EXTRACT FROM THE MAIN RIVER HARVEST TRIAL REPORT

Prepared by

Corner Brook Pulp and Paper Limited

January 30, 2002

MAIN RIVER HARVEST TRIALS

1.0 Introduction

1.1 Harvest Policy for the Main River Watershed

On March 2, 2001 Corner Brook Pulp and Paper announced a no clear-cut policy for the Main River watershed. In a news release, Mr. Kevin Sheahan CBPP's Vice President and General Manager said "we have decided to strengthen our commitment to the Main River watershed by stopping the practice of clear cutting in this sensitive area. We are moving forward with a thorough evaluation of alternate harvesting practices that can be used in the Main River watershed. This evaluation will draw upon the experiences of forest companies operating in other areas of Canada and the United States. We also intend to consult with scientific experts in areas such as forest ecology, wildlife habitat and conservation biology" (Appendix 1).

Immediately following this announcement Pat Tompkins CBPP's Woodlands Manager gave a presentation to the Forest Management District 16 planning team, entitled " Main River Forest Project Our Commitment". In his presentation Pat outlined our objective, our strategy, key values, and a diversity of approaches we would be taking to "maintain biological diversity, protect visual aesthetics, and provide for sustainable economic development".

Corner Brook Pulp and Paper Limited, Gros Morne National Park, and the provincial Department of Forest Resources and Agrifoods have established a Connectivity working group. This group was established to evaluate the effects of logging activities on the integrity of the park.

Corner Brook Pulp and Paper Limited continues to be an active participant in the recovery team for the Newfoundland Pine Marten. In addition to ongoing studies the company also supports new research activities.

1.2 Modified Harvest Design

This report deals with a trial harvest inside the Main River Watershed carried out in the fall of 2001. The trial took place on a block approximately 135 ha in size located in the Lower Four Ponds area of the watershed. A pre-harvest cruise was carried out to determine volume, basal area, and forest structure contained in the block (Appendix 2). This information was used to design cut patterns and to determine the amount of retention required to satisfy habitat requirements for Pine Marten.

A small 2 ha block was harvested in the fall of 2000 to test diameter limit harvesting and its appearance. The total basal area (BA) remaining after the removal of all of the merchantable stems greater than 14cm diameter at breast height was 13m^2/ha. New Pine Marten guidelines suggest that marten require at least 18m^2 basal area in order for it to be considered habitat.

Using the pine marten habitat guidelines as a starting point, the trial was designed to retain 18m^2/ha over the entire block with no section having less than 13m^2/ha. The final basal area per hectare remaining is an average over the entire 135 hectares. Lower volume stands in the block that contained near 18m^2/ha were not harvested. When analysing the results of this report it is important to differentiate between the actual treatment area (the area that the harvesting equipment traveled over), and the total area of the block. Cutover updates, which will be completed in summer of 2002, are required for the actual cut area.

The 18 m^2/ha remaining on a harvest block could be made up of all trees not less than 6 meters tall, with 40% of the block containing trees greater than 10 metres (Appendix 3) including merchantable trees, standing dead trees (snags), hardwoods, and other non-merchantable softwoods. When conducting a basal area sweep with a instrument having a basal area factor of 2, every tree that falls inside the plot represents 2 m^2/ha.

In addition to the 18 m^2/ ha, the initial design tried to incorporate a weaving cut pattern that would avoid making natural openings bigger and avoids cutting snags and live hardwoods. This pattern was altered due to operational constraints; straight-line strips replaced the weaving pattern for most of the trial period. Cut strips were laid out parallel to the slope contours until the slopes exceeded that which could be cut safely. The contractor decided when it was not safe to harvest, and ran the strips more towards perpendicular to the contours as the slope increased.

1.3 Summary

The project got under way with layout and contractor orientation during the week of October 1st to 5th 2001. Harvesting equipment was moved to the area over the weekend October 6th and 7th. Operator orientation and training started on October 8th 2001. The harvesting operation continued for 6 weeks, finishing at the end of the night shift on November 16th 2001. Snowfall in the area was a major factor that led to the termination of the project. This operation covered a large area and brow size often consisted of only a few bolts. Snow cover hampered the forwarding operation and it is felt that some brows may have been missed as a result of the snow cover. A complete cruise of the area will have to be carried out in the summer of 2002 to determine the amount of wood remaining.

2.0 Site

2.1 Block Selection Criteria.

The location for this project was selected using the following criteria:

- At least 100 ha in a continuous block;
- The block should contain a sufficient number of stand types to be representative of the Main River watershed;
- The block must be accessible by road;

- Stratums are large enough to allow for operational considerations when prescribing a treatment i.e. operators are in a stratum long enough to become familiar with the prescription; and
- The trial area does not overlap areas set aside for other studies ongoing in the watershed.

2.2 Location

The trial is located in the Lower Four Ponds five-year plan block, inside the Main River Watershed. The area can be found on Newfoundland Forest inventory map section 032-22 at UTM coordinates: Northing 5523400, Easting 474500 The UTM coordinates are for the approximate centre of the block. Access to the area is via the Tayors Brook road approximately 57 kilometres from the Hampden highway.

2.3 Block Description

The block is accessed by 3.0 kilometres of secondary road that runs along the lower slopes. The block rises at approximately 10% away from the road for a distance of 1250 meters to the furthest point from the road. A steeper gradient, up to 40%, away from the road is present in a small portion of the block at the western end. A complete list of stands found inside the block is recorded in Table 2.1

Table 2.1 Stand Types and Area Found Inside the Block

Stand Types	Area (hectares)
1. bFwB753M	9.4
2. bF742M	46.6
3. bFbS742M	0.5
4. bF743M	7.5
5. bF743P	13.4
6. bSbF743P	3.5
7. bF643P	9.2
8. bSbF732P	11.6
9. bS732P	3.9
10. bFbS733P	14.4
11. bF752M	14.6
TOTAL	**134.6 ha's**

3.0 Methods and Equipment

3.1 Pre Harvest Layout and Orientation

The block boundaries followed natural boundaries and roads as much as possible. Sections that cut across stands were flagged prior to harvest, and stream buffers were marked as per CBPP's Forest Management Planning and Operating Practices Manual.

The concept of modified harvest is new to Corner Brook Pulp and Paper and its contractors. An orientation period for the operators was held on site during the first week of operation. A 250 meter strip was laid out and all trees to be cut were marked with orange spray paint. The leave trees along the strip totalled a BA of 18m^2/ha. The contractor, his harvester operators and CBPP personal walked over this strip and discussed various ways of harvesting to achieve the desired result.

The centre line of each cut strip was laid out approximately two times the reach of the harvesters boom apart, and every effort was made not to cut the hardwood and the dead snags. In doing so the resulting pattern would be weaving in and out as cutting progressed. The contractor expressed some concern about having to process the pulpwood on his blind side but felt that this could be overcome by moving the tree to a more visible location before processing. The configuration of the Harvester presents some visual problems when trying to process bolts on both sides of a strip (See Figure

3.3 Tigercat 845B harvester). For the first week of operation it was decided to mark all of the trees to be cut. By marking the trees technicians could control the basal area removed and the cut pattern (weaving) (Figure 3.1). Although weaving, the pattern generally followed straight strips but sight distance along the strips was limited due to the snags and hardwoods left.

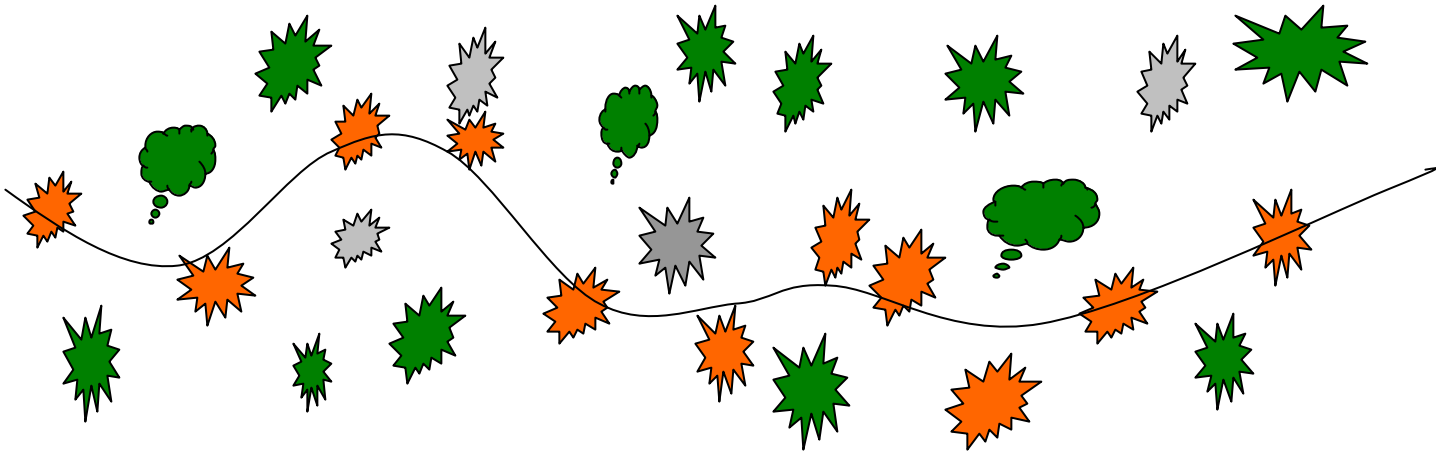


Figure 3.1 Weaving Pattern.

A stick and string having a basal area factor of 2 was used to check the BA of the trees remaining. In addition several one-quarter hectare plots (25m x 100m) were established to verify the stick results.

It was hoped that after a week the operators would be accustomed to the requirements and that marking the trees would no longer be necessary. On October 8th harvesting started, operators took turns cutting and helping with strip layout. On the second day the operators again helped with the layout as well as took turns harvesting. During the first week four operators rotated, each spending time cutting, helping with strip layout, and checking results on the areas harvested. Midway through the week October 10th operators started cutting without the aid of having the trees marked. Strip lines continued to be laid out, and the operation moved towards strip retention and continued this way for the remainder of the trail (Figure 3.2).

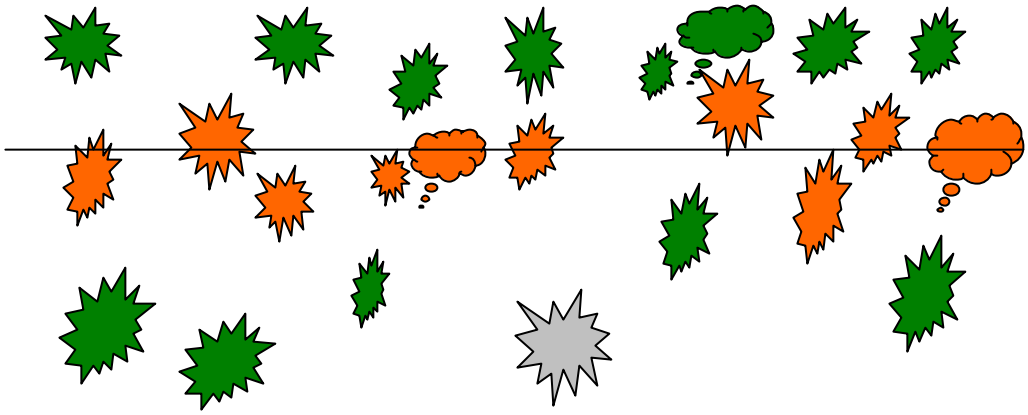


Figure 3.2 Strip Retention.

3.2 Equipment and Work schedule

Equipment used (Figure 3.3 and Figure 3.4)

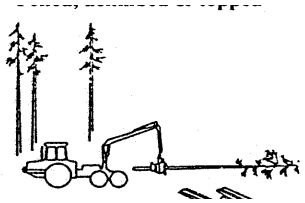
Figure 3.3 Tigercat 845B Tracked Harvester with a Fabtek Dangle Head.

Figure 3.4 Timberjack 1110, 8 Wheel Drive Forwarder

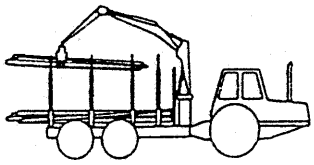
The harvesting system used to carry out the trial is referred to as a Shortwood System or SW3, (fell, delimb and buck).

Fell, Delimb & Buck

SW3 Shortwood Harvester/ Forwarder



Harvester



Forwarder

There are four harvester operators involved with this operation, working twelve hour shifts seven days a week. With the exception of the first week Table 3.1 shows a typical scheduled week for the operators.

Table 3.1 Work Schedule.

Days	Time		Shift No.
Monday	7 AM – 7 PM	Operator # 1	1
Monday	7 PM – 7 AM	Operator # 2	2
Tuesday	7 AM – 7 PM	Operator # 1	3
Tuesday	7 PM – 7 AM	Operator # 2	4
Wednesday	7 AM – 7 PM	Operator # 1	5
Wednesday	7 PM – 7 AM	Operator # 2	6
Thursday	7 AM – 7 PM	Operator # 1	7
Thursday	7 PM – 7 AM	Operator # 2	8
Friday	7 AM – 7 PM	Operator # 3	9
Friday	7 PM – 7 AM	Operator # 4	10
Saturday	7 AM – 7 PM	Operator # 3	11
Saturday	7 PM – 7 AM	Operator # 4	12
Sunday	7 AM – 7 PM	Operator # 3	13
Sunday	7 PM – 7 AM	Operator # 4	14
Monday	7 AM – 7 PM	Operator # 3	15
Monday	7 PM – 7 AM	Operator # 4	16

Regular maintenance for the machine is scheduled during shift changes.
Forwarding started a week behind the harvesting operation and was carried out during day shifts only.

4.0 Results

The total area of the Modified Harvest Block is 134.64 hectares, containing a total basal area of 4281.55 m^2 or 31.80 m^2/ha. This basal area is made up of 23.41m^2 /ha of merchantable timber, 1.46 m^2/ha of hardwood, and 6.93 m^2/ha of standing dead.

The resulting basal area after harvest is 2653.75 m^2 or 19.71 m^2/ha, made up of 14.11 m^2/ha merchantable, 1.45 m^2/ha hardwood, and 4.15 m^2/ha standing dead.

Only trees greater than 6m were used to measure basal area along each cruise line. Appendix 3 provides a detailed breakdown of the before and after cruises. Table 4.1 is a summary of the cruise results.

The volume harvested from this area will be known by mid summer 2002. Snow covered many of the brows of wood near the end of the trial, and the forwarder operator may have missed some of the brows. The volume trucked to the mill before pulling out of the area is 3,821 m^3 harvested for the six week period or 637 m^3 /week. Although the total area of the block is 134.64 ha, not all of the stands were harvested. Stands containing near 18m^2/ha basal area were excluded from harvest. Cutover updates will show the actual area cut, when they are completed in the summer 2002. Results showing yields per ha will be available when we know the total volume cut, and the total area cut over.

Table 4.1 Cruise Summary

Basal Area M^2/ha Before Harvest				After Harvest			
Merchantable	Hardwood	Dead	Total	Merchantable	Hardwood	Dead	Total
23.41	1.46	6.93	31.80	14.11	1.45	4.15	19.71

5.0 Conclusions and Recommendations

Corner Brook Pulp and Paper Limited has made a commitment to take a new approach to harvesting inside the Main River watershed. This trial was an attempt to harvest on an operational scale using the methods outlined in Pat Tompkins presentation to the FMD 16 planning team.

Harvested operators are key to any operation and particularly so with this type of operation. The four operators involved with the trial were professionals and expressed a keen interest in the operation. They used basal area sticks to check themselves periodically, and operated in such a manor that was consistent with the company's strict safety and environmental policies. The contractor and his people are to be commended for a job well done.

On Monday October 29, The Main River Advisory Group visited the site. This group will report on the landscape-level implications of modified harvesting and road building inside the Main River watershed. In addition the group will advise CBPP on further

studies needed as well as an ongoing monitoring regime to study the effects of modified harvesting on the old-growth ecosystem components of the Main River watershed.

The 2002 Annual Operating Plan calls for the harvest of 14,000 m^3 inside the Main River watershed during the summer of 2002. It is proposed that this volume come from two locations, and to be carried out using modified harvest techniques. The 2002 season continues to be a trial period; new areas, new techniques and new equipment will be tried while implementing modified harvest this season.

The 2001 trial was a learning experience and based on this experience the following are recommendations for the coming season.

- Cruise each block to determine BA, volumes, and forest structure before harvest.
- Delineate blocks between 20 and 50 ha inside the operating areas based on terrain, forest structure, and basal area distribution.
- Insure that each block is accessible by a road network.
- Design different modified harvest techniques best suited to the forest structure and terrain.
- Continue to use the Pine Marten Guidelines (Appendix 4) as a basic requirement for retention.
- Implement recommendations from the Advisory Group.
- Conduct a follow-up cruise to determine results.
- Design an orientation program for contractor foreman and operators.
- Insure road networks are in place for future operations.
- Schedule harvest and equipment allocation to be finished by mid October.

Appendix 5 contains location maps of the Main River Harvesting Trials.

Appendix No 1

News Release

CORNER PULP AND PAPER LIMITED

News Release

CORNER BROOK PULP AND PAPER WILL STOP CLEAR CUTTING IN MAIN RIVER WATERSHED

For Immediate Release

March 21,2000

Corner Brook NF – Corner Brook Pulp and Paper (CBPP) announced that it has decided to stop clear cutting timber in the Main River watershed.

At a news conference in Corner Brook today Kevin Sheahan, CBPP's Vice President and General Manager said " we have decided to strengthen our commitment to the Main River watershed by stopping the practice of clear cutting in this sensitive area."

"We are moving forward with a thorough evaluation of alternate harvesting practices that can be used in the Main River watershed. This evaluation will draw upon the experiences of forest companies operating in other areas of Canada and the United States. We also intend to consult with scientific experts in areas such as forest ecology, wildlife habitat and conservation biology."

"Our commitment to the protection of the Main River watershed is well known as evidenced by our contribution of some 200 km2 of commercial timber to the province's effort to secure a Canadian Heritage River designation for the Main River. This contribution alone provides protection to more than 17% of the entire watershed" said Sheahan.

Sheahan concluded by saying that "Our work to protect the Main River watershed doesn't stop here. We continue to work with Parks Canada to develop way of ensuring that the ecological integrity of Gros Morne Park is maintained. We are also working with the province's Pine Marten recovery team and the Wildlife Division of the Department of Tourism and Culture to protect pine marten habitat. And we're committed to using the knowledge we gain from working in the Main River watershed to improve our harvesting practices in other sensitive areas."

For Further Information Contact:

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637-3105

Appendix No 2

Cruise Summary Before Harvest

Main River Harvest Trials

Block Summary
Before Harvest

Line Area	1.3918	ha			
Block Area	134.64	ha			
Cruise Intensity	1.03	%			
Merchantable Volume / line	161.42	m3	**Merchantable Volume / ha**	115.98	m3

Basal Area / ha

Total Dead	6.93	m2
Total Hardwood	1.46	m2
Total Merchantable	23.41	m2
Total Basal Area	31.80	m2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	563	129	**692**

Non-Merchantable				Fir & Sp			
Hwd	42	Dead	358	<10cm	762	**Total**	**1162**

Main River Harvest Trials

Line Summary by Stratum Before Harvest

Line No.	1 a&b	**Line Area**	0.176 ha
Stratum	bFwB753M	**Block Area**	9.4 ha
		Cruise Intensity	1.87 %
Merchantable Volume / line	23.28 m^3	**Merchantable Volume / ha**	132.27 m^3

Basal Area / ha

Total Dead	7.88	m^2
Total Hardwood	3.16	m^2
Total Merchantable	22.13	m^2
Total Basal Area	33.17	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	443	108	**551**

Non-Merchantable		Fir & Sp	
Hwd 74	Dead 199	<10cm 392	**Total 665**

Main River Harvest Trials

Line Summary by Stratum before harvest

Line No.	2 a & b	**Line Area**	0.465 ha
Stratum	bF742M	**Block Area**	46.6 ha
		Cruise Intensity	1.00 %
Merchantable Volume / line	62.41 m^3	**Merchantable Volume / ha**	134.22 m^3

Basal Area / ha

Total Dead	6.96	m^2
Total Hardwood	1.02	m^2
Total Merchantable	26.09	m^2
Total Basal Area	34.07	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	619	123	**742**

Non-Merchantable		Fir & Sp	
Hwd 39	Dead 381	<10cm 658	**Total 1078**

Main River Harvest Trials

Line Summary by Stratum Before Harvest

Line No.	2c	**Line Area**	0.005 ha
Stratum	bFbS742M	**Block Area**	0.5 ha
		Cruise Intensity	1.00 %
Merchantable Volume / line	0.96 m^3	**Merchantable Volume / ha**	192.60 m^3

Basal Area / ha

Total Dead	0.00	m^2
Total Hardwood	0.00	m^2
Total Merchantable	35.37	m^2
Total Basal Area	35.37	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	400	200	**600**

Non-Merchantable		Fir & Sp	
Hwd 0	Dead 0	<10cm 1200	**Total 1200**

Main River Harvest Trials

Line Summary by Stratum Before Harvest

Line No.	3a	**Line Area**	0.063 ha
Stratum	bF743M	**Block Area**	7.5 ha
		Cruise Intensity	0.84 %
Merchantable Volume / line	5.26 m^3	**Merchantable Volume / ha**	83.74 m^3

Basal Area / ha

Total Dead	8.96	m^2
Total Hardwood	2.44	m^2
Total Merchantable	17.44	m^2
Total Basal Area	28.84	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	318	143	**462**

Non-Merchantable		Fir & Sp	
Hwd 64	Dead 334	<10cm 748	**Total 1146**

Main River Harvest Trials

Line Summary by Stratum Before Harvest

Line No.	3b	**Line Area**	0.134 ha
Stratum	bF743P	**Block Area**	13.4 ha
		Cruise Intensity	1.00 %
Merchantable Volume / line	15.68 m^3	**Merchantable Volume / ha**	117.01 m^3

Basal Area / ha

Total Dead	4.97	m^2
Total Hardwood	0.64	m^2
Total Merchantable	27.75	m^2
Total Basal Area	33.36	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	769	187	**956**

Non-Merchantable		Fir & Sp	
Hwd 30	Dead 336	<10cm 1015	**Total 1381**

Main River Harvest Trials

Line Summary by Stratum Before Harvest

Line No.	3c	**Line Area**	0.035 ha
Stratum	bSbF743P	**Block Area**	3.5 ha
		Cruise Intensity	1.00 %
Merchantable Volume / line	3.97 m^3	**Merchantable Volume / ha**	113.43 m^3

Basal Area / ha

Total Dead	4.72 m^2
Total Hardwood	0.22 m^2
Total Merchantable	26.07 m^2
Total Basal Area	31.01 m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	800	114	**914**

Non-Merchantable		Fir & Sp	
Hwd 29	Dead 400	<10cm 1229	**Total 1658**

Main River Harvest Trials

Line Summary by Stratum Before Harvest

Line No.	3d	**Line Area**	0.092 ha
Stratum	bF643p	**Block Area**	9.2 ha
		Cruise Intensity	1.00 %
Merchantable Volume / line	6.55 m^3	**Merchantable Volume / ha**	71.20 m^3

Basal Area / ha

Total Dead	10.02 m^2
Total Hardwood	3.19 m^2
Total Merchantable	15.76 m^2
Total Basal Area	28.97 m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	522	65	**587**

Non-Merchantable		Fir & Sp	
Hwd 76	Dead 522	<10cm 924	**Total 1522**

Main River Harvest Trials

Line Summary by Stratum Before Harvest

Line No.	4a	**Line Area**	0.112 ha
Stratum	bSbF732p	**Block Area**	11.62 ha
		Cruise Intensity	0.96 %
Merchantable Volume / line	9.94 m^3	**Merchantable Volume / ha**	88.75 m^3

Basal Area / ha

Total Dead	4.84	m^2
Total Hardwood	0.41	m^2
Total Merchantable	21.98	m^2
Total Basal Area	27.23	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	839	196	**1035**

Non-Merchantable		Fir & Sp	
Hwd 18	Dead 268	<10cm 955	**Total 1241**

Main River Harvest Trials

Line Summary by Stratum Before Harvest

Line No.	4b	**Line Area**	0.02 ha
Stratum	bS732p	**Block Area**	3.92 ha
		Cruise Intensity	0.51 %
Merchantable Volume / line	1.08 m^3	**Merchantable Volume / ha**	54.10 m^3

Basal Area / ha

Total Dead	3.82 m^2
Total Hardwood	0.00 m^2
Total Merchantable	17.09 m^2
Total Basal Area	20.91 m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	1100	100	**1200**

Non-Merchantable		Fir & Sp	
Hwd 0	Dead 350	<10cm 1150	**Total 1500**

Main River Harvest Trials

Line Summary by Stratum Before Harvest

Line No.	5	**Line Area**	0.144 ha
Stratum	bFbS733p	**Block Area**	14.4 ha
		Cruise Intensity	1.00 %
Merchantable Volume / line	10.88 m^3	**Merchantable Volume / ha**	75.53 m^3

Basal Area / ha

Total Dead	6.36	m^2
Total Hardwood	0.00	m^2
Total Merchantable	20.01	m^2
Total Basal Area	26.36	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	660	153	**813**

Non-Merchantable		Fir & Sp	
Hwd 0	Dead 549	<10cm 1222	**Total 1771**

Main River Harvest Trials

Line Summary by Stratum Before Harvest

Line No.	6	**Line Area**	0.146 ha
Stratum	bF752m	**Block Area**	14.6 ha
		Cruise Intensity	1.00 %
Merchantable Volume / line	21.42 m^3	**Merchantable Volume / ha**	146.71 m^3

Basal Area / ha

Total Dead	7.99	m^2
Total Hardwood	2.83	m^2
Total Merchantable	24.12	m^2
Total Basal Area	34.94	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	336	137	**473**

Non-Merchantable		Fir & Sp	
Hwd 62	Dead 288	<10cm 432	**Total 782**

Appendix No 3

Cruise Summary After Harvest

Main River Harvest Trials

Block Summary
After Harvest

Line Area 1.3758 ha

Block Area 134.64 ha

Cruise Intensity 1.02 %

Merchantable Volume / line 94.50 m^3

Merchantable Volume / ha 68.69 m^3

Basal Area / ha

Total Dead	4.15	m^2
Total Hardwood	1.45	m^2
Total Merchantable	14.11	m^2
Total Basal Area	19.70	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	346	86	**432**

Non-Merchantable				Fir & Sp			
Hwd	36	Dead	222	<10cm	446	**Total**	**704**

Main River Harvest Trials

Line Summary by Stratum After Harvest

Line No.	1 a&b	**Line Area**	0.16 ha
Stratum	bFwB753M	**Block Area**	9.4 ha
		Cruise Intensity	1.70 %
Merchantable Volume / line	13.15 m^3	**Merchantable Volume / ha**	82.19 m^3

Basal Area / ha

Total Dead	1.75 m^2
Total Hardwood	2.74 m^2
Total Merchantable	13.70 m^2
Total Basal Area	18.19 m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	269	219	**488**

Non-Merchantable		Fir & Sp	
Hwd 50	Dead 94	<10cm 438	**Total 581**

Main River Harvest Trials

Line Summary by Stratum After Harvest

Line No. 2 a & b

Line Area 0.465 ha

Stratum bF742M

Block Area 46.6 ha

Cruise Intensity 1.00 %

Merchantable Volume / line 32.50 m^3

Merchantable Volume / ha 69.89 m^3

Basal Area / ha

Total Dead	3.82 m^2
Total Hardwood	1.20 m^2
Total Merchantable	13.87 m^2
Total Basal Area	18.88 m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	282	58	**340**

Non-Merchantable		Fir & Sp	
Hwd 43	Dead 176	<10cm 275	**Total 495**

Main River Harvest Trials

Line Summary by Stratum After Harvest

Line No.	2c	**Line Area**	0.005 ha
Stratum	bFbS742M	**Block Area**	0.5 ha
		Cruise Intensity	1.00 %
Merchantable Volume / line	0.96 m^3	**Merchantable Volume / ha**	192.60 m^3

Basal Area / ha

Total Dead	0.00	m^2
Total Hardwood	0.00	m^2
Total Merchantable	35.37	m^2
Total Basal Area	35.37	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	400	200	**600**

Non-Merchantable		Fir & Sp	
Hwd 0	Dead 0	<10cm 1200	**Total 1200**

Main River Harvest Trials

Line Summary by Stratum After Harvest

Line No.	3a	**Line Area**	0.063 ha
Stratum	bF743M	**Block Area**	7.5 ha
		Cruise Intensity	0.84 %
Merchantable Volume / line	4.15 m^3	**Merchantable Volume / ha**	66.15 m^3

Basal Area / ha

Total Dead	7.19 m^2
Total Hardwood	2.17 m^2
Total Merchantable	13.14 m^2
Total Basal Area	22.49 m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	318	143	**462**

Non-Merchantable		Fir & Sp	
Hwd 48	Dead 223	<10cm 414	**Total 685**

Main River Harvest Trials

Line Summary by Stratum After Harvest

Line No.	3b	**Line Area**	0.134 ha
Stratum	bF743P	**Block Area**	13.4 ha
		Cruise Intensity	1.00 %
Merchantable Volume / line	9.19 m^3	**Merchantable Volume / ha**	68.59 m^3

Basal Area / ha

Total Dead	3.05	m^2
Total Hardwood	0.62	m^2
Total Merchantable	15.56	m^2
Total Basal Area	19.22	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	433	75	**507**

Non-Merchantable		Fir & Sp	
Hwd 15	Dead 254	<10cm 396	**Total 664**

Main River Harvest Trials

Line Summary by Stratum After Harvest

Line No.	3c	**Line Area**	0.035 ha
Stratum	bSbF743P	**Block Area**	3.5 ha
		Cruise Intensity	1.00 %
Merchantable Volume / line	2.13 m^3	**Merchantable Volume / ha**	60.83 m^3

Basal Area / ha

Total Dead	2.85	m^2
Total Hardwood	0.44	m^2
Total Merchantable	12.45	m^2
Total Basal Area	15.74	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	343	114	**457**

Non-Merchantable		Fir & Sp	
Hwd 29	Dead 171	<10cm 543	**Total 743**

Main River Harvest Trials

Line Summary by Stratum After Harvest

Line No.	3d	**Line Area**	0.092 ha
Stratum	bF643p	**Block Area**	9.2 ha
		Cruise Intensity	1.00 %
Merchantable Volume / line	5.34 m^3	**Merchantable Volume / ha**	58.00 m^3

Basal Area / ha

Total Dead	3.38	m^2
Total Hardwood	0.90	m^2
Total Merchantable	11.72	m^2
Total Basal Area	16.00	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	315	43	**359**

Non-Merchantable		Fir & Sp	
Hwd 22	Dead 141	<10cm 272	**Total 435**

Main River Harvest Trials

Line Summary by Stratum After Harvest

Line No.	4a	**Line Area**	0.112 ha
Stratum	bSbF732p	**Block Area**	11.62 ha
		Cruise Intensity	0.96 %
Merchantable Volume / line	4.96 m^3	**Merchantable Volume / ha**	44.31 m^3

Basal Area / ha

Total Dead	3.59	m^2
Total Hardwood	0.42	m^2
Total Merchantable	11.23	m^2
Total Basal Area	15.24	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	375	125	**500**

Non-Merchantable		Fir & Sp	
Hwd 18	Dead 330	<10cm 473	**Total 821**

Main River Harvest Trials

Line Summary by Stratum

Line No.	4b	**Line Area**	0.02 ha
Stratum	bS732p	**Block Area**	3.92 ha
		Cruise Intensity	0.51 %
Merchantable Volume / line	1.08 m^3	**Merchantable Volume / ha**	54.10 m^3

Basal Area / ha

Total Dead	3.82 m^2
Total Hardwood	0.00 m^2
Total Merchantable	17.09 m^2
Total Basal Area	20.91 m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	1100	100	**1200**

Non-Merchantable		Fir & Sp	
Hwd 0	Dead 350	<10cm 1150	**Total 1500**

Main River Harvest Trials

Line Summary by Stratum After Harvest

Line No.	5	**Line Area**	0.144 ha
Stratum	bFbS733p	**Block Area**	14.4 ha
		Cruise Intensity	1.00 %
Merchantable Volume / line	10.88 m^3	**Merchantable Volume / ha**	75.53 m^3

Basal Area / ha

Total Dead	6.36	m^2
Total Hardwood	0.00	m^2
Total Merchantable	20.01	m^2
Total Basal Area	26.36	m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	660	153	**813**

Non-Merchantable		Fir & Sp	
Hwd 0	Dead 549	<10cm 1222	**Total 1771**

Main River Harvest Trials

Line Summary by Stratum After Harvest

Line No.	6	**Line Area**	0.146 ha
Stratum	bF752m	**Block Area**	14.6 ha
		Cruise Intensity	1.00 %
Merchantable Volume / line	10.16 m^3	**Merchantable Volume / ha**	69.58 m^3

Basal Area / ha

Total Dead	6.78 m^2
Total Hardwood	4.30 m^2
Total Merchantable	11.57 m^2
Total Basal Area	22.65 m^2

Trees / ha

	Fir	Spruce	**Total**
Merchantable	151	110	**260**

Non-Merchantable		Fir & Sp	
Hwd 75	Dead 123	<10cm 240	**Total 438**

Appendix No 4

Draft Pine Marten Guidelines

DRAFT MARTEN HABITAT MANAGEMENT GUIDELINES

- The basic unit for evaluation will be the home range size for male (30 km2) and female (15 km2) marten.

- All forest types can be considered if they meet the following requirements.

- 70% or greater of that unit must be suitable habitat.

- 40% or greater of the unit should have trees = 9.6 m in height.

- The remaining portion of the 70% (30% or less), unit should have trees between 6.5 and 9.6 m.

- 50% of the unit should be contiguous. Stands will have to be within 50 m of an adjacent habitat to be considered contiguous.

- A qualifying stand will have to be within 160 m of another stand or habitat patch to be considered as habitat.

- Minimum patch size = 20 ha.

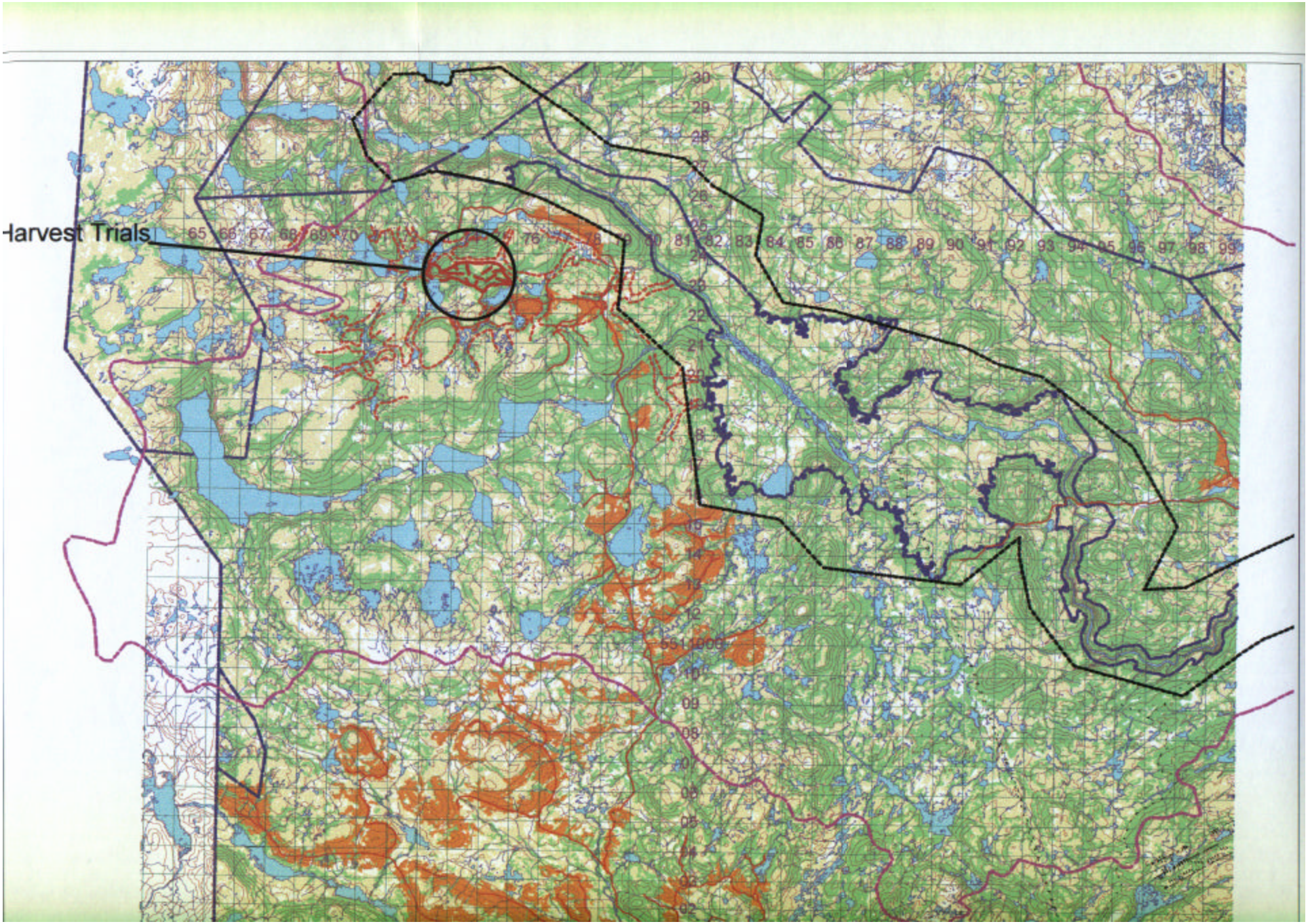
- Basal area requirement = (~ 18 m2/ha).

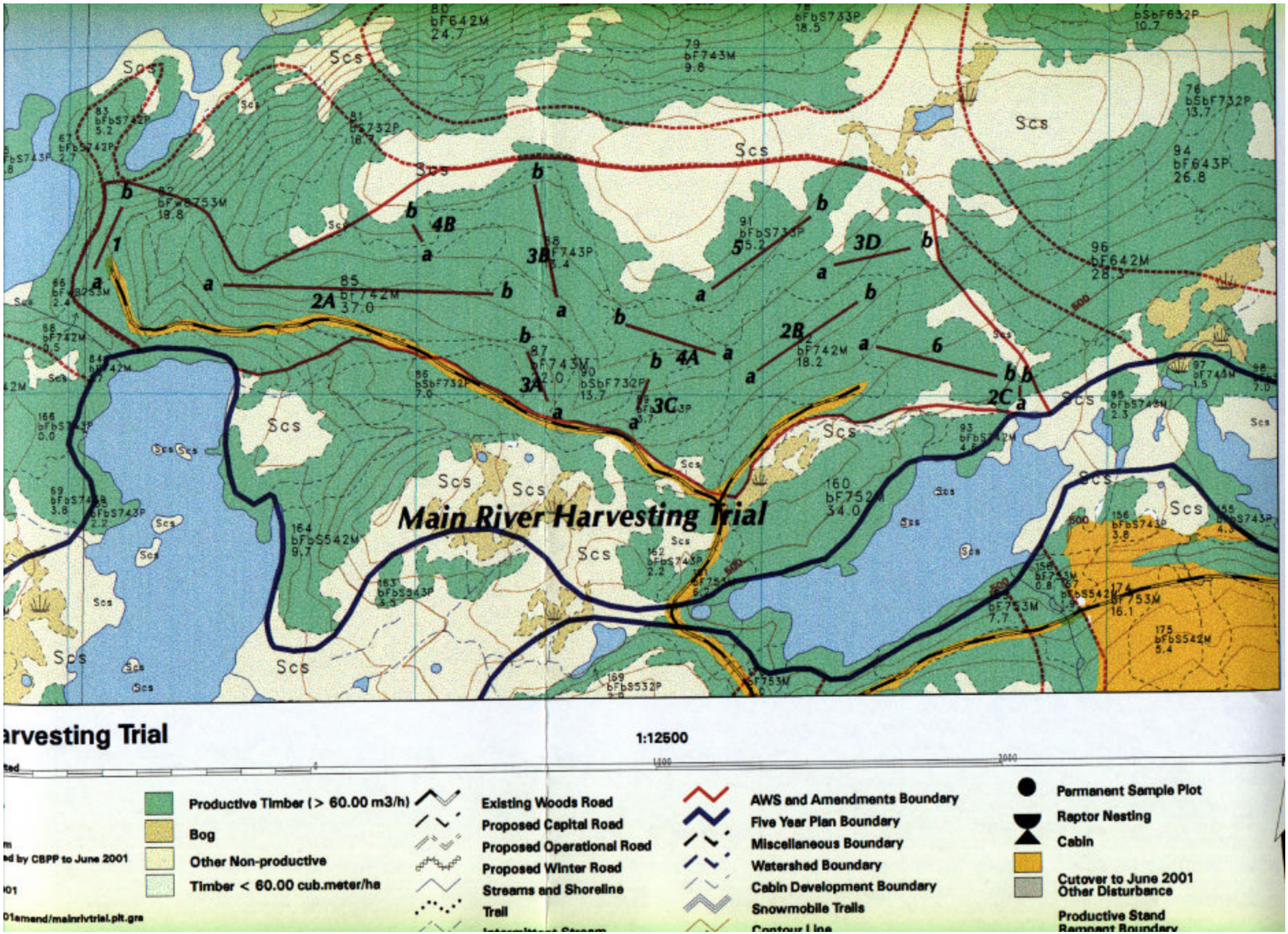
- Hardwood stands, (insect kill and blowdown) will be considered suitable habitat where crown closure is = 30%.

- Softwood scrub, which meets the minimum height requirements (6.5m) will be considered habitat. Where height is not known, Softwood scrub within 50 m and adjacent to a qualifying stand will be considered habitat.

Appendix No 5

Maps


Harvest Trials


Main River Harvesting Trial
arvesting Trial
1:12500
Productive Timber (> 60.00 m3/h)
Bog
Other Non-productive
Timber < 60.00 cub.meter/ha
Existing Woods Road
Proposed Capital Road
Proposed Operational Road
Proposed Winter Road
Streams and Shoreline
Trail
AWS and Amendments Boundary
Five Year Plan Boundary
Miscellaneous Boundary
Watershed Boundary
Cabin Development Boundary
Snowmobile Trails
Contour Line
Permanent Sample Plot
Raptor Nesting
Cabin
Cutover to June 2001
Other Disturbance
Productive Stand
d by CBPP to June 2001
01amend/mainrivtrial.plt.grs