps that can be used to address the future needs of forest industries and the professional forestry community in our province. In many of the interviews specific ideas were given as to the best way to implement an idea, opinion or to alleviate a frustration. These specifics have been included in the action steps.

These steps are divided into two categories. The first category (PRIMARY ACTION STEPS) represents those issues that were common among most of those interviewed; a consensual view point that represents the major first steps needed to address the problems. The second category (SECONDARY ACTION STEPS) represents those issues that were raised among fewer interviewees but nevertheless are either issues specific to one group (e.g. forest technicians, female foresters), or are held by a minority of those involved in the process.

## **Primary Action Steps**

### ***For the Secondary School System in Newfoundland and Labrador***

- a) To work with the Department of Education to design and implement a set of curriculum materials that represent, in a balanced way, the role of forestry in our province and the importance of the forest products industry to our economy. Materials need to be available for all grade clusters (primary, elementary, junior high school and senior high school) and need to include appropriate in-servicing for teachers.
- b) To develop a set of guidance materials appropriate for high school students. These should outline in a clear and concise way, the career opportunities available in the forestry sector, including details of degree and diploma programs, trades careers and opportunities. These materials should address such areas as salary expectations, life-style issues, and job opportunities in and outside Newfoundland and Labrador. This set of materials might include, in addition to a comprehensive booklet, a forestry careers website, posters, testimonials from forestry personnel, women in forestry, etc.
- c) To formalize the method of communications between forest professionals and youth in the classroom and for career fairs etc. To maximize success, this process will need to produce and distribute materials for use in classrooms, tradeshow, career fairs etc. as well as the in-servicing of selected professionals within the forest sector whose job descriptions will include such activities. Ideally, this process will be delivered by the Canadian Institute of Foresters, Newfoundland and Labrador Section.

### ***For the Post-Secondary System in Newfoundland and Labrador***

- a) To continue to explore recruitment options for the College of the North Atlantic's Forest Resources Technology program to ensure its continued viability. Options might include increased recruitment in foreign countries; specialized recruitment directed

- towards women and other non-traditional groups; using Prior Learning Assessment techniques for the awarding of advanced standing to other forestry workers such as silviculture workers, traditional loggers etc.
- b) The CNA Forestry Department should be granted external funding by industry and government to help it promote its forest resource technology program outside of normal CNA general recruitment efforts. Similar help should be considered for the UNB degree recruitment efforts in our province.
  - c) Industry and government, the main employers of the College's graduates, should ensure that all eligible students in the program get appropriate, adequately paid summer employment opportunities between the first and second year of the program. This might take the form of a formally organized "internship" program wherein students go through a formal process of applying and interviewing for available positions.
  - d) Both CNA and UNB should investigate how best to keep those students who do enrol from withdrawing before completion. In both institutions the student attrition rate is considerable (as high as 50% in some programs) and represents a significant lost opportunity.
  - e) Jointly, the CNA and professional associations should develop and offer a variety of continuing education modules to the forestry community to meet the demand for upgrading and general professional development.

***To address professional issues within the forestry community***

- a) The Canadian Institute of Foresters in this province needs to find a mechanism to become more active in promoting itself, its work and its members. Ideally, this can best be accomplished by creating a paid secretariat whose mandate is to promote the profession, its members and their work. However, with such a small membership base, this may have to be accomplished by

- looking for external funding and perhaps done in collaboration with another similar organization such as the NLFPA.
- b) The CIF needs to devise a strategy to encourage its members (those who volunteer for such a job) to become more involved in school activities designed to promote forestry. It should strongly encourage such participation among its members and train the volunteers through a continuing education program such as a series of mini-forums.
  - c) The CIF needs to find more opportunities for its members for continuing education. The College of the North Atlantic is the logical host for such activities. Opportunities might be found through other colleges and universities via their distance education programming.
  - d) The CIF also needs to examine ways and means of delivering continuing education to its members who might be working in areas not served by high speed internet and/or not within easy commuting distance to major centres.

***To address general public/communications issues***

- a) All interested parties and particularly our provincial government, need to contribute to a comprehensive province-wide communications plan designed to promote:
  - i. forestry as a major contributor to our economy
  - ii. forest jobs and opportunities, including the anticipated labour shortage
  - iii. educational and training opportunities
  - iv. an explanation of the methodology and science behind current harvesting methods (e.g. clearcutting, silviculture etc.) and to make these techniques more acceptable to the public
  - v. a multiple-values approach to forest management
  - vi. what is being done in the areas of planning, new management concepts, the use of computer technology etc. by industry and government to help ensure sustainability
  - vii. secondary processing opportunities

- viii. what is being done now in the way of sustainable forest management techniques
  - ix. what the future of sustainable forest management holds for our province
  - x. the role of the professional forester, including life-style, job descriptions etc.
- 
- b) This strategy must be well funded by industry and government;
  - c) As the communications strategies need to be viewed by the public as unbiased and truthful, they should originate with organizations seen in this way. Many recommended the Western Newfoundland Model Forest as an appropriate mechanism for this purpose;
  - d) Effort needs to be made to ensure these communications efforts reach all sectors of our province, particularly, the City of St. John's and the Avalon Peninsula.

***To improve the image of the professional forester***

- a) The CIF should initiate a comprehensive public relations program that highlights the roles and responsibilities of its members, the variety of work performed, the use of high technology in the workplace, etc. This program might include an audio-visual presentation, static display, print materials for use in schools (and particularly by guidance counselors), a media blitz and indeed, any other method that can help get the message out about the profession.
- b) All forest professionals need to be made conscious of their role in promoting themselves as a viable, important profession in the provincial context and be encouraged to publicly promote their profession in any opportunity presented: including visits to schools, service clubs, public meetings, etc. To do this they need to be provided with appropriate, up-to-date information about their profession and a mandate from their employers to encourage such activities.

- c) According to many forest professionals they do not feel confident speaking in the public context. Training should be offered to better prepare them as public communicators.

***To address labour market issues generally***

- a) To promote, in all ways possible, the employment prospects in the forest industry in our province and to highlight the need for skilled employees at all levels of forest harvesting and management. Skill shortages exist or will exist not only for forest professionals but for mechanical harvesting operators, heavy equipment operators, conventional loggers, silviculture workers, indeed in most job areas within the industrial setting.
- b) To explore ways and means of providing to seasonal workers, a more permanent job, with benefits, to discourage them from leaving their jobs for more stable positions out of province. Many positions are now offered for several months only and with no or few employee benefits. Such working conditions are not likely to attract employees into the future.

***To address the role of the Western Newfoundland Model Forest (WNMF)***

- a) To have the WNMF deliver many of the action steps stated above particularly as most interviewees identified the WNMF as best able to deliver messages and programs that would be accepted by the public as accurate and unbiased. This organization should provide both the administrative and technical expertise to develop, promote and encourage the implementation of many of the action steps recommended in this report including, but not limited to, the following:
  - i. the communication plan;
  - ii. the educational materials for use in the curriculum and by guidance counsellors;
  - iii. the training of foresters to do public relations work and the preparation of the appropriate materials for their use;

- iv. the efforts of both the CIF and the NLFPA to investigate ways and means of their getting and maintaining a paid secretariat;
  - v. the options for continuing education for forestry professionals (in cooperation with the CIF and its members).
- b) To continue its work in Labrador and particularly the development of educational programming as recommended in the secondary action steps outlined below;
  - c) To raise the awareness of the public about forestry issues in more parts of the province and particularly to the most urbanized areas on the Avalon Peninsula; to assume more of a pan-provincial perspective;
  - d) To facilitate the implementation of the recommendations of this report, by whatever means possible; and
  - e) To actively pursue ways and means of funding the projects proposed from provincial industrial and government sources, national government sources and from unconventional sources such as foundations and other non-governmental sources.

***To address the role of the Canadian Institute of Forestry (CIF)***

- a) To look at ways and means of getting the CIF more relevant to the professional lives of its members by:
  - i. exploring options available for funding for a professional secretariat;
  - ii. conducting an evaluation of continuing education needs of its members followed by the delivery of these programs;
  - iii. providing learning opportunities for its members who wish to become more involved in public and educational communication to promote forestry and its professions.

***To address concerns with provincial government policy***

- a) To examine government hiring policy and procedures and determine why so many of its employees working for the Forestry Branch feel they are overworked and unable to perform their assigned duties adequately;
- b) To get government involved in the public communications process by contributing financially and directly to it;
- c) To get a public commitment from Government toward an articulation of the importance they give to our forests and the industries that depend on them;
- d) To study the effect that the “re-branding” of the traditional forestry related jobs in government such as silviculture technician, forest technician to “Conservation Officers” has had on public perception of forestry related jobs.

**Secondary Action Steps**

***To address First Nations issues and recruitment***

- a) To consult with First Nations leaders to help devise a strategy that provides opportunities for their youth to become involved professionally with the forest industry particularly in Labrador;
- b) To design, test and implement a training plan appropriate for First Nations' youth who are interested in forestry work, but who do not have to necessary academic qualifications to access traditional forest technology training. This training plan must be based on traditional First Nations values, while at the same time, providing skills necessary to work in a modern harvesting operation;
- c) Investigate the development of a program in the Labrador schools (particularly in First Nations and coastal communities) to help promote forestry as a potential career which would provide incentives for young people to stay in school;

***To address female forestry students recruitment***

- a) To promote the suitability of the forest professions for women as a targeted group, utilizing female foresters and forest technicians recruited to work specifically with female audiences;
- b) Work with other organizations like “Women in Resource Management” and “Skills Work for Women” (neither of which now deals with forestry careers) to help promote on a provincial level the opportunities for women in forestry;

***To address Sir Wilfred Grenfell College programming***

- a) To investigate the potential for a Master’s level degree program in a forestry-related discipline to be offered at Sir Wilfred Grenfell College. This program might be focused toward resource management generally, with options in various resource-based disciplines including forestry. Such a program should be offered both full and part-time to allow access to those currently working;
- b) To design and implement courses for students in the Faculty of Education, which address (among other resource issues) the science of forestry and the economics of the forest products industry in our province. These courses should be developed to ensure potential teachers at all grade divisions have the appropriate information and methodology;
- c) To look at adding more forestry related courses into the Environmental Science degree program offered at the College. This could increase the level of understanding of graduates about the forest and the effects harvesting techniques have upon the flora and fauna of our boreal forest.

***To address the role of the Newfoundland and Labrador Forest Protection Service (NLFPA)***

- a) To reactivate the role of this historically important organization by funding it to a level appropriate for it to function as one of the primary tools available to promote and help develop positive

- attitudes about sustainable forest management, the forest products industry and the role it plays in our province;
- b) To look at ways and means of providing the NLFPA with a paid secretariat (at least part time) to carry out the work of the organization to the fullest level possible;
  - c) To look at cooperative ventures between the NLFPA and the CIF (including the sharing of resources for staffing) that might help ensure maximum effect from the resources of these two organizations;
  - d) Look at the role the WNMF might play in helping the process of revitalizing the NLFPA and to encouraging cooperation between it and the CIF.

## THE NEXT STEPS

The completion of this report marks a milestone in forestry research in our province. To the researcher's best knowledge, never before has such a comprehensive look into the issues of forestry and the careers in forestry been undertaken in our province.

And the results are startling. Without some quick and decisive action, it appears that the forestry professions in Newfoundland and Labrador and the industries and government services that rely on their professional services will be significantly and negatively impacted.

What then can we do as a province to address these issues? We must move toward a fully functioning labour force which can continue to manage our forest resources, for all its values.

The research has determined that there is no lack of will to accomplish these goals among all sector partners, industry, government, and the professionals themselves. There is however a lack of money available to put towards solving the problems. Without a significant investment of direct dollars, little can be accomplished.

A strategic approach is defined at three levels of investment.

Activity	Strategic Approach		
	High cost	Medium cost	Low cost
To develop and implement educational materials for all grade categories	<i>Individual School</i> <ul style="list-style-type: none"> <li>Comprehensive review of curriculum gaps and opportunities;</li> <li>Material design and production:               <ul style="list-style-type: none"> <li>STSE development;</li> <li>Fact sheets linked to curriculum objectives.</li> </ul> </li> <li>Delivery.</li> </ul>	<i>Individual School Board</i> <ul style="list-style-type: none"> <li>Same as high except delivery is only to the school boards.</li> </ul>	<i>Web-based</i> <ul style="list-style-type: none"> <li>Same as High except a managed web-site has material that can be downloaded;</li> <li>Advertise Web-site by way of a poster.</li> </ul>
To develop career materials for use by high school	<i>Individual School</i> <ul style="list-style-type: none"> <li>Review of the career information and preparation of material;</li> </ul>	<i>Individual School Board</i> <ul style="list-style-type: none"> <li>Same as high except delivery</li> </ul>	<i>Web-based</i> <ul style="list-style-type: none"> <li>Same as High except information on</li> </ul>

Activity	Strategic Approach		
	High cost	Medium cost	Low cost
students including written materials, posters etc	<ul style="list-style-type: none"> <li>Design and production;</li> <li>Delivery: Website, classroom and career fairs</li> </ul>	<p>is only to the school boards.</p> <ul style="list-style-type: none"> <li>Only website and career fairs</li> </ul>	<p>careers is included on website;</p> <ul style="list-style-type: none"> <li>Advertise Web site by way of a poster.</li> </ul>
To in-service guidance counselors	<p><i>Individual School</i></p> <ul style="list-style-type: none"> <li>Prepared a personalized program for guidance counselors per school region/ demographics;</li> <li>Conduct training on material at a professional development seminar;</li> <li>Materials available through website, school and career fairs.</li> </ul>	<p><i>Individual School Board</i></p> <ul style="list-style-type: none"> <li>Same as high except materials are only available at the school board office, website and career fairs.</li> </ul>	<p><i>Web-based</i></p> <ul style="list-style-type: none"> <li>Separate postal for teacher resources would be developed on website;</li> <li>Advertise Web site by way of a poster.</li> </ul>
To develop and maintain a forestry career web site	<p><i>Web-based</i></p> <ul style="list-style-type: none"> <li>Design and prepare content;</li> <li>Create website;</li> <li>Contract service provider;</li> <li>Design posters, bookmarks, resources to promote website in each school;</li> <li>Produce merchandising material.</li> </ul>		
To develop materials and to in-service current forest professionals to be more effective in the province's classroom	<p><i>District Level</i></p> <ul style="list-style-type: none"> <li>Produce a guide to educating students on forests;</li> <li>Develop A/V materials;</li> <li>Develop a 'hands-on' kits for each district office;</li> <li>Develop and maintain demonstration areas within each district for school visits with interpretative signage;</li> <li>Train-the-trainer on delivery of this program.</li> </ul>	<p><i>District Level</i></p> <ul style="list-style-type: none"> <li>Produce a guide to educating students on forests;</li> <li>Develop A/V materials;</li> <li>Train-the-trainer on delivery of this program.</li> </ul>	<p><i>Web-based</i></p> <ul style="list-style-type: none"> <li>Produce all materials and make accessible on website.</li> </ul>
To develop a comprehensive communications strategy for the entire province	<ul style="list-style-type: none"> <li>Comprehensive, all media, campaign utilizing good production values and extensive buy over a long period of time</li> <li>Pan-provincial TV</li> <li>Pan-provincial radio</li> <li>Pan-provincial print</li> <li>Portable display panels with graphics</li> <li>AV materials to accompany static display</li> </ul>	<ul style="list-style-type: none"> <li>Comprehensive, all media buy again utilizing good production values but with less extensive buy and a shorter period</li> <li>Pan-provincial TV</li> <li>Pan-provincial print</li> </ul>	<ul style="list-style-type: none"> <li>Selective buy on some media, but still with good production values</li> <li>Pan-provincial print only</li> <li>Portable display panels with graphics</li> </ul>

Activity	Strategic Approach		
	High cost	Medium cost	Low cost
		<ul style="list-style-type: none"> <li>• Portable display panels with graphics</li> </ul>	
To develop strategies toward and to support increased recruitment efforts for both the CNA and universities for traditional students and towards efforts to recruit more females and aboriginal students	<ul style="list-style-type: none"> <li>• Assistance (financial and administrative) with visits to non-traditional places such as the more isolated high schools (eg Labrador), career fairs throughout the year .</li> <li>• Recruitment (and expenses) of appropriate personnel to accompany recruiters e.g. female forester, aboriginal forester</li> </ul>	<ul style="list-style-type: none"> <li>• Utilizing local personnel to make visits to non-traditional places such as isolated high schools</li> <li>• Recruitment and expenses of female and aboriginal foresters to visit selected high schools and career fairs</li> </ul>	<ul style="list-style-type: none"> <li>• Utilizing existing personnel to make visits where and when possible to supplement the work of standard college/university recruiters.</li> </ul>
The (possibly) shared costs to allow the CIF and the NLFPA to hire a part-time secretariat	Full-time ED shared equally between both organizations Office expenses Travel expenses	Part-time ED shared equally between both organizations Office expenses Travel expenses	
In addition to the above, money should be put towards the development and implementation of a Public Relations campaign to promote the role and responsibilities of the forestry profession.	<ul style="list-style-type: none"> <li>• Print materials</li> <li>• Travel</li> <li>• AV materials</li> <li>• Media materials</li> </ul>		
To develop and	<ul style="list-style-type: none"> <li>• <i>Developing new courses</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Developing</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Utilizing existing</i></li> </ul>

Activity	Strategic Approach		
	High cost	Medium cost	Low cost
implement a continuing education program for the professional forestry community	<ul style="list-style-type: none"> <li>• Salary</li> <li>• Travel</li> </ul>	<i>some new courses while utilizing existing courses</i> <ul style="list-style-type: none"> <li>• Salary</li> <li>• Travel</li> </ul>	<i>courses only</i> <ul style="list-style-type: none"> <li>• Salary</li> <li>• Travel</li> </ul>
To develop and implement aboriginal forestry programs directed a) toward aboriginal youth still in school and b) for those who have dropped out.	<ul style="list-style-type: none"> <li>• Research consultant</li> <li>• Office expenses,</li> <li>• Travel</li> <li>• Production</li> </ul>		

## **APPENDIX A: BACKGROUND RESEARCH**

### **A1: The Current Labour Situation**

#### ***a) An overview***

The results from Phase One research indicated the potential for a serious labour shortage in the next few years.

At the industry level, the creation of employment of forest professionals at all levels is at very low levels; indeed there have been layoffs and an additional reduction of staff through attrition as well. Neither company operating in the province will likely hire any new employees while the current downturn in the industry continues. There is therefore a prevailing feeling that current staff will have to perform additional duties and that only in extreme circumstances will new staff be hired to replace those who may retire or leave for other reasons. This is causing some stress among these employees who feel they are already working significantly more overtime hours than before and will have to take on more duties.

Nevertheless, industry feels that with the aging staff there will be significant employment within the next five years. Both feel there is only so far they can go in reducing their staff complements before they will need to replace exiting staff and reduce the workload of current employees. Both companies state they will need almost 40 new staff between 2006 and 2010. There is no breakdown as to the specific skills (Forester or Tech) but there seems to be a consensus with both companies that, assuming no change in their operating plans, there will be significant hiring within the next few years.

Employment with the provincial government is expected to grow in the next few years as a result of a significant retirement cohort expected soon, possibly as early as 2006. Government policy for the past two years has been to freeze hiring in most branches of the civil service. However, lately there has been significant hiring in the Department of

Natural Resources and particularly for Conservation Officers. Mr. Len Moores, Acting Deputy Minister of the Department of Natural Resources indicated in a personal communication that there will be more hiring within the next few years at both the Conservation Officer level and also for Professional Foresters.

However, within the general community, the message is still very much accepted that there are no jobs available either at the industry or government level. This message is considered valid by many of the key players in the career guidance and school environments and, likely, results in the professions of forestry and forestry technology being ignored in the general search for future options by many high school students, often on the advice of their teachers and parents.

It is perhaps not surprising that this be so. First of all there is very little available information for the promotion of the forest careers and second, with the prevailing understanding that there are few jobs available, who would bother?

Nevertheless there will with almost certainty a labour shortage in our province within the next ten years (or less) and without significant intervention our forests will suffer from less management.

However, the general lack of focus on the career issues in forestry throughout Canada is being addressed by a group of forestry school representatives who have created a "white paper" on future needs and activities (see attached) that will try to a) find funding for and b) motivate the entire sector towards a comprehensive strategy nationwide, to address the forthcoming labour shortage. This however, will only address part of the problem. The primary concern found in this study has to do with general attitudes toward the profession and the resulting negative feeling many Canadians have toward work of the forest professional. The promotion of forest sector job availability is only one step toward a solution. The primary solution still has to be a

comprehensive attempt at attitude change among the population in general and young people in particular.

***b) Women in forestry***

The number of women working in forestry in our province is small as a percentage of the total workforce. This is not surprising given the small uptake of forestry programming by women both at the technology and degree levels. Phase one research showed that women generally do not value the job of forester and see it as a primarily male dominated profession and one not particularly welcoming to females.

Through this planning process, it has been found however, that for those few women who are now employed, it is for them a totally rewarding profession and one indeed entirely welcoming to female workers. The problem as identified by the female interviewees was lack of female applicants rather than any bias by employers. This lack of applicants is of course a direct result of there being fewer female students enrolled in forestry programming. Currently, the University of New Brunswick has 33 female students out of 150 total (22%) scattered throughout its five year degree program in Forestry and 5 out of 47 total (10.6%) in Forest Engineering and the College of the North Atlantic has 10 female students (out of 32 total or less than 33%) in its two year diploma program.

Generally the female rate of application and acceptance to all university and technical programs is nationally about 52% and in even in environmental science program the female rate is over 50% at the CNA and almost 50% percent at UNB. As the academic requirements for environmental programs are similar to those in forestry, it is clearly not the science/mathematics requirements nor the type of work that is keeping females from applying to forestry programs.

### ***c) First Nations students in forestry***

The role of “aboriginal” forestry training has yet to be fully articulated neither by the province’s training institutions nor indeed by First Nations groups themselves. Some preliminary efforts have been made by the Western Newfoundland Model Forest to try to determine what, if anything, is needed in parts of Labrador where there is some forest industry potential and there is now in place an active group of forestry professionals working with the Innu Nation to try to determine future directions and appropriate training needs for Innu men and women who might participate in the potential of any forestry developments.

At present all forestry training programs require significant science and mathematics courses from high school as a requirement for admission. And indeed all such programs have a high level of science and math course work as an in-program requirement. First Nations groups have thus identified these requirements as a major block to their members accessing traditional training programs for forest professionals.

Nevertheless, the philosophical issues inherent in what might best be called “aboriginal forestry”, a holistic approach to the use of forests that combines natural processes and their interaction with humans and wildlife, that ultimately provide a sustainable and multiple-value use from the forests must be understood and practiced in any forestry operation in areas claimed by our aboriginal groups. Therefore the role of the “aboriginal forestry” should be fully integrated into policies, training, education and practice if the forest industry is to develop in Labrador.

This requires our training institutions not only to provide such programming to its current students but also to try to develop training opportunities for First Nations youth to allow them to fully participate in forestry issues. Traditional programs in forestry and forestry technology are mostly out of reach for any student who has not completed high school. Efforts are being made in both our province and nation-wide to try to significantly increase the high school

completion rate of First Nations youth. In the meantime, the development of an appropriate training plan that focuses on the practical and theoretical issues of “aboriginal forestry” to young Innu and Inuit that is both philosophically sensitive yet has meaningful practical applications to world of forestry work might be a short-term solution.

## **A2: KNOWLEDGE-BASED BUSINESS/CONTINUING EDUCATION**

The interview process uncovered a high level of demand for continuing education among both foresters and forest technicians. Both groups felt that new technologies, new approaches to forest management and a general shift in public attitude towards forestry demanded that they get up-to-date information more quickly and in more detail. Many of the men and women interviewed had very little exposure to continuing education over the past few years citing lack of budget and/or workplace demands as the primary reasons for their failure to get more opportunities. Isolation was also mentioned particularly by those foresters working in the more isolated parts of the province where high speed internet was not available.

Productivity in Canada’s manufacturing sector has recently become an issue as Canada’s measured productivity levels continue to fall annually particularly when compared with other major industrialized nations. Consensus seems to indicate that Canada’s industrial communities need to develop programs that address productivity through such methods as:

- increased in-house training opportunities,
- the creation of opportunities for out-of-hours continuing education,
- incentives for employees to more easily access out-of-hours continuing education,
- the support (and if needed the creation) of accrediting bodies to develop standards of professional qualifications,
- the on-going monitoring of these qualifications, and

- to encourage and support the philosophy of life-long learning among its employees.

Thus it can be argued that workforce productivity is as much a problem in Newfoundland and Labrador's manufacturing workforce as any where else in Canada and that appropriate steps need to be taken here to improve employee opportunities for both in-house and general continuing education.

The Canadian Institute of Foresters (<http://www.cif-ifc.org/>) is the professional body in Canada of foresters and forest technicians. It has chapters in most forest jurisdictions and like most professional organizations, sets standards, monitors professional qualifications and supports its members in any way it can. The Registered Professional Forester (RPF) designation is also administered by the CIF. To obtain this designation, a person must have graduated from an accredited forestry degree program and must meet certain other standards as set by the CIF. In some provinces, the RPF designation is a legislated requirement of practice and while this is not the case in Newfoundland and Labrador as of yet, there appears to be significant support for such legislation. See <http://cif-rpf-nlsection.com/rpfobjectives.htm> for information on the RPF designation in Newfoundland and Labrador.

As part of the on-going requirements to keep this designation, there are continuing education requirements in at least some provinces while in other jurisdictions, continuing education is not legislated but strongly encouraged, as in our province. However, while some efforts are made by the provincial section, the lack of appropriate offerings combined with the relatively small, widely spread-out population of foresters in the province makes an ongoing continuing education program difficult. This situation is further complicated by a lack of staff paid by the CIF charged with continuing education organization and implementation.

The national move towards increased productivity requires a significant effort to improve both in-house and out-of-hours professional continuing education programming. There is a high level of understanding of this need as expressed by the province's forestry community and most of those interviewed for this study indicated they want but cannot access such programming opportunities in our province. The CIF through its volunteer directors offers, from time to time, some mini-forums for its members but these are generally quite short (several hours only) and do not often address the needs of its members for more extensive, often technical, opportunities. The College of the North Atlantic is the logical institution to design and deliver more extensive programming but little is being done today to address these needs other than by offering its regular forestry technician day-time programming. Memorial University offers an extensive array of courses both day and night but few of these are designed with the forestry profession or its training needs specifically in mind.

As a final note, the management of Corner Brook Pulp and Paper (<http://www.cbpppl.com/>) have instituted what appears to be quite an intensive in-house training program for most employees including its forestry staff, locally called Kruger U. This program offers significant opportunities for new learning and incentives to those who complete them.

### **A3: Enrolment Impacts on Education**

#### ***a) THE UNIVERSITY OF TORONTO MODEL***

The oldest forestry degree program in Canada was located at the University of Toronto. However because of declining demand for this program, the University discontinued it in 1999 and replaced it with an entry-level post-graduate degree. These programs now accept students with a variety of academic backgrounds:

“Candidates from a variety of undergraduate backgrounds, including forestry, agriculture, biology, botany, economics, environmental

studies, engineering, mathematical and computer science, physical and social sciences and zoology, are invited to apply.”

<http://www.forestry.utoronto.ca/gradinfo/mfcdegree.html>

<http://www.forestry.utoronto.ca/gradinfo/mfcphddegree.html>

It is perhaps useful for us to look at the U of T model as a possible way to meet some of the training needs for our province. Logically, in the scheme of post-secondary education in our province, Sir Wilfred Grenfell College in Corner Brook is in many ways ideally situated to offer this type of program, a first for our province. Initial discussions with officials of the college indicate their interest in this type of programming as the college looks to its future as a more independent institution.

#### ***b) PROGRAMS AT MUN/SWGC***

With the discontinuation of the two year forestry program in 1999 and with no forestry-based program yet developed to replace it, there is now no university level training in any of the forestry professions available in our province. Most of our students interested in pursuing a university degree in forestry now attend either the University of New Brunswick or Lakehead University with significant numbers first choosing the CNA program and then transferring their credits to one or another of the University programs.

It has been suggested by many of the interviewees, that the university consider ways and means of developing programming for the natural resources sector and particularly at the post-baccalaureate level. There are no such post-baccalaureate programs at SWGC or indeed at MUN generally at the moment. This idea has been suggested to some college officials and though nothing is planned for the immediate future, they agree the pursuit of this idea is worthwhile and that such programming might fit into an expanded SWGC in the future.

***c) LINKAGES BETWEEN THE COLLEGE OF THE NORTH ATLANTIC AND SIR WILFRED GRENFELL COLLEGE***

Historically there have been course and program links between these two Corner Brook institutions. Formal articulation agreements exist in several program areas notably environmental studies and environmental science.

It seems logical, appropriate and entirely possible therefore that these two institutions co-operate on any development of any programming that might address forestry issues. There is little or no support neither for the restoration of the pre-forestry program at SWGC nor for a made-in-Newfoundland and Labrador forestry degree program at the under-graduate level.

However there is some significant support for post-graduate programming that can address the graduate studies needs of existing professionals working now in the profession. What form this programming might take is the subject of further research.

But it seems appropriate that what ever direction any future forestry-based degree program does take that it be done with both institutions resources in mind to take advantage of all available resources, both human and physical.

<http://www.swgc.mun.ca/>; <http://www.cna.nl.ca/>

***d) Forestry Technology at CNA***

The forestry technology program at the College of the North Atlantic is generally accepted as one of the finest in Atlantic Canada. This accredited program as been in existence as Newfoundland and Labrador's only forest technology training program since the 1960's, and has produced the vast majority of the technician workforce in our province. Indeed, with transfer articulation agreements with both the University of New Brunswick and Lakehead University, it now contributes significantly to the training of foresters for our province

with many of its two-year graduates being able to transfer two full years towards the degree program at UNB and one at Lakehead.

The only negative comments made during the interview process about this program were 1) a perception that more needs to be done in the general areas of communications skills and 2) a perceived lack of practical experience provided during the two years.

Superior communications skills are considered to be a major requirement needed to work in most professional fields. Both oral and written communications have taken on a higher level of importance among employers. Job requirements now, more than ever, require report writing and oral presentations to both in-house and general public groups that are clear, concise and well presented. It is perhaps significant that many of those professionals interviewed indicated that they felt under-prepared to speak publicly even in front of groups of students. If forest professionals are to advance their professions, to promote their skills publicly, they need to maximize their skills in all aspects of communication theory and practice.

Generally practical experience in the field is obtained through summer placements with employers, generally the two mills and with government. Over the past few years, these opportunities have been reduced because of budget restraints and as a result, many graduates of recent classes feel they have not had the breadth and depth of practical experience appropriate for their needs.

Some of those interviewed suggested that the college look at the possibility of instituting a formal cooperative education. Such a delivery method would, some feel, give them a better opportunity for real world experiences thus enhancing their options and better preparing them for formal employment.

The disadvantages to this system as pointed out by college officials would be a longer program and the inherent difficulties in obtaining

appropriate employment for the cooperative semesters. While these officials recognize the value in a co-op system they feel more problems are created than solved by its institution. Employment opportunities are more difficult to find in the winter season, and at best, economics will always dictate the availability of any co-op placement. Formal co-op education requires the successful completion of work terms and without the availability of appropriate placements, students would be placed in a disadvantaged situation. The present use of summer jobs as work experience is considered, generally, to be as valuable as co-op placements anyway. At least the lack of summer employment would not put in jeopardy the students' ability to graduate.

### **Forestry Technician/Technologist versus Conservation Officer Positions in the DNR**

Several years ago the provincial government's forestry service changed the occupation title of such positions as silvicultural technician, forestry technician to the more generic (and misleading?) name of "Conservation Officer". As a result of this change, job boards and listings seldom show "Forestry Technician" or "Forest Resource Technician" as available positions in our province.

Indeed in a search of the National Occupational Classification System, the title "Conservation Officer" does not even come up as a recognized job classification. The nearest is "Conservation Technician" (under NOC 2223, Forestry Technologists and Technicians).

Officials from the College of the North Atlantic pointed out this potential disconnect and wondered if, by removing "forestry technology" from the provincial list of job titles, there is a general misunderstanding of the opportunities for graduates of their "Forest Resource Technology" program.

### ***e) QUALIFICATIONS OF RECENT DEGREE GRADUATES***

There was some question raised in the literature search conducted for Phase One as to whether or not graduates of degree programs in Canada are indeed being educated appropriately to meet all the demands of sustainable forestry in today's multiple value society.

Particular criticism has in the past been leveled at the Accreditation process (<http://www.cfab.ca/eng/about.html>) as being too demanding in its requirements for core programming at the expense of other, newer forestry issues. Though this criticism as been leveled at both diploma and degree programs, it was particularly focused towards Canada's degree programming where it was felt more emphasis should be given to newer approaches to forestry sustainability and less on the traditional skills of the "old school" way of doing things.

This interview process did not uncover any serious questioning of qualifications by any professional or by his or her supervisor. The most recurring education/training issues centered on the need to acquire new knowledge and the sometimes lack of practical training available before graduation. Most interviewees stated their education was fine and equipped them well for their jobs by both giving them the practical/theoretical knowledge and by equipping them with appropriate problem-solving skills.

However, there was some comment on the need for renewing old skills (particularly computer technology and new technology used in presenting information, e.g. Power Point and the like) and for the acquisition of some new approaches to forest management through continuing education either by in-house and/or out-of-hours opportunities.

#### ***f) PRIOR LEARNING ASSESSMENT***

Prior Learning Assessment (PLA) is an evaluation technique used to assess informal educational qualifications, with the intent of granting credit towards some formal course or program to which a student may be applying. In most PLA assessment, the applying student is asked to complete an inventory of previous experiences which are then evaluated and analyzed against the learning objectives of the course or program being considered.

PLA techniques are used mostly for the granting of advanced standing to adult students who have had life experiences through work, volunteer activities, short courses etc.

The use of PLA in forestry education program has not been attempted on a large scale in our province. However, with the possible labour shortages anticipated in the next few years, and with the decline in traditionally high enrolments at the College of the North Atlantic's Forest Technology program, the possibilities of attracting students to this program using PLA evaluation for work experiences in particular for such groups as silvaculture workers, is worthy of some attention.

However, as College officials pointed out, the higher levels of technology and science now so much a part of the program, make it unlikely that much credit can be granted except in exceptional circumstances. Nevertheless, it seems appropriate that the CNA look into this process and act if it sees any value in this process helping reach its enrolment numbers.

#### ***g) ISSUES IN THE SCHOOL CLASSROOM***

The research process included some direct visits to classrooms to talk directly to students. Visits were made to grade 6 and grade 8 classrooms in both urban and rural settings to try to get information on attitudes and needs as expressed by these young Newfoundlanders. Interviews with their teachers were also part of this relatively informal process.

Generally, our young people have very few learning experiences with forestry and its issues in the classroom. Some urban schools have participated in events like the "Urban Forest Ecology Walking Tour" (<http://www.wnmf.com/main/vision/annual/walking.html>) and a few have actually visited an operating harvesting operation thanks to a program hosted by Corner Brook Pulp and Paper. Rural students have more personal life experiences with the forest but these experiences are generally more recreational than learning based. Overall, the students at both grade levels have not had little to no exposure to professional foresters nor have they had classroom experiences centering on forestry issues.

Teachers reported that they do not teach forestry issues as an integral part of either the elementary or junior high school curriculum. This is because there is little in the way of curriculum materials given to them, there are few formal learning objectives in either the science or social studies curricula and field trips to forested areas are expensive and school budgets are not large.

Most teachers interviewed did indicate a personal level of understanding of natural resource issues, including forestry, as being important to our province, but felt other learning priorities take over when curricula are being designed. They also expressed the view that most of the field trip experiences are focused more on environmental issues (water, air, pollution) than on issues of sustainable forestry. One teacher mentioned that she doesn't think the words (sustainable forest management) are written in any curriculum material that she has ever seen!

Nevertheless, teachers are aware of the issues facing forestry in our province and all recognize the importance forestry plays in our economy. They would appreciate more materials, focused specifically in individual grade levels, that present the issues in a balanced way and that include, when possible, planned field trip opportunities. They always appreciate the visits to their classrooms by professionals and would welcome a proactive approach by any forestry professional who wants to explain issues to their students either in the classroom or outside.

#### ***h) GUIDANCE OFFICE NEEDS***

It was quite apparent from Phase One research that there is little in the way of materials about the forest professions available to counsellors in our high schools.

Recommendations to address this shortfall included print materials, posters, a web site and a proactive approach by the forest professionals themselves to visit high schools, to be available at career

fairs etc and to take a lead in the promotion of their careers whenever and wherever possible.

Most counsellors do not have to time to do much with career guidance other than have materials available in their offices for students to self select. The production of materials that are appealing to students, that stand out to them is of utmost importance if they are to be read. Most students are also very computer knowledgeable and use this technology as a major source of information. A web search conducted as part of this research project found little in the way of generic material available for high school students: most sites that appear (after "Googling" forest careers in Canada or forest careers in Newfoundland and Labrador) provide information on jobs available but little or nothing on the main issues of job description, life style, training/educational opportunities, salary expectations, and particularly information on the potential labour shortage facing all regions of Canada.

#### **A4: Capacity Building Associations**

##### **a) Newfoundland and Labrador Forest Protection Association**

Newfoundland and Labrador Forest Protection Association (NLFPA) is an industry/government driven organization in our province that has as its primary responsibility, the promotion of and education about the forest industry. Many of the men and women interviewed for this project felt that the NLFPA was an ideal organization to take a leadership role in the public education of forest management and in the production of career materials and supplies for schools and general public consumption. The organization is funded by both pulp and paper companies and by the Department of Natural Resources. (<http://www.nlfpa.nfol.ca/who.html>).

The NLFPA has a long history in the province. It was originally legislated into existence to provide much needed fire protection for the forests and over the years evolved into vehicle for public relations and for the promotion of the importance of the forests and the industries

that use them. At times it has had a paid secretariat and a well-funded budget although in more recent times it has had to do with volunteer administration and with a decreasing budget. It has recently produced some excellent television ads that promote various aspects of sound forest management and produces the annual forest supplement to most of the province's newspapers during National Forest Week. It has also promoted forestry education with scholarships for students attending forestry programs.

Recently however, the impact of the NLFPA has been minimized as the budget has been reduced. For example, the television ads, so well accepted by the public have been shelved because there is no money available to pay for television time. There is no paid staff which limits the organization's ability to find proactive methods to try to address the problems including the looming labour shortage issues as identified in Phase One of this study.

There was significant consensus among those interviewed for this study that the NLFPA could have a major role in the promotion of sustainable forest management and in fighting the negative public attitudes that seem to permeate most forestry activities. As the organization is funded by industry and government it was felt that this was an important way for both parties to signify their concern and to help address the problems identified particularly around public education and forestry reputation issues.

***b) Canadian Institute of Forestry (CIF)***

Most of the forestry professionals interviewed felt that the CIF, as their professional body in this province, was potentially the most important player in addressing the issues facing the forestry community and particularly on issues as they affect the role and responsibilities of these professionals and the future of the profession in the province. Most of those interviewed were paid up members of the CIF and most had some opinion on the state of the organization in the province and indeed in the country as a whole.

Generally, it was felt that the CIF both provincially and nationally needed to take a proactive approach to the problems facing forestry schools in the country. Many felt the future of their profession was at stake in the long term there was no replacement foresters and forestry technicians available when the anticipated retirement boom hits sometime within the next five to ten years. There was significant concern about what would happen to the profession and its status if the CNA program and/or the UNB degree program were discontinued. Concern was raised about the need to fill professional forester job vacancies with those with different qualifications and indeed, the ability to fill job vacancies with any one.

Many of those interviewed felt that the CIF, as the professional regulatory body, needed to become substantially more active in promoting forestry careers among young people and most had some opinion as to how this best could be carried out. The most frequent solution given was to hire a professional staff for the CIF in our province though most felt this was impractical unless either membership fees were substantially increased or external funding could be acquired.

Nevertheless, there was significant agreement that the role the forester plays in the future of sustainable forest management in the province should not be underestimated and that it was most necessary for the professional association to take action to prevent itself from becoming obsolete and irrelevant in the future. There was also almost universal agreement that though the role of the volunteer is important in the promotion and educational process, the system could not sustain itself using volunteers alone.

***c) Western Newfoundland Model Forest Inc.***

The track record and perceived capacity of the Western Newfoundland Model Forest Inc. (WNMF) (<http://www.wnmf.com/>) within the sustainable forestry community puts this organization at the top of most interviewees list of organizations they want to get involved in solving the problems discovered throughout the research process.

While it is generally recognized that the WNMF cannot financially support the development of solutions without significant external support, consensus exists for the WNMF to become the lead institution in both the search for funding and in the facilitation of the search for solutions.

There is no question that the WNMF has the reputation as an unbiased, objective and fully functioning advocate on forest issues and is, by extension, the most likely organization to get positive results.

#### **A5: Media's Influence**

The media in general and our own local media in particular have been widely criticized for their perceived negative reporting of forest management issues in our province. Phase One research showed the wide effect media plays in the formation of public attitudes toward both the forest products industry and indeed all forestry activities in general. They have been widely blamed as one of the primary causes of the negative attitudes towards forestry in our province.

The media themselves have a different opinion. They claim that they simply report what they see and hear, in an unbiased way, using sources available. They do agree that often their reports are one sided but blame the lack of balance on a lack of information from the opposing viewpoint.

Indeed, there is a lack of professional public relations personnel in the industry at the moment. Corner Brook Pulp and Paper has no one responsible for presenting its viewpoints in a proactive fashion. Similarly the provincial government does not often present a focused public relations effort in addressing forestry issues, even though it does staff a communications office. Most media interviewed felt the public communications process of the government deals primarily with government issues and political responses, ministerial statements and the like.

Neither the CIF nor the NLFPA have, recently at least, made any concerted effort to promote its issues of sustainable forest management to the media. Indeed most public information on day to day forestry issues seems to be left to the WNMF which has no mandate to respond to public criticism.

Thus, the media is often left with no view point to report on other than that of, say, the Sierra Club or a public interest group opposed to some activity.

## **APPENDIX B: FORESTRY PROFESSIONAL'S QUESTIONNAIRE**

### **Toward a Strategic Plan to Address a Potential Skills Shortage in the Forestry Sector**

#### **Information for All Participants on the Interview Process**

To develop a meaningful strategic plan, it is important to have input from as many of the people involved in the potential outcomes as possible. Thus this process involves consultation with men and women at all levels in the forestry community; specifically foresters and forestry technicians, industry administrators, government officials, scientists and educators in post-secondary forestry related programs and of science and social studies in all grade levels in the secondary system. Included will be those who can affect change in our attitudes and values; this may include media personnel who write about the forest to guidance counselors who advise our young people about careers in and around the forest.

The strategic planning process is one of consultation, assessment, planning, forecasting and evaluation. It considers all input and tries to prioritize this input into a set of goals and objectives with action steps for each. The input from each individual is crucial for the development of this process and welcomed at any stage in its development.

Phase One research identified several key areas where strategic planning is thought to be appropriate. Generally these areas include:

- a) post-secondary forestry education,
- b) secondary education curriculum on forestry topics,
- c) information for guidance counselors about the forest professions for use with high school students,
- d) continuing education for the profession, and
- e) the many faceted issue of communications within the profession and from the profession to the public.

Important as well is the creation of a vision and a mission for this process.

Phase One identified the problems; now we need to work together to try to create a “master plan” for the future. You will be asked a series of questions that I hope you can answer fully. Your answers will be treated with total confidence: you will NOT be quoted.

Thank you for participating in this process.

## **INTERVIEW QUESTIONS FOR PROFESSIONALS INVOLVED WITH THE FOREST**

(The following questions were or will be administered anonymously through an interview process to forest professionals currently practicing in the field in Newfoundland and Labrador. Every effort has been made to encourage totally openness/frankness in these responses. Similar interviews will be held with industry managers, senior civil servants and forestry educators. Their responses will be analyzed separately from the others.)

### QUALIFICATIONS

UNIVERSITY/COLLEGE ATTENDED

YEARS EXPERIENCE

PRIVATE/PUBLIC EMPLOYER

JOB DESCRIPTION

YEARS TO RETIREMENT

SUPERVISORY POSITION?

1) Phase one of this study identified several areas of concern about the future of the forestry sector in Newfoundland and Labrador. This interview process is designed to try to create a new vision and mission for all of us as forest professionals, involved one way or another in this important industry, which will lead us to a solid future for sustainable forestry in the province. Generally, how do you think we can

accomplish this goal? What elements of forestry policy do you think need to be changed? Is change directly related to money spent? Is it an attitude problem? What would you like to see happening in, say, ten years time that is not being done today to ensure a healthy productive forest and a healthy productive industry base?

2) As you are probably aware, there is a training crunch in forestry schools and technical colleges in Canada today. Enrolment decline is high in most institutions and there is a real risk that there might be a professional shortage in the next few years. What do you think is causing this? And do you have any suggestions to curb the problem?

3) The practice of forestry seems to be often criticized as environmentally poor and public criticism of forestry practices is a common occurrence. Yet most foresters would argue that current practices are, for the most part at least, environmentally sensitive and that sustainable forest management is practiced well in this province. Why do you think this is? What needs to be done? What if anything can you as a professional do?

4) Do you think young graduates are as well prepared for the demands of modern forestry as they could be? Please explain. Have you identified any training gaps in your own training, or in the training of people you supervise?

5) You have been out of school now for a while. Do you think you need continuing education as a professional? What things would you like to have access to? Do you avail of continuing education courses when they are offered? Do you actively seek out continuing education opportunities? What types of courses/information etc. do you feel you need? Are you prepared to take courses out of regular work hours?

6) The secondary school system has little in the way of forestry courses/information at any grade level. Also guidance counselors complain that there is little information available to them to help them

promote forestry careers. What do you think you can do to change this? Have you made presentation to schools about your area of forestry? Have you ever volunteered to do this? Are you prepared to go into the school classroom to talk about the practice of forestry and to promote forestry as a career to students? If not, why not? What additional skills, if any, would you want? Does your employer support this type of activity? What new skills (if any) do you think you need to be effective in the classroom?

7) The forest industry is experiencing significant problems. The higher Canadian dollar coupled with wood supply problems and now the potential shut down of at least two machines in the province would paint a picture of an industry in trouble. Are you confident about the security of your job? About the future of the forest industry in NL? About government/industry support for continued good sustainable forestry practices?

8) (Are you a member or eligible for membership in the CIF? If yes then...) The CIF is your professional association, the body responsible for promoting foresters as professionals and for regulating the practice through registration of qualifications etc. Are you a member of the CIF? Do you participate in activities within this organization? If not, why not? Would you like to see more activity? What?

9) The media are often criticized for not painting a fair picture about the practice of forestry not only in our province but nationally as well. Yet there generally is little response either from government or industry to counterbalance these reports. What do you think needs to be done, particularly in our province, to communicate what the forestry profession is doing? What might be the role of the CIF, government and industry in this matter? What have you done to promote the sustainable forestry message?

10) Would you like to see a degree program in forestry opened at Memorial University/Sir Wilfred Grenfell College? Do you think this is a good or a bad idea? Do you think this would help with skills shortages? Do you think such a program could be/should be conjointly offered by the College of the North Atlantic's Forest Resources Technology program? How?

11) Is there a role for the Western Newfoundland Model Forest to help in any of the above? What?

12) Do you have any other concerns about your profession, your job or the practice of forestry in our province that you would like to tell me about?

## APPENDIX C: ANALYSIS ON RESPONSES TO FORESTRY PROFESSIONAL'S QUESTIONNAIRE

*The following is a précis of the responses received from the interview process. They have not been weighted or placed in any particular order of priority. Obviously many similar responses were received to each question though they have been listed only once.*

*The process used is not unlike a brainstorming session except it has been done individually though taped interviews. It now falls on the researcher to draw conclusions from these responses, conclusions that represent a consensual, balanced and accurate picture of the vision, mission and action steps needed to address the issues facing forestry in our province.*

- Statements in red have been made by 20 or more respondents
  - Statements in green have been made by 10 to 19 respondents
  - Statements in blue are for vision/mission statements
  - Statements in black have been made by 9 or less respondents
- 1) Phase one of this study identified several areas of concern about the future of the forestry sector in Newfoundland and Labrador. This interview process is designed to try to create a new vision and mission for all of us as forest professionals, involved one way or another in this important industry, which will lead us to a solid future for sustainable forestry in the province. Generally, how do you think we can accomplish this goal? What elements of forestry policy do you think need to be changed? Is change directly related to money spent? Is it an attitude problem? What would you like to see happening in, say, ten years time that is not being done today to ensure a healthy productive forest and a healthy productive industry base?
- **make RPF qualifications mandatory thru legislation.**
  - **Labour market a problem at several levels not just foresters and techs. General provincial problem for labour. Seasonal employment in silvaculture for example not cutting it any more. Going to Alberta for full time. Need to address this soon.**
  - **All of us have an attitude problem which we need to get over before we can manage to change public opinion.**
  - **little money dedicated to forestry issues by government**
  - **communications not done well particularly by government**
  - **significant communications strategy needed with all players, well coordinated**

- we need a vision that involves all players from public to industry that is coordinated and well funded
- government needs a better planning process...or one to begin with
- use existing organizations ...NLFPA, CIF, WNMF and coordinate efforts perhaps under the WNMF.
- everyone has to work together and put resources toward the problem
- bigger role for NLFPA and CIF
- better attitude by government towards forestry issues...not just putting out fires.
- proactive policies that take a multiple value approach while protecting and development more jobs...use the resource fully
- more money for communications issues to ALL groups
- We desperately need to work together on this. Money and a clear mandate to communicate.
- well managed, well staffed forest resource
- where are the CFS people in promoting the forest industry?
- Total cooperation among groups involved. Total inclusiveness of groups.
- Land use policies must be implemented and soon. This will go a long way toward making the inclusion of multiple value forestry into operating plans.
- Use knowledge and always look for knowledge as prime decision making tool.
- More of a federal government presence in decision making

#### VISIONS/MISSIONS

- Generation of more jobs and ensuring enough well educated NLers to fill them.
  - A time when all NLers are supportive of foresters and their activities.
  - Economic as well as all other values from the forest are maximized.
  - We live in peace with everyone happy with what's going on in the forests.
  - We have enough professionals hired to do the job right. I can't possibly do justice to everything I'm required to do right now. I am overworked.
  - Our mission should be to make sure we have the best managed forest possible.
  - Vibrant p and p industry, maximized secondary processing, maintain beautiful scenery, lots of tourists, all species used in some meaningful way.
  - Staff is overworked and is getting burned out. We need new hires and fast. A government policy on succession plans would be useful.
  - A government vision for the future workforce. Undo the freeze and let's get more young foresters hired.
  - The vision would have to see a well managed forest, a strong and vibrant workforce and a commitment from government and industry far in excess of what is given now.
  - An attitude change is necessary from government to put much more priority on forest issues. They need to get their forests certified too!
  - New hires now!
  - I vision a fully integrated forest industry, a healthy productive forest, a well trained and happy workforce and a content public.
  - We all need to work together to produce a healthy forest and multiple industries that thrive from them. For fiber and product and enjoyment for all.
  - It all boils down to sound management for multiple values with excellent communication and a well trained productive workforce. What more do we need?
  - A public that is satisfied that we are doing the best that can be done to manage for all the different values we have in our communities.
  - Increase awareness of the importance of the economics of the forestry business. Help citizens better appreciate what a loss of jobs means. The Stephenville situation has done this to a certain extent.
- 2) As you are probably aware, there is a training crunch in forestry schools and technical colleges in Canada today. Enrolment decline is high in most institutions and there is a real risk that there might be a professional shortage in the next few years. What do you think is causing this? And do you have any suggestions to curb the problem?
- poor job prospects or at least not being promoted in spite of recruitment from USA and elsewhere.

- Accreditation issues wrt RPF is a problem. Process is not considered responsive to change. Maybe we should look at something new. Three year tech, MsF for all other jobs.
- **Be more proactive in telling our story. Promote the role of the forester more**
- need to do more to promote opportunities
- seasonal, contractual, no benefits, rural based....needs to change!
- bad reputation
- rural base no longer there. Also lots used to come from east coast but no longer.
- no degree program in NL
- **not an active profession in the schools or at recruitment fairs etc.**
- profession/work undervalued
- **need more recruitment efforts....bigger budget for such recruitment.**
- more industry involvement needed in these issues, such as summer internships.
- more information on opportunities particularly in SJ and region
- educators' conference to explore with them the issues
- more enthusiasm for the profession by all involved
- industry and government put more money into the problem
- Increase the role of the CIF and the NLFPA in promotion. More money put to the problem.
- International recruitment.
- **Information...much more information with hard facts on opportunities in NL**
- **A recruitment/information policy for the province with educator/professional input**
- Profession losing its "license to practice" by default. Profession is a very poor communicator
- **More hiring by government and industry. Promote these opportunities. Many aren't going into forestry because there appear to be few if any jobs available in our province.**
- **No jobs in spite of all the need around us for more**
- **Succession planning is a must.**
- **No jobs is likely reason!**

3) The practice of forestry seems to be often criticized as environmentally poor and public criticism of forestry practices is a common occurrence. Yet most foresters would argue that current practices are, for the most part at least, environmentally sensitive and that sustainable forest management is practiced well in this province. Why do you think this is? What needs to be done? What if anything can you as a professional do?

- **More involvement by profession in tooting their own horn**
- **We don't respond well to criticism. We do stupid things like the Humber Valley cutting issue. There are higher public demands and we aren't prepared to address these.**
- Too much talk and not enough action.
- Little professionalism in our responses. Need good staff.
- **Silent professionals and organizations such as NLFPA**
- Too often industry driven. Seen as self-serving
- Government also silent. Does that mean they are ashamed?
- **Bigger role by CIF and its members. More proactive**
- **Train me better to go into the schools and give me more solid materials that are about NL**
- **Better communications, more communication, and accurate communications**
- More forestry tours for all ages of people from schools to adults. CBPP tour is great model
- Economic information on importance of industries and promote their work in making forests more productive. It is in their own best interests to have good management going on.
- **Promote my profession more and tell our story better...in schools, in media, in community**
- Give me tools, a mandate and a budget
- More promotion in urban environment particularly SJ where all decisions seem to be made anyway.
- Bring events like national forest week and fair displays to SJ. Invite government and media. Make it a big deal.
- **Training for foresters on presenting to groups.**

- **It's all about communications. We need more and better promotion on what we are doing well**
  - **Better, more accessible materials for school presentation that is appropriate for every grade. I haven't got time to plan what I'm going to say every time I'm asked without easy access to such material.**
  - **Forestry is easily targeted because of use of clear cutting...very visible unlike other environmental issues. We should react more with the true science of regeneration in clear cuts.**
- 4) Do you think young graduates are as well prepared for the demands of modern forestry as they could be? Please explain. Have you identified any training gaps in your own training, or in the training of people you supervise?

- **Most are well trained and enthusiastic**
  - **Aboriginal issues. What is aboriginal forestry**
  - **Work habits sometimes not strong...late**
  - **All my skills are current...today...but things are changing so rapidly. Continuing education needed soon**
  - **More employer help with continuing education. Costs and time off**
  - **Forestry techs need more practice before they are totally up to scratch. More practical experience before they are graduated?**
  - **The new grads I work with show a great many more skills than I had when I first started**
  - **More practical experience needed before they are ready. Particularly new degreed foresters.**
  - **All seem very willing to learn**
  - **Sometimes too laid back, not presenting professional image**
  - **Need to be more savvy in interviewing skills, how to present themselves as professionals.**
  - **Some could use a bit more practical experience before they start formal work. I certainly had had more practical skills in the field than new grads appear to have when I started here.**
  - **New forestry grads are lacking good oral and particularly written communication skills.**
  - **CNA grads are the best there are!**
  - **More business skills and a better understanding of finance as it applies to road construction, environmental compliance etc. etc.**
- 5) You have been out of school now for a while. Do you think you need continuing education as a professional? What things would you like to have access to? Do you avail of continuing education courses when they are offered? Do you actively seek out continuing education opportunities? What types of courses/information etc. do you feel you need? Are you prepared to take courses out of regular work hours?

- **Very definitely need refreshing on some skills particularly new computer techniques and programs available.**
- **Need to know about some new computer techniques in landscape planning.**
- **What is this new forestry all about. I keep hearing about it. Also aboriginal forestry.**
- **I have looked but not found**
- **Can we have some, at least, continuing education during the work day?**
- **On line courses would be great**
- **Some places (provinces) require a certain number of hours every year to help certification. Not here in NL.**
- **More offerings at CNA in evenings and through the province not just in CB**
- **More info on Geospacial techniques.**
- **Time off to do courses would be nice or at least some help from employer**
- **I have looked at doing more but little available here (rural)**
- **The CIF needs to be more active in pushing courses**
- **No time to do them except when I'm not working/laid off. No support**
- **More public relations skills to use with media and communities and schools.**
- **You never have all the knowledge you need**

- Make CE a condition of continued employment. No choice.....get it or loose it
- **There are various new techniques and that I would like to know more about but I haven't seen any opportunities to learn about them formally.**
- **It is strongly suggested by my boss that we participate in CE as often as possible but seldom do I see anything offered that suitable for my needs (eg GIS, landscape issues, aboriginal issues among others.)**
- CBPP have an extensive CE program. Kruger U encourages all levels of education from short courses to total financial encouragement to finish degree programs. Real buy in to concept of knowledge based economy
- Often too tired to even think about CE
- Long hours at work exclude much time for further study

6) The secondary school system has little in the way of forestry courses/information at any grade level. Also guidance counselors complain that there is little information available to them to help them promote forestry careers. What do you think you can do to change this? Have you made presentation to schools about your area of forestry? Have you ever volunteered to do this? Are you prepared to go into the school classroom to talk about the practice of forestry and to promote forestry as a career to students? If not, why not? What additional skills, if any, would you want? Does your employer support this type of activity? What new skills (if any) do you think you need to be effective in the classroom?

- We are very poor communicators compared to other jurisdictions (reference Sweden).
- **Insignificant money spent on communications comparatively.**
- **Our students need better preparation about the role of forestry in our province**
- **We need balanced, well written material on science, economics, social significance of forestry**
- Cooperative work among all interested groups and budget to go with it
- **Don't feel comfortable going into schools. I need better preparation.**
- No access to stuff to give to the kids.
- Sometimes feel I'm the bad guy in the classroom.
- Employers not always supportive of my going
- **Employers always supportive of my going.**
- **I'm not a great speaker. There needs to be a professional communicator from the Dept. available. Why not create a school forester position**
- **I find it awkward going into classrooms.**
- **Not all of us a good at doing that sort of thing**
- I love dealing with kids and would welcome more opportunities
- **Would be great if we had a set thing to do with kids and different things to do at the different grade levels.**
- Some teachers don't know we are ready and willing to go into the classroom. More promotion of our availability and what we have to offer.
- The CIF should coordinate this. Hire someone full time to work with teachers.
- This is a great opportunity for all of us to put our money down. Education more easily attracts my boss's attention than most other demands on his budget. The WNMF should be given a ton of money to develop this. They have the expertise! There's little available now.
- **The curriculum needs direction directly from the top as to what resource issues all NL students should be taught about.**
- Interesting that the most vocal protesters in Pasadena were teachers!

7) The forest industry is experiencing significant problems. The higher Canadian dollar coupled with wood supply problems and now the potential shut down of at least two machines in the province would paint a picture of an industry in trouble. Are you confident about the security of your job? About the future of the forest industry in NL? About government/industry support for continued good sustainable forestry practices?

- I hope instead it will motivate everyone to work harder at SFM
- I can guess the Gov't might use it as an excuse to do less
- **I feel secure in my job but I wonder if vacancies will be filled at both industry and government**

- If Abicon continue to have difficulties the Government might take back some or all of their rights. I wonder if they will be managed as well by Government.
  - We need to be concerned about the entire forest's future if harvesting is reduced by industry.
  - It sure doesn't seem bright for newsprint. I'm secure but I wonder about the younger ones.
  - A good wood supply is crucial for our future. If anyone ever is going to harvest here if the companies go or reduce, we need to keep the forest competitive.
  - The news is bad a lot of the time and I wonder how that's affecting young people's choices about forestry.
- 7) (Are you a member or eligible for membership in the CIF? If yes then...) The CIF is your professional association, the body responsible for promoting foresters as professionals and for regulating the practice through registration of qualifications etc.

Are you a member of the CIF? Do you participate in activities within this organization? If not, why not? Would you like to see more activity? What?

*(over 95% of the eligible interviewees were members. Only 55% reported that they considered themselves actively involved.)*

- From my point of view it is not active at all
  - Could do a lot more but needs resources, staff etc
  - Should act more like an advocate for forestry.
  - Partner with other groups like the NLFPA, to coordinate forestry communications processes.
  - Not a lot of activities to participate in.
  - I haven't been to one meeting or event. Don't know of any that I've been able to get to. I live to far away from things.
  - Should be more active in communications issues. Push the profession more.
  - Could coordinate educational activities.
  - I want more continuing education and the CIF should be doing more to get it for us.
  - Let's make it as good a professional association as the doctors have.
  - We perhaps should separate the CIF and the RPF functions. Make the CIF more of an organization concerned with such issues as continuing education and advocacy and leave the registration issues and professional practice issues to the RPF function.
  - Many of us are not unionized and it would be great to have an advocacy group to work on our behalf.
  - We need a central office, staff and a budget. I guess we as members would have to pay for some of that. Maybe a donated office and part time staff!
  - We are spread all over the province and its difficult getting us together or planning group activities. Communication is difficult among the individuals.
  - I've not been involved as there is nothing there for me.
  - We've never been motivated to develop our professional association. The time has come for us to stand up and defend our profession. We are good at what we do, its just that we now need to show it off.
  - Too small membership base to be able to afford much in the way of staff.
  - My membership is lapsed. Forestry Chronicle only benefit from membership
  - It's only as good as the membership wants it to be.
  - A role here for the WNMF? As a catalyst to get it more active and more proactive?
  - We need strong leadership. Tough job for a volunteer. Paid staff or other help?
- 9) The media are often criticized for not painting a fair picture about the practice of forestry not only in our province but nationally as well. Yet there generally is little response either from government or industry to counterbalance these reports. What do you think needs to be done, particularly in our province, to communicate what the forestry profession is doing?

What might be the role of the CIF, government and industry in this matter? What have you done to promote the sustainable forestry message?

- We are our own worst enemy. It's not that the media report only bad things; we as professionals don't always stick up for ourselves or our profession.
- It's a national problem that needs a national solution.
- I would spend my day in the classroom if I could get my work done, if I had staff to help out!
- I do go when I can but I'd like some materials to bring too.
- Can't seem to find the time to do a lot but we generally try to respond when asked but don't initiate!
- We should have a CIF person doing this sort of thing. He/she would be able to travel around and spend a lot of time in classrooms. I don't have the time!
- **The media is one sided in many of its reports. I don't know who is responsible but we as professionals and within the CIF need to be more proactive about what we do.**
- **We don't know how to communicate!!!!**
- We get scared off easily. We need to coordinate all our activities...government, industry, and the profession to come up with a strategy to promote the good things going on.
- **Money...much more money committed to promotion of the activities.**
- Paid staff and a mandate to work hard at promotion of the industry
- I try to help out in schools etc. go to community meetings. I have the respect of the people I deal with. Not every one does!
- **Communications!!!! More and better tools...professional assistance...money in a communications budget that's not appearing to come from either special interest group.**
- Use the Model Forest more. Give them the mandate to communicate. They are doing a great job generically now.
- The NLFPA has a great set of TV ads but no money to show them.
- I am always available to help with fairs in communities, schools etc.
- No one has ever asked my opinion before!

10) Would you like to see a degree program in forestry opened at Memorial University/Sir Wilfred Grenfell College? Do you think this is a good or a bad idea? Do you think this would help with skills shortages? Do you think such a program could be/should be conjointly offered by the College of the North Atlantic's Forest Resources Technology program? How?

- **Great idea. Can we afford it? Can we afford not to?**
- Cooperation between MUN and CONA is a great idea. Hope politics won't get in the way of a working relationship.
- **Do we need yet another under-enrolled forestry program?**
- **Might be appealing to more students who otherwise might not go into forestry. They won't have to go away.**
- More programs jointly offered by both institutions would be great and cost effective.
- What about a masters level program instead of another Bachelors degree program.
- **More older students might be interested if the program was in NL entirely**
- **Great idea for those of us who are working and/or unable to move away. Could it be done part-time?**
- **We have all the facilities and the area has lots of professionals who could teach it.**
- Should be something unique. No need to duplicate what already exists at UNB.
- What about the U of Toronto model. I think they accept any degree into their master-level program.
- Can the university and the college really cooperate?
- **Might be a great idea if resources can be found.**
- **Worth looking into seriously.**
- What about a degree in other things than pure forestry? GIS for example? Or perhaps forest business. Or general resource management. Too many forestry degrees now but a broader perspective might attract national students if they can find a niche.

- Whatever can be done to enhance our kids opportunities in forestry, ecology etc should be pursued. Let's not duplicate what exists now at UNB and Lakehead etc. A new, unique program would be better.
- Maybe a master's level degree that attracts research to the college would be a better use of resources.
- Work with CONA to create a world class facility in something that isn't offered in Atlantic Canada now.
- Let CNA concentrate on offering a world class tech program and let the SWGC develop something unique too. Too many forestry places in Canada as it is now!
- Research based program...an institute or master's or other similar program would be better use of resources. Too many forestry places exist already all over Canada.
- CNA program the best there is; promote it more and use the university as a research base.
- The college's role should be to work with the CFA to promote more woodlands based research.
- We need a broader range of skills in our professionals. No longer just old set of skills learned at forestry schools. Good chance to expand CNA to three years for tech duties and then do masters program at Grenfell.

11) Is there a role for the Western Newfoundland Model Forest to help in any of the above? What areas?

- **Very definitely, neutral, represents all parties, expertise**
- **If there is a next phase, the issue of communications should be a priority.**
- **Already has a great track record in education and communications. Really it's the only generic organization we have that's active at all**
- Can motivate partners to be more proactive and forward looking and get them to spend some money
- **Can generate information, produce materials, and can get communications back on the main page.**
- It's made up of all the partners who should be dealing with these problems. The WNMF should try to get them active through facilitation.
- Dealing with these problems should be a main focus of the next phase, particularly education.
- It's only as good as the sum of its parts. They need to try to get some of the players more motivated to do more and to pay more too.
- Phase 4 is now being discussed. Give the new model forest a broader mandate to deal with issues other than SFM. Perhaps heading toward being THE communication link, a giant PR organization.
- Talented staff members who can go a long way towards solving these problems.
- **They seem to be the only ones doing anything at the moment.**
- **Can the WNMF lead industry and government towards a more positive approach to education, communications and professionalism?**
- **Many of the education issues seem to be due to poor public understanding of SFM in this province. The WNMF is in the best position to do something about this thru communicating and promoting the profession.**
- **They need to be more visible, do more, outside of West Coast.**
- **I seldom hear much from them in this part of the province (East).**
- **We seldom hear of their work here in SJ other than by means of their communications which we get. No media coverage for sure. The name implies only activities for the west.**
- **In theory the WNMF should be a great vehicle to address our problems in forestry. Does it work? I'm not sure if here in SJ they are relevant.**
- **It's the most logical organization we have to represent all players objectively**
- **Needs to have a bigger presence in other (eastern) parts of the province**
- Maybe the WNMF can get our provincial dept off its ass and get them to do something about communications, new hiring, better policies, creative thinking (e.g., getting crown lands certified)!!!!
- Well connected to the national scene so maybe can get national policies better directed to provincial needs. Persuade the CFS to expand more into our province.
- **Needs to drop the Western from its title and become more visible in the rest of the province.**

- It's the best organization of all of them that most represents the good side of forestry.
- They are not considered to have a bias either toward harvesting or the competing values. Its not neutrality that makes them valuable, its their balanced approach to the problems.
- They are a great vehicle to promote all the values we hold about the forest and also to get all players on side to work together.
- It has been the most significant help in promoting forests in the past decade. I hope it continues into the future.
- **Perhaps its next mandate, if there is one, can focus on a more pan-provincial perspective. Drop the West from its title, head east more and to Labrador.**
- They do the best work in the province in promoting forests and forestry. They need to do more in trying to persuade the government to be more responsible. If any one can do this the WNMf can.
- **Perfect organization to centralize all communications work**
- Less emphasis on project (science) work and more on such things as facilitation, encouragement of debate, conferences, seminars,
- More policy and strategic planning focused.
- Too much scientific and technical focus. That's the role of the CFS. The MF should be trying hard to get policy changes such as pushing the government towards a land use plan for the province.
- Focus on communications, drop the science base. Far too many resources going towards science when that should be other groups responsibility.
- **Of industry, government and WNMf, the WNMf has the most credibility by far. Use it for the best results in communicating.**
- Facilitation of needed contract services to industry and government. A clearing house of available services.
- **More effort of east coast particularly as that's where most of the foresters used to come from.**
- It has an element of neutrality that neither the Government, the industry nor the CIF have!

12) Do you have any other concerns about your profession, your job or the practice of forestry in our province that you would like to tell me about?

- Generally I'm concerned about my future if the industry experiences more problems and has to further curtail its operations. Will government still manage these forests? At the same intensity?
- Government is ultimately responsible for making sure that the problems you have identifies are solved. I don't feel confident they will take that responsibility!
- My colleagues will be retiring very soon. They need to be replaced. By whom?
- Government doesn't seem to be taking a lead in solving these problems and I don't know why they aren't doing more, now! They seem preoccupied with oil.
- There are so many new competing values now on the scene I wonder who will win out, industry or tourism?
- I'm not impressed with CBPP's stance on the viewscape issues that were in the media this summer. They undid an awful lot of good work by their actions in the Humber Valley.
- More brainstorming and the coming up with unique solutions to unique problems. (This should be from WNMf or CIF maybe)
- **The public seem to be pulling away from their support of the industry and towards a more towards environmental concerns. Will we survive this?**
- **Total lack, it seems, of positive news in this province. This worries me as to hope it might affect our future, my job.**
- A more broadly based profession. Its just not foresters that are needed to better manage the forests but also specialists like planners, ecologists, biologists etc. We non-foresters are not getting the recognition we deserve in the field. Yet more broadly based training is the way of the future.
- **We need to get the public on side. There seems little appreciation of what good is being done. Its all criticism and no praise. I feel my job and my profession is devalued. I'm almost ashamed to be known as a forester.**

- I have serious concerns about my future. Lay offs are more frequent than hirings particularly for Techs.
- The solution to the Stephenville situation makes me feel better about my future but its still dicey.

## **APPENDIX D: EDUCATOR'S QUESTIONNAIRE**

### **Interview Questions for Teachers/Other Educators Involved with the Forest**

The following questions were or will be administered anonymously through an interview process to teachers and other educators currently working in classrooms or in supervisory positions in our school system in NL. Every effort has been made to encourage totally openness/frankness in these responses.

GRADE TAUGHT

YEARS OF TEACHING EXPERIENCE

JOB DESCRIPTION (IF NOT TEACHING)

- 1) Do you currently teach material to your students about sustainable forest management or indeed about anything to do with the forest industry or generally, with forest issues? Do you think SFM is important enough to be taught to you students given all that has to be taught?
- 2) Is there any curriculum material/resources available to you?
- 3) Have you ever had a visit from a forestry professional speak to your class? Have you tried? If yes, what was the response?
- 4) Do you have opportunities for field trips to forestry sites? Are there the necessary resources for field trips provided to you in your budget? Are you aware of opportunities presented by CBPP, the WNMF?
- 5) What kinds of services would you like to see from the forestry community to help you teach forestry issues in your classrooms?

## APPENDIX E: ANALYSIS OF EDUCATOR'S QUESTIONNAIRE

*The following is a précis of the responses received from the interview process. They have not been weighted or placed in any particular order of priority. Obviously many similar responses were received to each question though they have been listed only once.*

*The process used is not unlike a brainstorming session except it has been done individually though taped interviews. It now falls on the researcher to draw conclusions from these responses, conclusions that represent a consensual, balanced and accurate picture of the vision, mission and action steps needed to address the issues facing forestry in our province.*

- Statements in red have been made by 10 or more respondents
- Statements in green have been made by 5 to 9 respondents
- Statements in black have been made by 4 or less respondents

1) Do you currently teach material to your students about sustainable forest management or indeed about anything to do with the forest industry or generally, with forest issues? Do you think SFM is important enough to be taught to you students given all that has to be taught?

- Very little material available for elementary grades
- Seldom if ever taught in my classroom
- The forest industry is not mentioned
- I teach science and there is some mention of trees in some units but nothing about forestry
- Yes forestry is important, needs to be taught more
- There's no room left in the timetable for new material without changing priorities

2) Is there any curriculum material/resources available to you?

- Nothing is readily available to us as teachers
- The approved curriculum has little or nothing in it about forestry

3) Have you ever had a visit from a forestry professional speak to your class? Have you tried? If yes, what was the response?

- No, and never tried
- Yes and he was great .....(actually it was Peter Smith of the WNMF)

4) Do you have opportunities for field trips to forestry sites? Are there the necessary resources for field trips provided to you in your budget? Are you aware of opportunities presented by CBPP, the WNMF?

- Field trips are expensive and we don't have much in the way of budget for any that aren't in the curriculum.
- I am aware of the Urban Walking tour
- Several years ago we went on a CBPP tour. It was wonderful

5) What kinds of services would you like to see from the forestry community to help you teach forestry issues in your classrooms?

- Well written curriculum materials
- Subsidized tours
- Easy access to visits from foresters and the like
- Department of Education direction on this matter
- Information on forestry careers and materials to use in the classroom particularly in Career Education programs

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• Table 1: 2004 Employment Statistics

<b>Organization</b>	<b>Graduate Foresters</b>	<b>Graduate Technicians</b>
Pulp and paper industry	19	60
Provincial government (excluding management)	12	260
Others including non-paper producers, consultants, education/training, harvesters (best guess)	3	13
<b>TOTAL</b>	<b>34</b>	<b>333</b>

NOTE: Within industry, there are 11 foresters/technicians over age 50, and 30 between age 35 and 49. Only 11 are younger than 35 years.

Within government, 53 (20.4%) of technical personnel will be eligible for retirement before or in 2010. Figures were not available for degreed foresters but anecdotal reports from the department indicate at least 75% of these men and women are eligible for retirement by 2010. Also these figures do not include management foresters all of whom are senior personnel close to retirement ages as well. These positions are generally filled from the rank and file members of their staff who themselves are replaced from the professional forestry pool!