

SELECTED OUTDOOR RECREATIONAL ACTIVITIES
IN THE WEST NEWFOUNDLAND MODEL FOREST

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*Approved
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ABSTRACT

This study examines selected outdoor recreational participation rates and participation areas within the West Newfoundland Model Forest (W.N.M.F.). This study is comprised of 2 parts: part (A) with a random survey of the general population (169 individuals interviewed) and part (B) deals with interviews aimed at specific individuals who have explored widely within the W.N.M.F. The activities chosen for analysis are hiking/walking, x-country skiing, mountain biking and canoeing. Those activities have been examined because they have low environmental impacts and are self propelled. They are also well suited to adventure tourism development and so fit well into the sustainable development ideals of the Model Forest concept.

Results of Part (A) indicate that just over 50% of the residents participate in hiking/walking, 25% participate in x-country skiing, 16% mountain bike and 9% canoe. Most of these activities take place within a few kilometers of where the individual lives. Less than 10% of the users travelled any distance (more than 8 kilometers) within the W.N.M.F. to take part in these recreational activities. The most common suggestions for encouraging more use of the W.N.M.F. for these activities was the creation of more marked trails and to provide more information about these trails to the general public. These 169 households had 588 members and they owned a total of 124 mountain bikers, 27 canoes and 147 pairs of x-country skis.

Results of Part (B) indicate that avid users tend to use many areas of the W.N.M.F. There are 6 rivers which provide good canoeing for at least part of the year. There are also many lakes which receive variable amounts of canoeing activity. The logging road network provides extensive mountain bike potential and some cyclists have biked from Stephenville to Corner Brook, Corner Brook to Deer Lake and Corner Brook to Wiltendale via these logging roads. Most hiking activity takes place in the Lewis Hills, Blow-me-down Mountains and North Arm Hills. These areas are well suited to long-day hiking and multi-day hiking trips since they tend to be above tree line which makes hiking relatively easy.

Table of Contents

Introduction	1
Background	1
Methodology - Part A	2
Results - Part A	4
Methodology - Part B	8
Results - Part B	9
Conclusions and Recommendations	13
References	17
Appendix 1	18
Appendix 2	25
Appendix 3	39

List of Tables

1. Comparison of Age Breakdown: Census 1991 vs. Present Survey	3
2. "Do the effects of logging reduce your enjoyment of these activities in the Model Forest"	5
3. Ranking of constraints to activities	6

DISCLAIMER

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Introduction

The terms of reference for this study were to identify various characteristics of selected recreational use of the W.N.M.F. Specifically the activities of hiking, canoeing, mountain biking and x-country skiing were examined. Data was obtained by questionnaire and information on areas of use, conflicts with logging companies and suggestions for improving recreational use of the W.N.M.F. was obtained. Two separate groups were examined - the general population was surveyed and 169 residents of the W.N.M.F. took part in this study (to be further discussed in Part A). As well 31 people were surveyed as part of 3 focus groups. These groups were comprised of avid users who were members of clubs or groups that focussed on specific activities (i.e. Long Range Canoe Club and the Corner Brook Mountain Bike Club). The combination of these 2 types of groups provide information on both general population use, characteristics as well as areas which are seen to offer the highest quality recreational experience as indicated by the 3 groups.

Background

The vision statement for the West Newfoundland Model Forest (W.N.M.F.) states "To Manage the forest of the West Newfoundland ecoregion within a system where short term (1-5 years) management options are identified and decisions are rationalized with long term (50-100 years) goals of protecting biodiversity and providing social benefits including employment, recreation and a healthy environment". Up to this point there has been little study of the importance that recreational use has within the W.N.M.F. and what some of the main concerns that residents hold with relation to present logging activities. There are perhaps several ways in which information of this sort could be obtained. However given the limited time and budget available the best approach was devised to be a 2 pronged interview approach. First of all, a random sample of residents of the main areas of the W.N.M.F. were interviewed via a 7-page questionnaire (see Appendix 1). (This is further discussed in Part A which follows). Secondly, selected individuals who were either key members of various outdoor activity clubs or who are actively involved in guiding adventure tourism groups in the W.N.M.F. were surveyed by a 4-5 page questionnaire. (see Appendix 2). These users were interviewed because it is expected that the most avid users will also tend to select the highest quality areas to recreate in as

opposed to the "close is best" viewpoint of members of the general public. This will allow the mapping of those high quality areas and point out possible areas of conflict between these recreational users and forest companies.

Methodology - Part A

One hundred and sixty-nine residents of the 5 key areas of the W.N.M.F. were surveyed by questionnaire. These areas include the City of Corner Brook, the South Shore of the Bay of Islands, the North Shore of the Bay of Islands, and the community of Pasadena and Deer Lake. These surveys were partitioned so that each area received a number of questionnaires based on their 1991 population based on census information. Specifically the breakdown was: 100 people sampled in Corner Brook, 15 in Pasadena and 18 in each of Deer Lake and each shore of the Bay of Islands.

Two methods were used to administer the questionnaire. In areas where the population was relatively concentrated and where large numbers of questionnaires were required an in-person interview approach was used (Corner Brook and Deer Lake). Where distances were large and overall numbers were small a telephone interview approach was used. (South and North shore of the Bay of Islands and Pasadena). Only people over 18 years of age were given the questionnaire and the individual selected to be surveyed within each household was the person with the next birthday. This was to ensure a good x-section of ages and sexes answered the questionnaire. Within Deer Lake and Corner Brook city streets were selected randomly from a city directory. In the case of Deer Lake the house which was selected was based on a random number chart where as in Corner Brook every 4th-5th houses was then sampled on that street or section of street. If for the chosen house no questionnaire could be administered, either because no one was home, no one was old enough or the householder declined to be interviewed, the next house on that street was chosen. For the Corner Brook case, the initial sampling plan was still followed after this adjustment. In the Corner Brook case, the city was further stratified into 4 areas (Humber Heights, Townsite, Elizabeth St. area and the West Side) and 25 houses were selected from each area. This was to ensure representativeness of socio-economic classes across the spectrum of Corner Brook households. For those regions sampled by telephone - the Western Newfoundland telephone directory was used and randomly selected pages were chosen from a random number chart and first name which came from the required

community was phoned. If no one was home or they declined to be interviewed then the next telephone listing on the page was chosen.

Reliability of the Questionnaire Data - Part A

One aim of the questionnaire research is to attribute responses obtained from a sample to the region's entire population (Barber, 1988). In this case, if the samples taken are truly representative then the analysis which follows is probably accurate to $\pm 7.5\%$, 19 times out of 20. I have the most confidence in the Corner Brook data since it represents a large number of samples and the population sampled appears to mimic the actual population at least in terms of age structure (Table 1). Within the smaller samples of the outlying areas, some samples are highly skewed. For instance, the North Shore sample included 8 people between the ages of 35-39 and none between the ages of 40-59!! Also in this survey there were 3 times the number of females sampled compared to male. It is well known the smaller samples are inherently less reliable than larger samples, so taken together the survey is probably reasonable accurate but information on sub-regions alone is not as reliable.

Table 1 - Comparison of Age Breakdown
For Corner Brook and W.N.M.F.

<u>Age</u>	¹ <u>Actual %</u>	<u>Present Study %</u> <u>Corner Brook only</u>	<u>Present</u> <u>Study % (all regions)</u>
15-19	10.8	10	10
20-24	9.8	10	14
25-29	9.4	13	12
30-34	9.9	12	13
35-39	10.5	11	14
40-44	9.6	10	9
45-49	7.6	10	9
50-54	6.5	9	5
55-59	6.4	2	3
60-64	5.7	7	5
65+	13.6	6	5

¹ According to 1991 census.

Results - Part A

Analysis of the questionnaire (see Appendix 1) reveals a variety of information about local use of the W.N.M.F. for these selected activities. The most popular activity was hiking/walking which 54% of people surveyed participated in. This was followed by x-country skiing 25%, mountain hiking 14% and canoeing 8%. The Campbell's survey done in 1988 which surveyed 4200 individuals from across Canada determined that 63% of Canadians walked, 40% bicycled and 16% x-country skied. (Stephens and Craig, 1990).

Frequency of use (for July 1994-1995) varied considerably between the different activities. The most frequent activity was walking and typically ranged from "everyday" to "on weekends". On the other hand, canoeing was much less frequent. Typical responses were "once a summer" to "4 times/summer". Mountain biking and x-country skiing were in between walking/hiking and canoeing in terms of frequency with x-country skiing being typically done more often.

When respondents were asked about "their favourite area" it was generally a route located close by. Therefore for Deer Lake residents "Canal Road" was often stated as being their favourite area whereas Corner Brook residents preferred Marine Drive or Margaret Bowater Park for walking/hiking. Obviously proximity to an area is very important and when people were asked to explain why this was their favourite area they responded with comments like "close by", "easy to get to" and "close and peaceful". Less than 10% of the people surveyed preferred a location more than a few kilometers from their home, but when they did they quoted reasons like "scenic", "nice scenery" and "to see wild life". Also people surveyed who had cabins often canoed at their cabin and x-country skied there. They often quoted reasons like "peaceful" or "restful and scenic" or "quiet" for saying that this was their favourite location for engaging in those activities.

When asked "if logging reduced their enjoyment of these activities in the Model Forest" there was an almost complete separation of responses based on if the person pursued these activities very far from home. Table 2 shows the responses for the people surveyed in the Corner Brook area which is typical of that for the entire study.

Table 2

“Do the effects of logging reduce your enjoyment of these activities in the Model Forest” - (Corner Brook sample)

<u>Activity</u>	<u>Strongly Agree</u>	<u>Agree</u>	<u>No Opinion</u>	<u>Disagree</u>	<u>Strongly Disagree</u>
Walking/Hiking	2	3	10	19	5
Mountain Biking	4	2	3	4	
Canoeing	1	1	1	2	
X-country skiing	4	2	5	6	

Although in total more people have “no opinion” or “disagree” or “strongly disagree”, when you examine where these people recreate, some interesting patterns emerge. For instance, almost without exception those people who stated “strongly agree” and “agree” were those people who canoed, biked, hiked or x-country skied more than a few kilometers from their homes. (i.e. in areas when the effects of logging activities might be seen). On the other hand, those respondents who stated “no opinion” “disagree” or “strongly disagree” pursued these activities very close to their houses in a basically urban environment where impacts of logging can’t usually be seen. Of course the exception is canoeing and these responses depended on where their cabins were located. Those people who stated “strongly agree” or “agree” had many suggestions for how these impacts could be reduced. They include “reduce cutting”, “replanting”, “limit cutting in view of cabin areas”, “remove heavy equipment”, “selective cutting should be encouraged”, “reduce amount and size of clear cuts”, and “reduce cutting in scenic areas”.

Respondents who didn’t participate in any of these activities were then asked to explain why. To keep their options simple, 5-6 possible reasons were given and respondents were asked to rank them. These were the possible choices:

- 1) The equipment costs too much
- 2) I don’t know where to go

- 3) I don't have anyone to go with
- 4) I don't have enough time
- 5) I don't have the necessary (biking or other) skills
- 6) I don't have any interest.

For hiking the "necessary skills" question was not included since generally it was assumed that the majority of the population could walk/hike.

Table 3 shows the results of this question.

Table 3 - Ranking* of Constraints to Activities

	<u>Hiking</u>	<u>Mtn. Biking</u>	<u>Canoe</u>	<u>X-Country Skiing</u>
Equip. costs too much	3.5	2.8	2.35	3.0
Don't know where	3.1	3.7	4.1	3.3
Don't have anyone	3.2	4.0	4.2	4.2
Not enough time	2.1	3.1	3.6	3.0
Don't have skills	N.A.	3.95	3.2	3.5
Don't have interest	3.2	3.1	3.7	4.0

(*the lower the number the higher the ranking and vice versa)

Depending on the activity equipment costs or time are often indicated as being the reason why people don't participate. "Time" is often given as the main reason why people don't participate in various forms of physical activity (Stephens and Craig, 1990). Also for some of these activities equipment costs are quite substantial. Intermediary ranked are "where to recreate", "skills lacking" and "interest". "No one to go with" seems to be of least importance. About the only aspect of these constraints that the Model Forest has any control over would be to provide people with more information about where they might be able to pursue the activity with marked trails and information about the trail.

Suggestions as to how people might expand their recreational use of the Model Forest included many suggestions. For walking/hiking the main suggestions was "create more local trails", also "more designated/trails" and "develop trail maps" was also given. Also some people wanted "hiking only

trails". Similar suggestions were received for mountain biking and x-country skiing. Availability of canoe rentals and areas for boat launch were typical suggestions received for encouraging more canoeing use of the W.N.M.F.

Respondents were also asked to estimate expenditures for these 4 activities within the W.N.M.F. Household expenditures worked out to be \$62 for mountain bikers, \$18 for x-country skiing, \$19 for canoeing and \$12 for hiking/walking. These households spent a further amount varying from 60¢ per household for clothing for canoeing to \$14.20 for clothing for walking/hiking. The most recent data for Newfoundland shows that the typical household spent \$4 for x-country skiing and \$26 for biking in 1986 (Statistics Canada, 1988). Even given modest rates of inflation it would appear that this region spends more than most areas of the province on these activities.

Overall household ownership from the survey showed that 47% owned mountain bikes, 10% owned canoes and 42% owned x-country skis. This compares with provincial household ownership in 1987 of 32% for bikes, 13% for x-country skis and 4% for canoes (Statistics Canada, 1988). Again this is the most recent census data on ownership which has been published (pers. commun. Elizabeth Behrens, Memorial University Library). Overall ownership of equipment indicated that the 588 of people in the 169 households owned 124 mountain bikes, 18 canoes, and 147 pairs of x-country skis. It would appear that at least some of this equipment doesn't get much use when compared to the percentages of people involved in these activities. However it should also be pointed out that although the individual interviewed may not mountain bike or ski, someone in the household might well take part in these activities. Extrapolating these ownership figures over the W.N.M.F., it is estimated that there are roughly 8500 mountain bikes, 1200 canoes, and 10,000 pairs of x-country skis in this area!! Attempts to determine if those figures were realistic did not provide any definitive support. This is because there has been no recent local surveys of ownership and retailers normally do not like to reveal sales of volumes of these types of products. However Gordon Macdonald, Sales Manager at Canadian Tire estimated that 2000-2500 mountain bikes are sold annually in the Corner Brook area. Given a life span of 3-5 years per bike then 8500 mountain bikes in the region is not unrealistic. Unfortunately he was less certain about the sales volume of x-country skis or canoes. Determining the sales of canoes was equally difficult but 2 sources that don't wish to be named indicated that probably 100 canoes are

sold annually in this area. Given a longer 10 year life span than 1000-1200 canoes in the local areas is not unrealistic. Estimates of x-country skis is even more problematic since more retailers exist which sell this product and also this product is the most likely to be mail ordered of these 3 types of equipment. Nevertheless one retailer - Perry Butt of Ski World in Steady Brook estimates that at least 1500 pairs of x-country skis are sold annually in the local area and given a lifespan of 6-7 years then 10,000 pairs owned in the area isn't unrealistic.

Many households had children under 18 in them and the biggest limitations to more use of the W.N.M.F. by children was felt to include: "lack of easily accessible trails", "marked trails", "trails that would be safe", "lack of time", "cost of equipment" and "children are too young". The most common suggestion was "lack of easily accessible trails".

Overall the education level of the respondent was 11% (some high school), 37% (graduate of high school), 29% (some college/university), 23% (graduate of college/university). Almost all residents had lived in the region for more than 10 years and many had lived here their entire life.

Methodology - Part B

In addition to the randomly selected sampling of W.N.M.F. residents this study also examined 3 individuals in three focus groups - hiking, canoeing and mountain biking. The people who made up the focus groups were selected based on their involvement in clubs (i.e. Long Range Canoe Club) as their wide spread travels - via canoe, on foot or on mountain bike in the W.N.M.F. Overall 31 people were contacted - 7 canoeists, 8 hikers and 16 mountain bikers. Roughly twice as many mountain bikers were contacted because it was apparent that there were 2 very different sub groups of avid mountain bikers. One group tended to be young and enjoyed narrow muddy trails where as the other was older and preferred long distance - logging road travel. Generally people in the groups were interviewed in pairs or small groups. Copies of the questionnaires are in appendix 2 and a 1:250,000 map of routes is enclosed. The names of the individuals interviewed is in Appendix 3.

Results: Canoeing Focus Group

This group forms the most avid paddlers in Western Newfoundland and two of the canoeists interviewed have written a book on paddling Newfoundland rivers. Within the W.N.M.F. there are 6 rivers which are generally used for canoeing for at least some portion of the year. Only one - the Humber River is canoeable all year long. The others includes Upper Harry's, Pinchgut Creek, Southwest Brook, Lloyd's river, and Serpentine River. There are also many large and small lakes which are used for canoeing, (see enclosed 1:250,000 map for the location of these rivers and lakes) including Pinchgut Lake, George's Lake, Deer Lake, Frenchman's Pond, Old Man's Pond, Lloyd's Lake, Serpentine Lake, Grand Lake and Little Grand Lake. The focus group preferred river paddling and canoed some of the rivers many times per year. Within the focus group the most frequently used river was the Humber with the Lloyd's River and Serpentine River being least frequently used. The focus group canoed to mainly to see scenery and experience nature with exercise and solitude ranked as the least important reasons for paddling.

The most preferred river within the W.N.M.F. for canoeing was Lloyd's River followed by S.W. Brook, Serpentine, Harry's River, Pinchgut Creek and the Humber River. The reasons for this included comments like "good scenery", "pristine", "isolated", "great camping" for the Lloyd's River to "proximity", "convenient" and "boring" for the Humber River. To maintain and improve the canoeing experience in these rivers comments included "clean up", "prevent power boats", "no more houses above Humber Village", "establish buffers", "create a river interpretation guide", "no logging" and "install gates for kayak practice near Shellbird Island" for the Humber River. The focus group had no suggestions other than "no more logging" for Harry's River, SW Brook and Pinchgut. The comments for Lloyd's River included "creating an interpretation guide", "no more logging", "better road access to Red Indian Lake". For Serpentine River the comments included "prohibit development", "leave as wilderness" and "no motorized vehicles". Not surprisingly the most common suggestion made regarding what logging companies can do to minimize their impact was to reduce logging especially in those areas seen from the river. This could be best accomplished by establishing suitable buffers. When this group was asked what river they would like to protect from any sort of development the overwhelming choice was the Serpentine River.

Results: Hiking Focus Group

The focus group of 8 hikers is comprised of 2 adventure tourism guides, and avid hikers from Stephenville and Corner Brook. The main areas for hiking include the Lewis Hills, Blow-me down Mountains, and North Arm Hill (see enclosed map 1:250,000 for details of locations of these routes). Their main reasons for hiking was to "experience/enjoy nature" followed by "enjoyment of views/scenery". The least important reasons were for "social interaction", "excitement" and "to improve outdoor skills". There was little consensus on which area was the best for hiking since most people hadn't hiked in all three areas - Lewis Hills, Blow-me-down Mountains, and North Arm Hills. The only people who had hiked extensively in all three areas chose the North Arm Hills as the preferred area for hiking. This is because of large population of wildlife (moose and caribou), nice scenery and its wilderness setting.

To maintain or improve the hiking experience in these areas this focus group suggested a variety of actions. However, in many cases the hikers suggested that "no action" was the best choice. In other cases comments like "clean up litter", "ban ATV's" and "establish a wilderness reserve" suggests a wish to have the area appear as natural as possible. Other hikers suggested that from a tourism perspective it would be good to "put in more signage", "mark trails", "maintain these trails that are already there", "maintain access roads and bridges", "cut out route through areas of tuckamore", and "increase area for parking" were some suggestions. Presently the people using these areas are quite experienced (the focus group have been hiking for an average of 16 years) and can navigate with a map and compass. Less experienced hikers and visitors would probably appreciate more signage and trail development/maintenance in many areas.

While it was recognized that most of the best hiking in these areas is not directly affected by logging activity due to lack of trees and steep slopes, there were many suggestions for how logging companies can reduce their impact in the best hiking areas. Suggestions include "removal of equipment/buildings/garbage after logging", "don't log right to the road - buffer it", "consider the views from the surrounding hills when planning logging cuts", "don't clear cut", "selective logging in visually sensitive areas", "maintain access roads/bridges" were typical of most suggestions. One hiker stated that "while maintaining logging roads meant easy access for hikers it also meant it would be easy for ATV's and other

users to use the same roads. Perhaps not maintaining logging roads is better since then only the people who really want to see wilderness will get in". Therefore maintenance of roads or closing of roads recreational purposes needs further discussion.

When this focus group was asked about protection of an area for hiking the most frequent response was Lewis Hills - Blow-me-down Mountain area. Three of the 7 hikers recommended the North Arm Mountains, south of Gros Morne National Park. In its present state the old rail bed was not considered a very good route for hiking. "Better left to snowmobilers or if paved to mountain bikers" said one respondent.

Results: Mountain Bike Focus Group

As mentioned earlier this group is really comprised of 2 sub-groups - a younger group that enjoys shorter, narrower trails and an older group that prefers long trips in single lane roads. The former focus group were representatives of the Corner Brook Mountain Bike Club averaged 3 years of mountain biking and had done some routes 50-100 times over the past 5 years. Many were also interested in racing on mountain bikes. In fact when this group was asked why they mountain biked, racing was the top ranked amongst those that were actively racing. Overall in "excitement", "exercise", "improving skills" and "enjoying/experiencing nature" were next ranked including order of importance. Of least importance for this group was "social interaction", "scenery" or "solitude".

This group of younger riders (generally aged 15-19) tended to take shorter trips (often less than 10 kms) and preferred narrow trails. Unfortunately few of these narrow trails exist and so those that are these tend to get used intensively. The preferred routes for these members of the Corner Brook Mountain Bike Club was the "T.C.H. - Pipeline route" and the "Massey Drive Bike Loop".

To improve or maintain the quality of mountain biking on these routes, many comments like "fill in wash outs", "maintain routes" "create a loop for this trail", and "organize group rides" were typical of the responses received. Also "nothing" was mentioned several times indicating that many trails they are in good condition at the present. When asked what logging companies can do to minimize

their impact for mountain bikes routes comments like "minimize tractor use on trails", "avoid logging near popular trails", "drive logging trucks slower", "be aware that mountain bike routes exist and avoid cutting near them" were received. This group preferred routes that had moderate hills (climbs between ¼ - 1 km in length in lowest gear).

The second sub-group generally had an average age of 40 - 44 and preferred to ride on 1 lane gravel roads. Since these are not very common this group actually tended to ride on 2 lane roads which may have different stages of vegetational growth along their edges. This older group tended to go on longer rides (some 80 - 100 km/day). Their reasons for riding were substantially different than the younger group. Top ranked was "enjoy/experience nature", followed by "exercise", "social interaction", "scenery/views", "excitement", "solitude", and "improving skills".

There was no trail that was ranked consistently above the rest but the top ranked routes were 'Round Red Indian Lake' 'Hughes Brook to Wiltondale' and 'Cold Brook to Corner Brook'. All of these are long day trips and the 'Round Red Indian Lake trip' involves 2 days and 210 km of biking.

When asked what actions could be done to maintain or improve the mountain bike experience on these routes comments like "remove barriers", "mark routes more clearly", "signage needed", "clean up logging operations after logging is finished i.e. shacks, cans, oil drums etc.", "enforce ATV regulations", "rehabilitate skidder roads", clean up old sawmill sites", and "leave buffer along roads - don't clear cut to the road". Cleanup and more signage were the most common suggestions. As well for many routes some people suggested nothing be done.

When asked what actions logging companies should do to minimize their impact on mountain bike routes comments received were as follows. "Do not clear cut at all or close to roads - re-plant and carry out what the bring in", "clean up landing - remove wrecks, tires, oil drums etc", "repair wash outs and keep roads in good repair", "minimize development of new roads - clean up leftovers - limit erosion", "clean up trash" and "generally logging companies have a positive impact - they build roads". Lastly this group preferred routes which have long hills (climbs of 1 kilometre or more in lowest gear). When asked about the

suitability of the old rail bed as a cycling route this group thought it wasn't to their liking especially in its present condition. Comments like "too much loose rock", "remove the ballast" and similar suggestions were typical. Also many people thought it was too flat, went through uninteresting landscape and wouldn't be appealing to bike on in any case. Others thought if fixed up and with ATV traffic removed it would be good cycling for families. The responses by the younger sub-group of mountain bikers were similar to these regarding suitability of the rail bed.

Conclusions and Recommendations

This study has involved surveys of 200 people in the W.N.M.F. area. One hundred and sixty-nine residents were surveyed in a stratified-random approach to ensure each region had equal representation based on their population in 1991. Within each sub region people were randomly sampled. The results indicate that just over 50% participate in walking/hiking, 25% x-country ski, 16% mountain bike and 8% canoe. Over 90% participate in these activities within just a few kilometers of their homes and feel that logging doesn't impact on their enjoyment of these activities. However those that do recreate more widely felt strongly that logging does impact on their enjoyment of those activities. They recommend that logging companies try to reduce their impacts by: "selective logging", "reduce size of clear cuts", "reduce visual impact of logging through buffers", "clean up areas after logging is completed", and "replant".

Those people that do not participate in these activities say that "time", "equipment costs", "lack of skills" and "not knowing where to engage in these activities" are the main constraints. To a lesser extent "don't have any interest" and "not having anyone to go with" also contribute to lack of participation.

Recommendations as how to increase use of the W.N.M.F. for these activities include: "create more local trails", "more marked trails", and "develop trail maps". Also many people recommended trails be for only activity to avoid conflicts with other users. Within the households surveyed 47% owned mountain bikes, 42% owned x-country skis and 10% owned canoes which suggests that although those people surveyed may not participate in an activity, other people in the household might participate. Based on overall ownership within the sample it is suggested that within the W.N.M.F. there are 8500 mountain bikes, 10,000 pairs of x-country skis and 1200 canoes. Very general discussions with local retailers indicate that these figures are probably fairly realistic.

A second group of surveys was also conducted with people representing 3 focus groups - mountain biking, canoeing, and hiking. Thirty-one people were surveyed in all. Their main areas of use have been put on the accompanying 1:250,000 map entitled "Outdoor Recreation Routes for Selected Activities in the W.N.M.F."

Those focus groups were comprised of people who are particularly avid participants in either hiking, mountain biking or canoeing. These 3 interviews were divided as follows: 7 canoeists, 8 hikers and 16 mountain bikers. This larger number of mountain bikers was done since it was apparent that there are 2 difficult subgroups of mountain bikers - a younger group interested in short distance - single trail type of cycling and an older group interested in long distance - wider road type of cycling. Each participant was asked to mark the routes they travelled on a 1:250,000 map and provide comments about preferred routes and how logging impacted on their enjoyment of their outings.

The canoeing group had the most consensus perhaps because there are only 6 canoeable rivers in the W.N.M.F. and most paddlers had been on all of them. The preferred river for canoeing was the Lloyd's River and the river most deserving protection from future development was the Serpentine River. The most common suggestion regarding what logging companies can do to minimize their impacts on rivers was to reduce logging activity in those areas which can be seen by the river. Establishing buffers, especially for certain rivers like Lloyd's and S.W. Brook is seen as the best way to minimize impacts.

The hiking focus group preferred hiking in the Lewis Hills, Blow-me-down Mountains and North Arm Mountains. However unlike the canoeing group no one area was ranked by all hikers above another --- each area was generally equally supported. This is in part due to the fact that not all hikers had been to all of these areas and partly due to personal preferences. While it was recognized that little actual logging takes place on the tops of these mountains --- many recommendations like "consider the views from these mountains when planning logging cut plans", "don't clear cut" and "selective log in visually scenic areas" were repeatedly mentioned. Also "more signage", "maintain trails", "mark trails" and "cut out areas of tuckamore" were also mentioned as ways to improve the hiking experience in the W.N.M.F.

The mountain bike focus group was broken into 2 groups. The younger group (members of the Corner Brook Mountain Bike Club) preferred the "T.C.H.-Pipeline Route" and the "Massey Drive Bike Loop". They recommended that logging companies "be aware that bike trails exist and avoid cutting near there" and "drove trucks slower when mountain bikers are around" were two common recommendations. The older group preferred longer rides and there was some degree of consensus about which route was best. The highest ranked routes overall were "Round Red Indian Lake", "Hughes Brook to Wiltondale" and "Cold Brook to Corner Brook". All of these are long day trips. This group had many recommendations for how to maintain to improve the mountain bike experience in these routes; "more signage needed", "remove barriers", "mark trails", "clean up logging operations after they are finished (i.e. oil drums, shacks, cans etc.) "rehabilitate skidder roads", "enforce ATV regulations", "don't clear cut to the road" were typical suggestions. While it was recognized that the main cycling route is there because of logging companies, this group had many suggestions. They included: "remove equipment, buildings, oil drums and other materials after logging activity", "replant", "repair washouts" and "do not clear cut right to road edge".

In summary, it appears that at present there are no major conflicts with logging activity and these types of outdoor recreational activities. However almost all recreational users would like to see more recognition of their use of the Forest and adjacent land and would like to see logging companies consider their areas in terms of cutting plans. These would best be handled on a case by case basis, since some areas receive great use and are deemed to be of higher priority than other areas. The accompanying map indicates where these areas are for these activities and cutting plans should be reviewed by an outdoor recreational interest group as they are being drawn up.

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APPENDIX 1

Model Forest Outdoor Recreational Use Questionnaire

Model Forest Outdoor Recreational Use Questionnaire

The focus of this questionnaire is on hiking (or walking), mountain biking, canoeing and x-country skiing. We are interested in your use of the Model Forest area for these activities. We are also interested in your suggestions as to how these activities could be better developed in the Model Forest. The Model Forest is shown on the accompanying map.

1. Using the map, which areas do you presently use or have used in the past 5 years for these activities.

Walking/hiking (state locations and distance)

Mountain biking (state locations and distance)

Canoeing (state locations and distance)

x-country skiing (state location and distance)

2. How frequently did you go to these areas in this past year (July 94-July 95)?

Walking/Hiking

Mountain Biking

Canoeing

x-country skiing

3. For each of these activities state which is your favourite area/route and why?

Walking/Hiking

Mountain Biking

Canoeing

x-country skiing

4. Do the effects of logging reduce your enjoyment of these activities in the Model Forest?

Activity	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
Walking/hiking					
Mountain biking					
Canoeing					
x-country skiing					

If you stated 'strongly agree' or 'agree', how can logging companies reduce their impact of these activities.

Walking/ Hiking

Canoeing

Mountain Biking

x-country skiing

5. If you don't participate in any of these activities can you indicate why (rank most important #1 ... least important #5 or #6).

Walking/Hiking

The equipment costs too much _____

I don't know where to go _____

I don't have anyone to go with _____

I don't have enough time _____

I don't have any interest _____

Mountain Biking

The equipment costs too much _____
 I don't know where to go _____
 I don't have anyone to go with _____
 I don't have enough time _____
 I don't have the necessary biking skills _____
 I don't have any interest _____

Canoeing

The equipment costs too much _____
 I don't know where to go _____
 I don't have anyone to go with _____
 I don't have enough time _____
 I don't have the necessary canoeing skills _____
 I don't have any interest _____

x-country skiing

The equipment costs too much _____
 I don't know where to go _____
 I don't have anyone to go with _____
 I don't have enough time _____
 I don't have the necessary skiing skills _____
 I don't have any interest _____

6. If you already participate in one or more of these activities, what suggestions do you have that would expand your recreational use of the Model Forest for these activities?

Walking/HikingMountain Biking

Canoeingx-country skiing

7. (a) Indicate your Age Range

0-4	<input type="checkbox"/>	5-9	<input type="checkbox"/>	10-14	<input type="checkbox"/>	15-19	<input type="checkbox"/>
20-24	<input type="checkbox"/>	25-29	<input type="checkbox"/>	30-34	<input type="checkbox"/>	35-39	<input type="checkbox"/>
40-44	<input type="checkbox"/>	45-49	<input type="checkbox"/>	50-54	<input type="checkbox"/>	55-59	<input type="checkbox"/>
60-64	<input type="checkbox"/>	65+	<input type="checkbox"/>				

(b) Are you male _____ or female _____?

(c) Which street do you live on? _____

(d) What City of Community do you live in? _____

(e) How long have you been a resident of the Corner Brook or Bay of Islands area? _____

(f) Please indicate your level of education.

some high school _____

high school _____

some college/university _____

graduate of college/university _____

(g) What is your occupation? _____

8. How much did you spend on each activity for equipment, clothing, (specific to that activity), memberships and travel (gas, accommodation and meals). (July 94 - July 95), while recreating in the model forest.

	equipment	clothing	membership	travel
mountain biking	_____	_____	_____	_____
x-country skiing	_____	_____	_____	_____
canoeing	_____	_____	_____	_____
walking/hiking	_____	_____	_____	_____

9. How much did your family or household spend on each activity for equipment, clothing, (specific to that activity), membership, and travel (gas, meals and accommodations). (July 94-95), while recreating in the model forest.

	equipment	clothing	membership	travel
mountain biking	_____	_____	_____	_____
x-country skiing	_____	_____	_____	_____
canoeing	_____	_____	_____	_____
walking/hiking	_____	_____	_____	_____

10. How many people are there in the family or household and how much equipment does the 'group' own.

# of family/household members	_____
mountain bikes	_____
canoes	_____
pairs of x-country skies	_____

11. Are there children under 18 living at this address? Yes _____ No _____ If yes, are they involved in any of these activities?

	Yes	No
mountain biking	—	—
x-country skiing	—	—
canoeing	—	—
walking/hiking	—	—

12. What do you feel is the biggest limitation to their (the children) use of the model forest area for these activities.

mountain biking

x-country skiing

canoeing

walking/hiking

APPENDIX 2

Model Forest Canoeing Focus Group Questionnaire

Model Forest Mountain Bike Focus Group Questionnaire

Model Forest Hiking Focus Group Questionnaire

Model Forest Canoeing Focus Group Questionnaire

1. Check the rivers in the model forest that you have canoed from the list below:

Humber River	_____	Serpentine	_____
Pinchgut	_____	SW Brook	_____
Lloyds River/Lake	_____	Harry's	_____

(if only canoed part of the river indicate which part on the map)

2. How many times have you canoed these rivers in the past 5 years.

Humber River	_____	Serpentine	_____
Pinchgut	_____	SW Brook	_____
Lloyds River/Lake	_____	Harry's	_____

1 for 0 to 5 times, 2 for 6 - 10 times, 3 for 11 - 15 times, 4 for more than 15.

3. What is the main reason that you canoe these rivers (use # 7 for highest importance # 1 for least important).

improve skills	_____	
exercise	_____	
enjoy/experience nature	_____	(i.e. see wildlife, birds, trees, flowers etc.)
excitement	_____	
social interaction	_____	
enjoy the scenery/views	_____	
solitude	_____	
others (list ranking)	_____	

4. Rank the rivers in order of your preference for canoeing them.

Humber River	_____	Serpentine	_____
Pinchgut	_____	SW Brook	_____
Lloyds River/Lake	_____	Harry's	_____

(# 6 highest rank # 1 lowest rank).

Explain your reasons for this ranking briefly.

Humber

Serpentine

Pinchgut

SW Brook

Lloyds Lake/River

Harry's

5. Rivers and river corridors can be altered by many man caused disturbances, like dams, logging, mining, housing/urban development, and agricultural development. Rank these impacts from smallest to largest. (# 1 smallest to # 5 largest).

6. To maintain and improve the canoeing experience on these rivers what actions would you recommend.

Humber

Serpentine

Pinchgut

SW Brook

Lloyds Lake/River

Harry's

7. What actions can logging companies do to minimize their impact on rivers and river corridors.

8. How much would you pay per trip for the opportunity to canoe these rivers.

Humber River	_____	Serpentine	_____
Pinchgut	_____	SW Brook	_____
Lloyds River/Lake	_____	Harry's	_____

9. If you could protect 1 of these rivers from any sort of development which would it be. Explain briefly.

10. Which of the following lakes have you canoed on and which is your most favorite. Place a for yes, leave blank for no.

Pinchgut Lake	_____	George's Lake	_____
Deer Lake	_____	Frenchman's Pond	_____
Old Man's Pond	_____	Serpentine Lake	_____
Grand Lake	_____	Little Grand Lake	_____
Bonne Bay Big Pond	_____		

Most favorite lake for canoeing _____

Would you rather canoe on a lake or a river _____

11. Have you ever had any conflicts on any canoeing trip with other recreationalists. If so explain briefly.

Model Forest Mountain Bike Focus Group Questionnaire

1. How long have you been mountain biking (years)? _____
2. One the map outline the mountain bike routes that you have done.
3. How many times have you ridden these routes in the past 5 years?

route # 1 _____	route # 5 _____
route # 2 _____	route # 6 _____
route # 3 _____	route # 7 _____
route # 4 _____	route # 8 _____

(If you have lived here less than 5 years, show # of years _____)

4. What is the main reason that you ride these routes?
 (use # 8 for highest importance and # 1 for least importance)

exercise	_____
improve skills	_____
enjoy/experience nature	_____
excitement	_____
social interaction	_____
enjoy close up (0-2 km) scenery	_____
enjoy distant (2 km +) scenery	_____
solitude	_____
others (list ranking)	_____

5. Look at the following photos. Which photos represent the type of mountain bike routes you tend to ride on. Give % on a typical trip.

photo 1 _____	photo 6 _____
photo 2 _____	photo 7 _____
photo 3 _____	photo 8 _____
photo 4 _____	photo 9 _____
photo 5 _____	photo 10 _____

6. Using the same set of photos - if you could choose your ideal mountain bike route, what % of each photo type would you prefer?

photo 1 _____	photo 6 _____
photo 2 _____	photo 7 _____
photo 3 _____	photo 8 _____
photo 4 _____	photo 9 _____
photo 5 _____	photo 10 _____

If your answer to 4 and 5 differ... explain briefly.

7. Rank the mountain bike routes in order of your preference. (refer to question 1 and 2)

route # 1 _____	route # 5 _____
route # 2 _____	route # 6 _____
route # 3 _____	route # 7 _____
route # 4 _____	route # 8 _____

Explain you reasons for this ranking briefly.

route # 1

route # 2

route # 3

route # 4

route # 5

route # 6

route # 7

route # 8

8. To maintain or improve the mountain bike experience in these routes, what actions would you recommend.

route # 1

route # 2

route # 3

route # 4

route # 5

route # 6

route # 7

route # 8

9. What actions can logging companies do to minimize their impact on mountain bike routes.

10. How much would you pay per trip to mountain bike these routes?

route # 1 _____	route # 5 _____
route # 2 _____	route # 6 _____
route # 3 _____	route # 7 _____
route # 4 _____	route # 8 _____

11. Select your favorite type of mountain bike terrain.

- (a) flat to slightly rolling (climbs less than ¼ km in lowest gear)
- (b) moderate hills/decends (climbs between ¼ - 1 km in lowest gear)
- (c) long hills/descents (climbs 1+ km in length in lowest gear)

12. Have you ever had any conflicts while mountain biking with other recreationalists. Explain.

13. What is your opinion of using the old rail bed as a mountain bike route.

14. Indicate your Age Range

- | | | | | | | | |
|-------|--------------------------|-------|--------------------------|-------|--------------------------|-------|--------------------------|
| 0-4 | <input type="checkbox"/> | 5-9 | <input type="checkbox"/> | 10-14 | <input type="checkbox"/> | 15-19 | <input type="checkbox"/> |
| 20-24 | <input type="checkbox"/> | 25-29 | <input type="checkbox"/> | 30-34 | <input type="checkbox"/> | 35-39 | <input type="checkbox"/> |
| 40-44 | <input type="checkbox"/> | 45-49 | <input type="checkbox"/> | 50-54 | <input type="checkbox"/> | 55-59 | <input type="checkbox"/> |
| 60-64 | <input type="checkbox"/> | 65+ | <input type="checkbox"/> | | | | |

15. Are you male or female? _____

16. Which community do you live in? _____

Hiking/Backpacking Focus Group Questionnaire

1. How long have you been hiking/backpacking? ____ years.
2. On the map, outline the hiking trips you have done in the model forest (include official trails and "unofficial routes").
3. How many times have you hiked those routes in the past 5 years?

area/route #1 _____	area/route #5 _____
area/route #2 _____	area/route #6 _____
area/route #3 _____	area/route #7 _____
area/route #4 _____	area/route #8 _____

(if you have lived here less than 5 years show # of years _____)

4. What is the main reason you hike on these trails/routes?
(Use #7 for highest importance and #1 for least importance)

exercise _____
 enjoy/experience nature _____ (i.e. wildlife, birds, trees, flowers etc.)
 excitement _____
 enjoy scenery/views _____
 improve skills _____
 solitude _____
 social interaction _____
 others (list rank) _____

5. Rank the hiking routes in question (2) in your order of preference.

area/route #1 _____	area/route #5 _____
area/route #2 _____	area/route #6 _____
area/route #3 _____	area/route #7 _____
area/route #4 _____	area/route #8 _____

6. Explain your reasons for this ranking briefly.

area/route #1:

area/route #2:

area/route #3:

area/route #4:

area/route #5:

area/route #6:

area/route #7:

area/route #8:

7. To maintain or improve the hiking experience on these trails/routes, what actions would you recommend.

area/route #1:

area/route #2:

area/route #3:

area/route #4:

area/route #5:

area/route #6:

area/route #7:

area/route #8:

8. What actions can logging companies do to minimize their impact in hiking areas?

9. How much would you pay to hike these routes (per trip)?

area/route #1 _____

area/route #5 _____

area/route #2 _____

area/route #6 _____

area/route #3 _____

area/route #7 _____

area/route #4 _____

area/route #8 _____

10. If you could protect one area for hiking, what would it be? Explain briefly.

11. Have you ever had any conflicts while hiking with other recreationalists?

12. Indicate your Age Range.

0-4 5-9 10-14 15-19

20-24 25-29 30-34 35-39

40-44 45-49 50-54 55-59

60-64 65+

13. Are you male _____ or female _____?

14. Which community do you live in? _____

15. What is your opinion of using the old rail bed as a hiking route?

APPENDIX 3

Names of Focus Group Participants

Participants in Focus GroupsCanoeing Group

Dan Murphy
Kevin Redmond
Keith Payne
Jamie Graham
Francine Lemire
Huw Jenkins
Mary Jenkins

Hiking Group

Colin Smith
Sue Rendall
Martin Von Mirbach
Beaty Popescu
Clarence Pelley
Walt Lemeasseur
Dale Goosney
Ray Humber

Mountain Bike Group

Graham Oliver
Jack Lamond
Colin Smith
Dan Rumbolt
Clarence Pelley
Michael Newton
Glen Fletmate
Martin Von Mirbach
Jamie Buffett
Justin Broderick
Ryan Mercier
Andrew Brown
Doug Miller
Todd Melindy
Tim Snow
Tony Melindy