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TIMBER RESOURCE ANALYSIS of the BABBITT and TWO HARBORS, MINNESOTA SITES

Prepared for Lousiana-Pacific Corporation

by

Minnesota DNR

Div. of Forestry

November 8, 1983

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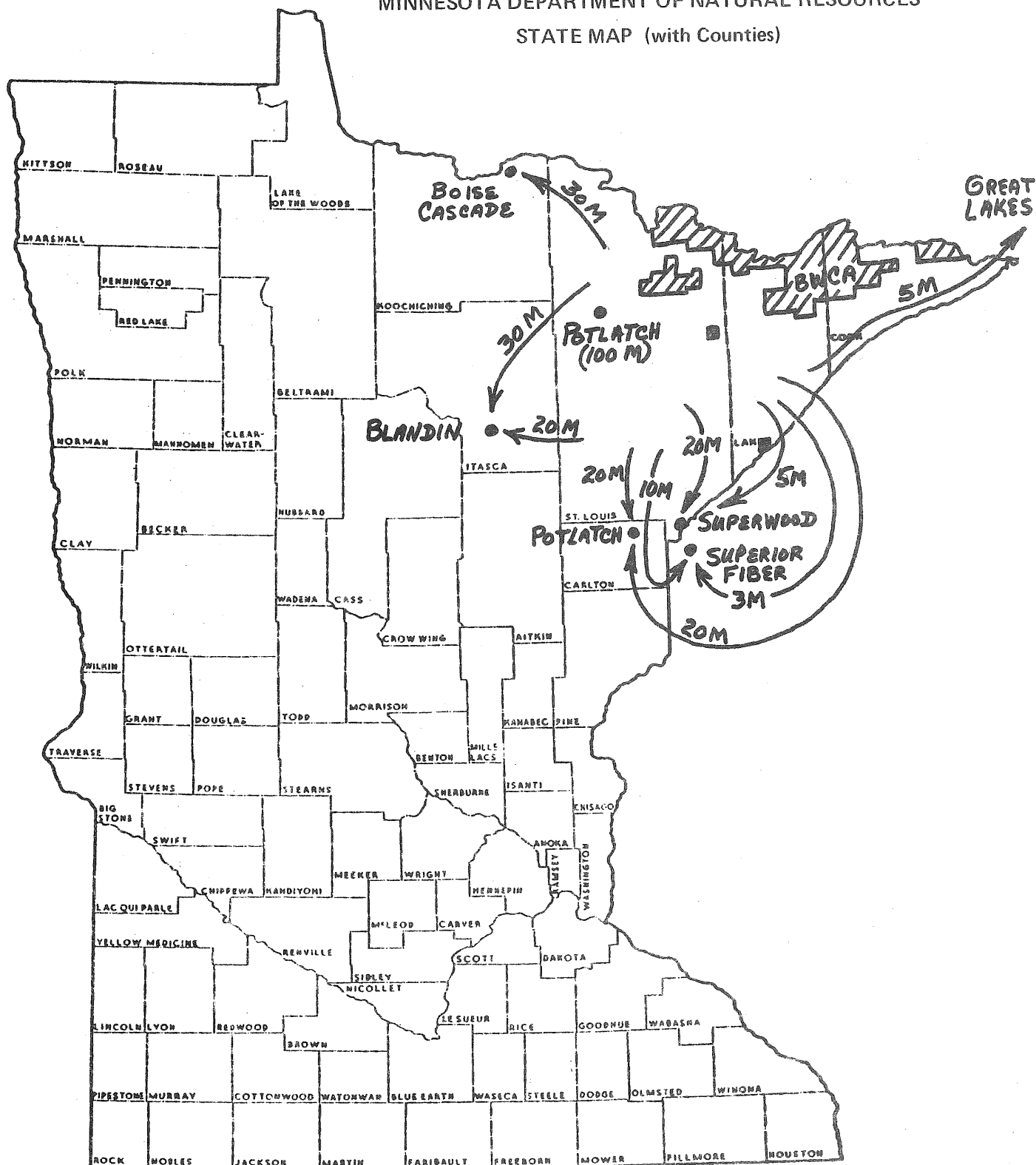
TIMBER RESOURCE ANALYSIS OF THE
BABBITT AND TWO HARBORS, MINNESOTA SITE

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TIMBER PROCUREMENT by MINNESOTA INDUSTRY from ST. LOUIS & LAKE COUNTIES - PULPWOOD 1982

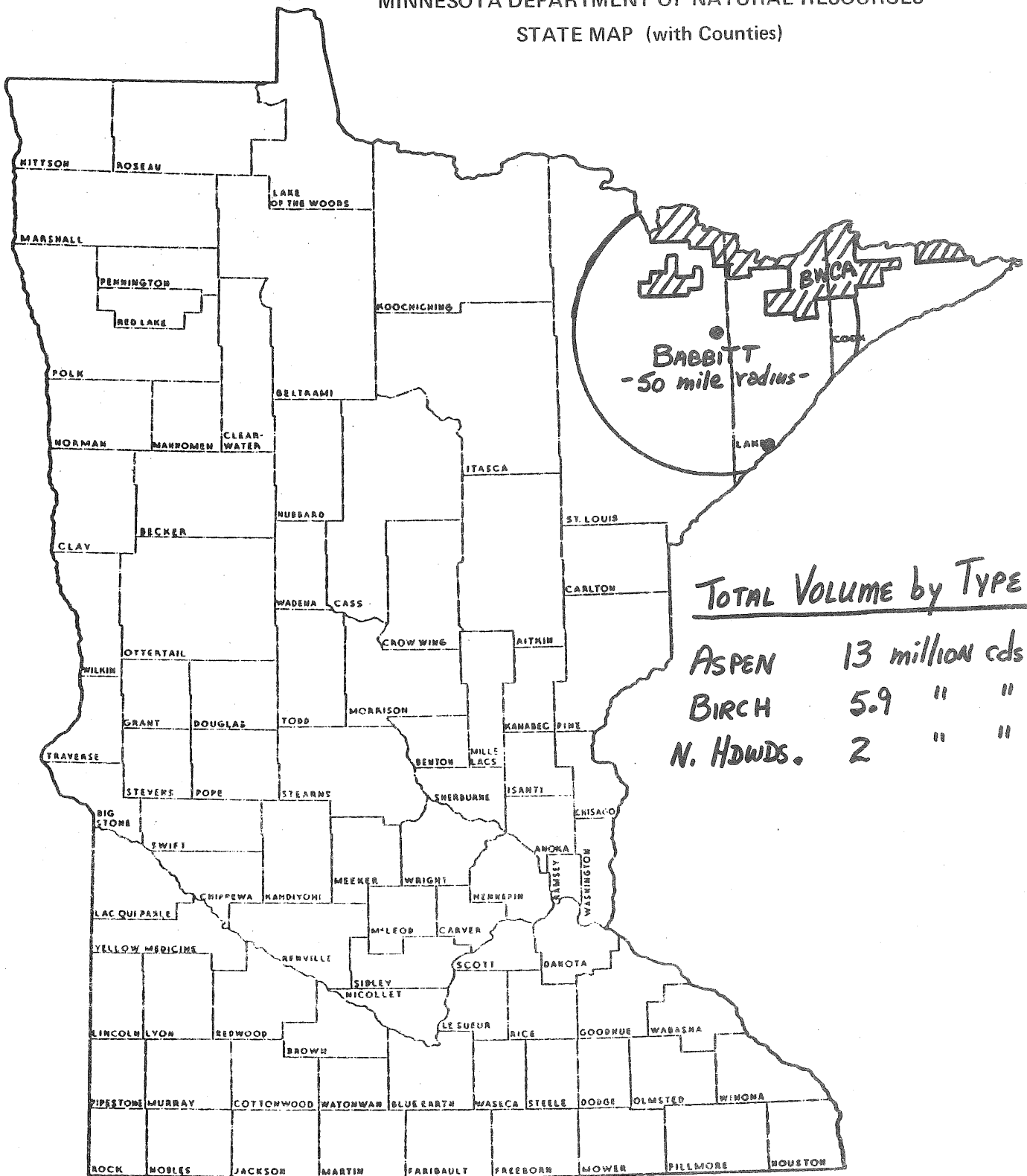
MINNESOTA DEPARTMENT OF NATURAL RESOURCES

STATE MAP (with Counties)



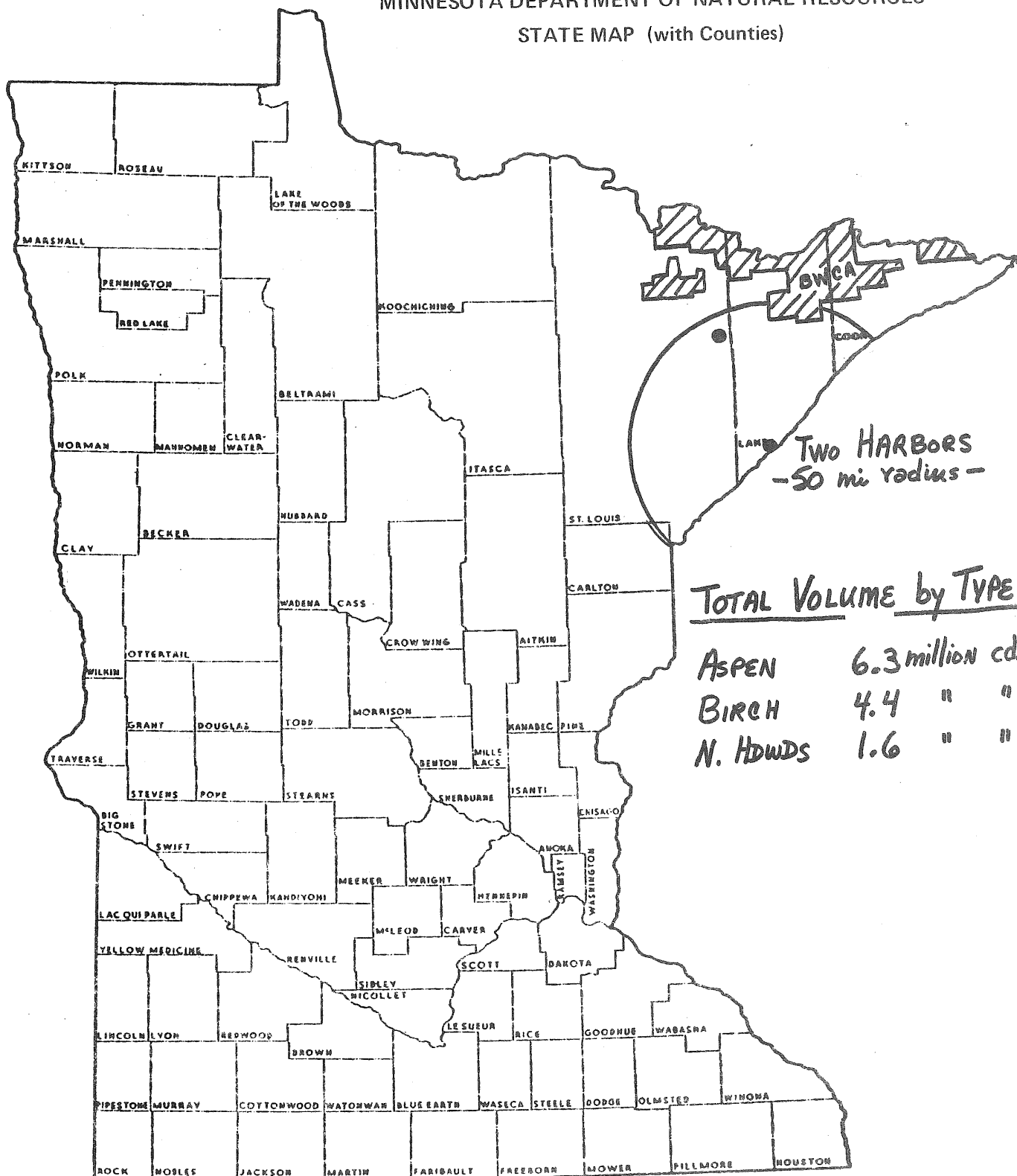
TOTAL VOLUME by TYPE - 50 mile radius from BABBITT -

MINNESOTA DEPARTMENT OF NATURAL RESOURCES
STATE MAP (with Counties)



TOTAL VOLUME by TYPE - 50 mile radius from Two HARBORS -

MINNESOTA DEPARTMENT OF NATURAL RESOURCES
STATE MAP (with Counties)



<u>TOTAL VOLUME by TYPE</u>		
ASPEN	6.3	million cds.
BIRCH	4.4	" "
N. HDWDS	1.6	" "

% OF SPECIES IN FOREST TYPE
ST. LOUIS AND LAKE COUNTIES

	FOREST TYPE			
	ASPEN	BIRCH	N.H.	OTHERS
ASPEN	61%	14%	9%	16%
BIRCH	10%	55%	13%	22%
N.H.	1%	2%	36%	61%
OTHERS	29%	29%	42%	19%

% Ownership of Commercial Forest Land

St. Louis And Lake Counties

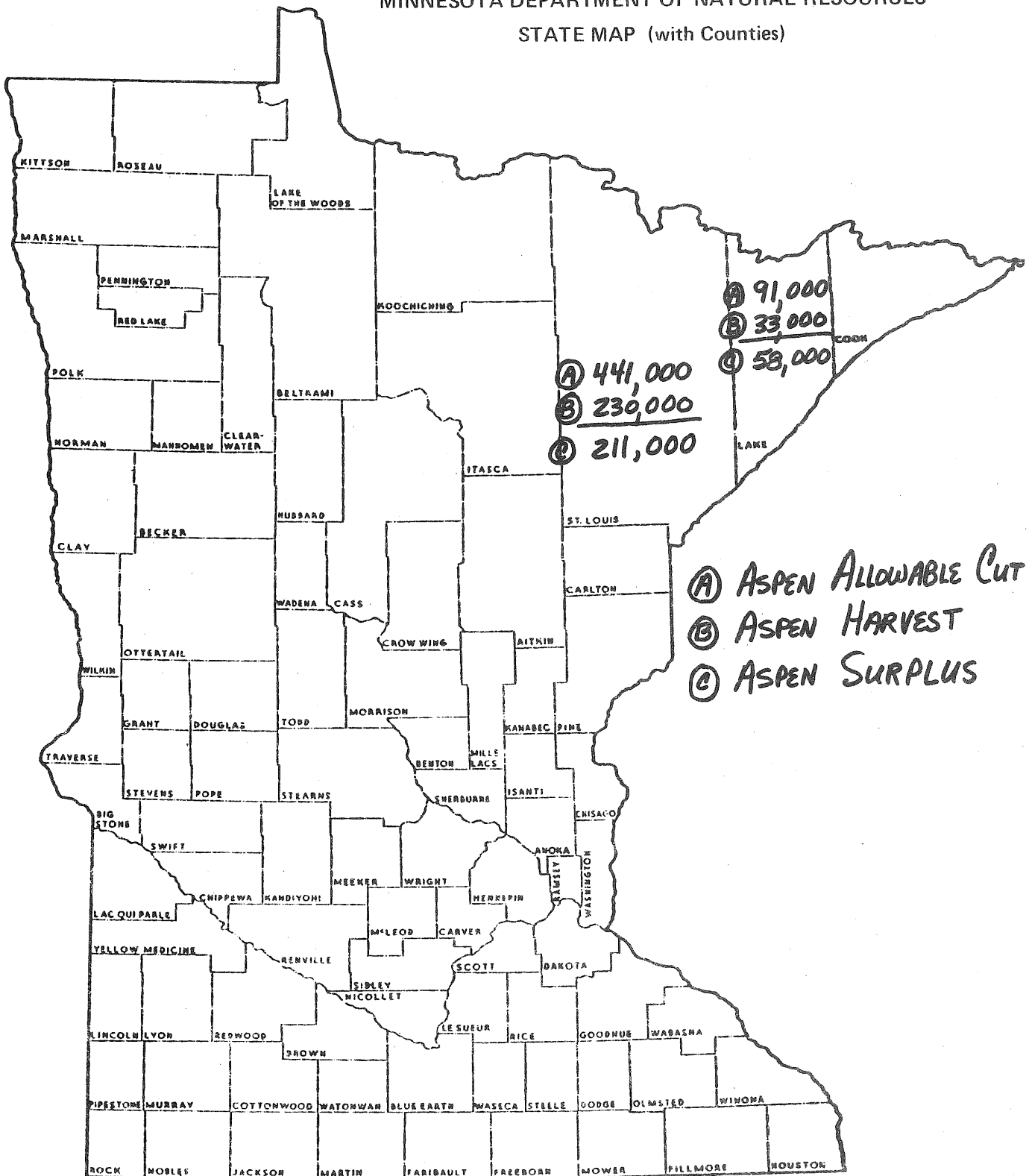
	St. Louis	Lake
State	12%	11%
Natl. Forest	18%	43%
County	28%	16%
Forest Ind.	5%	11%
Other	37%	19%

DETERMINATION of ANNUAL ASPEN SURPLUS

(based on 1982 demand)

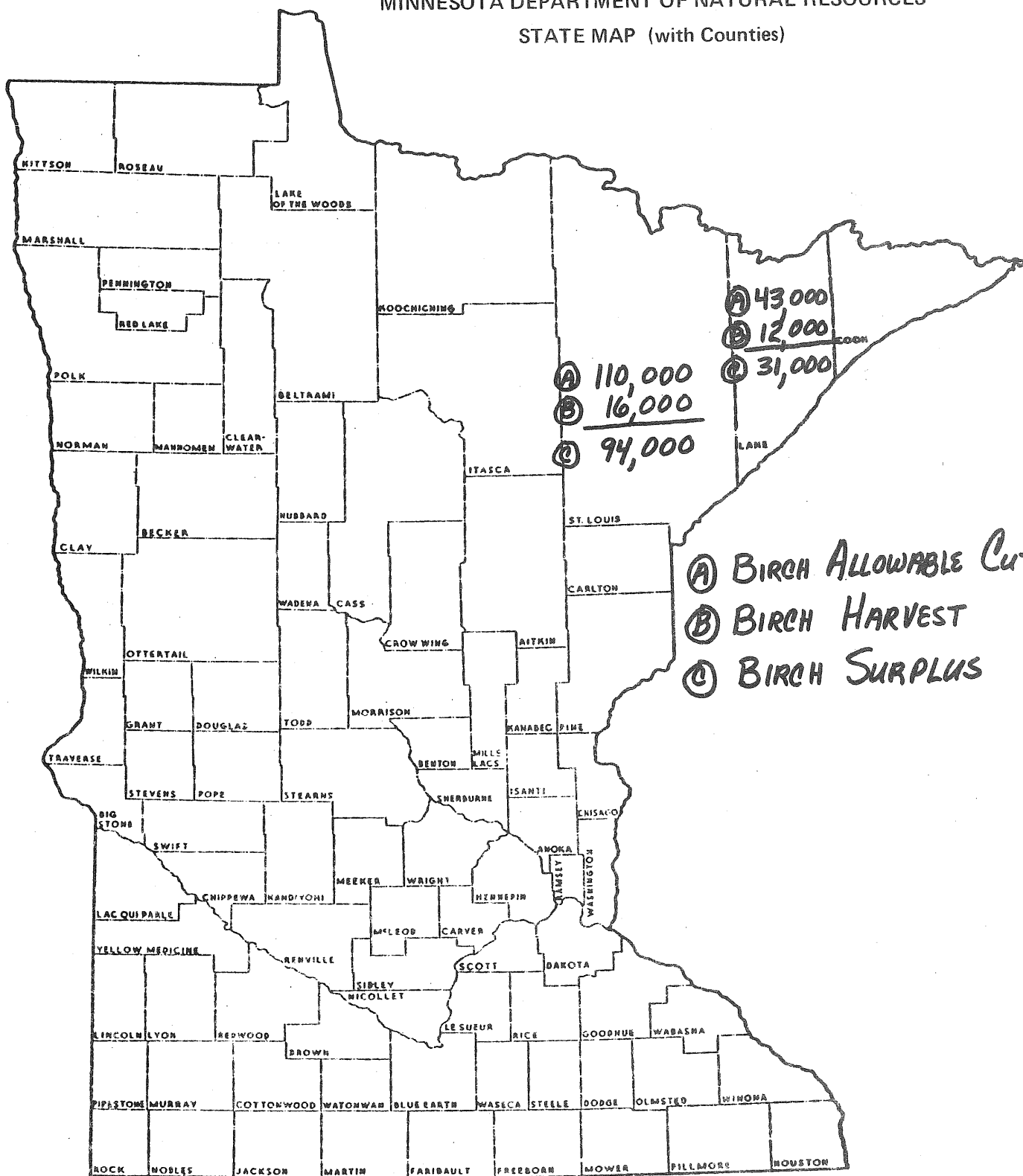
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STATE MAP (with Counties)



DETERMINATION of ANNUAL BIRCH SURPLUS (based on 1982 demand)

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STATE MAP (with Counties)



MINNESOTA DEPARTMENT OF NATURAL RESOURCES

STUDY FOR LOUISIANA PACIFIC

50 MILE ZONE - BABBITT, MINNESOTA

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

TOTAL VOLUME AND AREA BY COMMERCIAL COVER TYPE

COMMERCIAL COVER TYPE	TOTAL VOLUME (1,000 CORDS)	TOTAL AREA (1,000 ACRES)	AV. CORDS/ACRE
ASPEN	7,146 (12,977)*	499 (907)*	14.3
BALSAM FIR	2,350	200	11.7
BALSAM POPLAR	620	37	16.9
BLACK SPRUCE	1,302	117	11.1
JACK PINE	765	43	17.9
LOWLAND HDWS.	678	57	11.9
N. WHITE CEDAR	822	50	16.4
NOTHERN HDWS.	1,102 (1,994)*	86 (156)*	12.9
PAPER BIRCH	3,245 (5,898)*	208 (372)*	15.6
RED PINE	434	19	22.6
TAMARACK	109	11	9.6
WHITE PINE	164	11	15.2
WHITE SPRUCE	164	12	14.0
TOTAL	18,900	1,349	14.0

* INCLUDES SUPERIOR NATIONAL FOREST
excluding the BWCA

TOTAL AREAS BY COMM. COVER TYPE BY OWNERSHIP

.....(IN 1,000 ACRES).....

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL COVER TYPE	NATIONAL FOREST	BUREAU OF LAND MGT.	INDIAN LAND	MISC. FEDERAL	STATE LAND	COUNTY LAND	FOREST INDUSTRY	OTHER PRIVATE	UNKNOWN CODE	TOTAL AREAS (1,000 ACRES)
ASPEN	0	0	0	7	67	186	44	195	0	499
BALSAM FIR	0	0	0	2	40	75	30	53	0	200
BALSAM POPLAR	0	0	0	0	8	13	1	14	0	37
BLACK SPRUCE	0	0	0	3	43	23	12	37	0	117
JACK PINE	0	0	0	3	19	7	4	10	0	43
LOWLAND HDWS.	0	0	0	0	4	27	2	25	0	57
N.WHITE CEDAR	0	0	0	0	5	17	12	16	0	50
NOTHERN HDWS.	0	0	0	0	11	35	14	26	0	86
PAPER BIRCH	0	0	0	0	26	88	14	80	0	208
RED PINE	0	0	0	0	4	6	2	8	0	19
TAMARACK	0	0	0	0	4	4	0	3	0	11
WHITE PINE	0	1	0	0	1	0	1	7	0	11
WHITE SPRUCE	0	0	0	0	5	0	1	5	0	12
TOTAL	0	1	0	14	238	479	137	479	0	1,349

TOTAL VOLUME BY COMMERCIAL COVER TYPE BY OWNERSHIP

.....(IN 1,000 CORDS).....

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL COVER TYPE	NATIONAL FOREST	BUREAU OF LAND MGT.	INDIAN LAND	MISC. FEDERAL	STATE LAND	COUNTY LAND	FOREST INDUSTRY	OTHER PRIVATE	UNKNOWN CODE	TOTAL VOLUME (1,000 CORDS)
ASPEN	0	0	0	126	961	2,788	602	2,669	0	7,146
BALSAM FIR	0	0	0	11	480	915	334	610	0	2,350
BALSAM POPLAR	0	0	0	0	175	174	23	248	0	620
BLACK SPRUCE	0	0	0	20	483	255	119	425	0	1,302
JACK PINE	0	0	0	41	303	115	84	222	0	765
LOWLAND HDWS.	0	0	0	0	40	299	16	323	0	678
N.WHITE CEDAR	0	0	0	0	68	293	222	239	0	822
NOTHERN HDWS.	0	0	0	0	140	450	137	374	0	1,102
PAPER BIRCH	0	0	0	0	472	1,319	214	1,240	0	3,245
RED PINE	0	0	0	0	145	135	39	115	0	434
TAMARACK	0	0	0	0	42	43	0	24	0	109
WHITE PINE	0	17	0	0	10	0	20	117	0	164
WHITE SPRUCE	0	0	0	0	71	0	13	80	0	164
TOTAL	0	17	0	198	3,390	6,786	1,823	6,687	0	18,900

TOTAL AREAS BY COMM. COVER TYPE BY AGE CLASS

.....(IN 1,000 ACRES).....

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL	AGE CLASS (IN YEARS)													TOTAL
COVER TYPE	1 - 10	11- 20	21- 30	31- 40	41- 50	51- 60	61- 70	71- 80	81- 90	91-100	101-120	121-140	141 +	(1,000 ACRES)
ASPEN	49.8	20.9	24.1	71.8	138.6	113.8	49.5	20.2	5.5	4.3	0.	0.0	0.0	498.6
BALSAM FIR	3.1	12.5	8.1	24.8	55.6	60.3	16.0	11.0	4.5	4.2	0.	0.0	0.0	200.2
BALSAM POPLAR	0.0	1.4	0.0	4.0	11.3	12.4	1.4	4.6	1.4	0.0	0.	0.0	0.0	36.6
BLACK SPRUCE	0.0	6.8	6.8	11.4	24.4	20.5	15.3	15.5	8.0	5.7	1.	1.4	0.0	117.3
JACK PINE	0.0	0.0	0.0	7.5	12.7	7.0	8.5	1.5	2.8	0.0	2.	0.0	0.0	42.7
LOWLAND HDWS.	1.4	1.2	1.3	1.3	5.6	8.5	5.3	4.2	10.6	8.0	5.	3.9	0.0	57.2
N.WHITE CEDAR	0.0	0.0	1.2	1.3	1.3	5.1	2.6	10.5	6.7	1.3	9.	10.6	0.0	50.1
NOTHERN HDWS.	0.0	5.7	2.7	5.4	23.2	18.2	5.6	11.0	4.1	0.0	5.	4.3	0.0	85.5
PAPER BIRCH	4.2	4.3	2.8	23.5	58.6	65.9	23.5	14.6	7.4	1.3	1.	0.0	0.0	207.5
RED PINE	0.0	0.0	0.0	0.0	5.9	2.8	1.3	6.5	2.6	0.0	0.	0.0	0.0	19.2
TAMARACK	0.0	1.3	2.5	1.3	1.1	2.6	2.6	0.0	0.0	0.0	0.	0.0	0.0	11.3
WHITE PINE	0.0	1.4	0.0	0.0	0.0	0.0	2.8	0.0	2.4	4.2	0.	0.0	0.0	10.8
WHITE SPRUCE	0.0	0.0	0.0	2.7	6.3	1.3	1.3	0.0	0.0	0.0	0.	0.0	0.0	11.7
TOTAL	59	55	49	155	345	318	136	100	56	29	2	20	0	1,349

TOTAL VOLUME BY COMM. COVER TYPE BY AGE CLASS

.....(IN 1,000 CORDS).....

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL	AGE CLASS (IN YEARS)													TOTAL VOLUME
COVER TYPE	1 - 10	11- 20	21- 30	31- 40	41- 50	51- 60	61- 70	71- 80	81- 90	91-100	101-120	121-140	141 +	(1,000 CORDS)
ASPEN	390.6	155.9	230.2	1069.5	2048.1	1863.2	837.4	412.0	81.0	58.4	0.	0.0	0.0	7146.2
BALSAM FIR	21.6	97.9	93.8	263.6	679.6	732.5	222.5	132.4	52.4	54.0	0.	0.0	0.0	2350.2
BALSAM POPLAR	0.0	13.4	0.0	81.2	198.7	182.1	39.4	77.0	28.0	0.0	0.	0.0	0.0	619.8
BLACK SPRUCE	0.0	58.3	53.0	95.6	237.2	275.2	209.4	194.4	87.7	73.4	8.	8.6	0.0	1301.8
JACK PINE	0.0	0.0	0.0	99.6	256.2	154.7	128.4	27.7	62.1	0.0	36.	0.0	0.0	764.8
LOWLAND HDWS.	12.2	7.5	8.5	9.0	47.3	94.6	81.0	48.2	146.4	94.9	49.	79.3	0.0	678.2
N.WHITE CEDAR	0.0	0.0	8.0	22.4	20.5	60.9	26.0	129.7	94.1	22.9	211.	226.6	0.0	822.3
NOTHERN HDWS.	0.0	39.8	19.4	53.4	293.4	204.4	70.9	179.8	70.5	0.0	87.	82.4	0.0	1101.5
PAPER BIRCH	35.0	30.2	30.3	299.8	958.0	1041.5	383.1	269.5	119.2	44.2	34.	0.0	0.0	3244.8
RED PINE	0.0	0.0	0.0	0.0	121.0	36.8	13.6	230.0	32.3	0.0	0.	0.0	0.0	433.7
TAMARACK	0.0	6.7	17.4	7.5	7.6	46.8	22.6	0.0	0.0	0.0	0.	0.0	0.0	103.6
WHITE PINE	0.0	10.3	0.0	0.0	0.0	0.0	78.2	0.0	26.2	49.3	0.	0.0	0.0	163.9
WHITE SPRUCE	0.0	0.0	0.0	49.0	83.0	13.1	19.2	0.0	0.0	0.0	0.	0.0	0.0	164.2
TOTAL	459	420	461	2050	4951	4706	2132	1701	800	397	42	397	0	18,900

TOTAL AREAS BY COMM. COVER TYPE BY SITE INDEX CLASS

.....(IN 1,000 ACRES).....

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL	SITE INDEX CLASS										TOTAL
COVER TYPE	NONE	1- 20	21- 30	31- 40	41- 50	51- 60	61- 70	71- 80	81- 90	91 +	(1,000 ACRES)
ASPEN	0.0	0.0	0.0	4.0	30.2	128.8	163.4	136.4	28.8	7.2	498.6
BALSAM FIR	0.0	0.0	2.6	31.8	69.5	77.3	17.8	1.3	0.0	0.0	200.2
BALSAM POPLAR	0.0	0.0	0.0	1.4	5.6	4.4	15.3	8.3	1.4	0.0	36.6
BLACK SPRUCE	0.0	0.0	15.2	39.6	45.2	14.7	1.3	1.3	0.0	0.0	117.3
JACK PINE	0.0	0.0	0.0	1.7	8.7	18.3	10.2	3.8	0.0	0.0	42.7
LOWLAND HDWS.	0.0	0.0	0.0	17.5	23.1	15.2	1.4	0.0	0.0	0.0	57.2
N.WHITE CEDAR	0.0	2.7	26.5	15.6	4.0	0.0	1.3	0.0	0.0	0.0	50.1
NOTHERN HDWS.	0.0	0.0	0.0	1.4	23.1	48.3	11.4	1.3	0.0	0.0	85.5
PAPER BIRCH	0.0	0.0	0.0	3.0	29.7	85.8	73.8	13.6	1.5	0.0	207.5
RED PINE	0.0	0.0	0.0	0.0	5.5	10.6	1.8	1.3	0.0	0.0	19.2
TAMARACK	0.0	0.0	0.0	0.0	8.7	1.3	1.3	0.0	0.0	0.0	11.3
WHITE PINE	0.0	0.0	0.0	2.5	4.1	4.2	0.0	0.0	0.0	0.0	10.8
WHITE SPRUCE	0.0	0.0	0.0	3.2	2.7	2.8	3.0	0.0	0.0	0.0	11.7
TOTAL	0	3	44	122	260	412	302	167	32	7	1,349

TOTAL VOLUME BY COMM. COVER TYPE BY SITE INDEX CLASS

.....(IN 1,000 CORDS).....

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL	SITE INDEX CLASS.....										TOTAL VOLUME
COVER TYPE	NONE	1- 20	21- 30	31- 40	41- 50	51- 60	61- 70	71- 80	81- 90	91 +	(1,000 CORDS)
ASPEN	0.0	0.0	0.0	28.0	267.7	1527.0	2241.7	2288.8	584.1	208.9	7146.2
BALSAM FIR	0.0	0.0	42.2	263.0	767.1	1014.7	230.5	32.8	0.0	0.0	2350.2
BALSAM POPLAR	0.0	0.0	0.0	11.6	63.5	55.7	267.2	185.9	35.9	0.0	619.8
BLACK SPRUCE	0.0	0.0	109.0	394.2	576.1	185.1	16.8	20.6	0.0	0.0	1301.8
JACK PINE	0.0	0.0	0.0	10.0	140.7	276.9	228.8	108.4	0.0	0.0	764.8
LOWLAND HDWS.	0.0	0.0	0.0	196.3	273.9	193.8	14.2	0.0	0.0	0.0	678.2
N.WHITE CEDAR	0.0	25.4	441.9	266.7	67.8	0.0	20.5	0.0	0.0	0.0	822.3
NOTHERN HDWS.	0.0	0.0	0.0	18.9	230.7	697.4	145.0	9.4	0.0	0.0	1101.5
PAPER BIRCH	0.0	0.0	0.0	20.8	337.9	1341.8	1250.5	264.1	29.6	0.0	3244.8
RED PINE	0.0	0.0	0.0	0.0	64.0	309.2	39.2	21.3	0.0	0.0	433.7
TAMARACK	0.0	0.0	0.0	0.0	74.8	26.3	7.5	0.0	0.0	0.0	108.6
WHITE PINE	0.0	0.0	0.0	24.3	72.1	67.6	0.0	0.0	0.0	0.0	163.9
WHITE SPRUCE	0.0	0.0	0.0	17.8	31.2	31.9	83.4	0.0	0.0	0.0	164.2
TOTAL	0	25	593	1252	2968	5727	4545	2931	650	209	18,900

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST ROAD
OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

..... DISTANCE TO ROAD(IN MILES).....

COVER TYPE	0-0.125	.125-.25	.25-1.0	1.0-2.5	2.5-5.0	5.0-10	10-20	20+ MILES	TOTAL PLOTS
ASPEN	63	61	142	68	25	0	0	0	359
BALSAM FIR	21	16	65	37	7	1	0	0	147
BALSAM POPLAR	1	6	13	6	0	0	0	0	26
BLACK SPRUCE	6	9	36	23	7	3	0	2	86
JACK PINE	5	2	13	7	1	0	0	1	29
LOWLAND HDWS.	5	7	21	9	0	0	0	0	42
N.WHITE CEDAR	3	0	18	14	3	0	0	0	38
NOTHERN HDWS.	3	2	35	15	5	2	0	0	62
PAPER BIRCH	16	19	66	41	6	0	0	1	149
RED PINE	4	2	5	2	0	0	0	0	13
TAMARACK	1	2	4	2	0	0	0	0	9
WHITE PINE	0	1	6	1	0	0	0	0	8
WHITE SPRUCE	3	1	3	0	0	0	0	0	7
TOTAL	131	128	427	225	54	6	0	4	975
	13.4%	13.1%	43.8%	23.1%	5.5%	0.6%	0.0%	0.4%	100%

TOTAL VOLUME AND AREAS BY COMM. COVER TYPE AND SIZE CLASS.

...(AREA IN 1,000 ACRES AND VOLUME IN 1,000 CORDS)...

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL COVER TYPE	SAPLING/SEEDLING		POLE TIMBER		SAWTIMBER		UNKNOWN CODE		----- TOTAL -----	
	AREA	VOLUME	AREA	VOLUME	AREA	VOLUME	AREA	VOLUME	1000 ACRES	1000 CORDS
ASPEN	84(154)*	653(1,111)	329(571)	5,027(9,153)	86(154)	1,467(2,627)	0	0	499(907)	7,146(12,977)
BALSAM FIR	21	158	132	1,556	47	637	0	0	200	2,350
BALSAM POPLAR	1	13	21	378	14	228	0	0	37	620
BLACK SPRUCE	24	171	83	981	10	150	0	0	117	1,302
JACK PINE	0	0	12	178	31	587	0	0	43	765
LOWLAND HDWS.	4	28	42	504	11	146	0	0	57	678
N.WHITE CEDAR	0	0	24	293	27	529	0	0	50	822
NOTHERN HDWS.	10(19)	69(131)	44(79)	527(946)	32(58)	506(917)	0	0	86(156)	1,102(1,994)
PAPER BIRCH	9(16)	64(112)	167(304)	2,634(4,795)	32(58)	547(991)	0	0	208(378)	3,245(5,898)
RED PINE	0	0	3	41	16	393	0	0	19	434
TAMARACK	4	24	6	71	1	13	0	0	11	109
WHITE PINE	1	10	0	0	9	154	0	0	11	164
WHITE SPRUCE	0	0	9	133	3	31	0	0	12	164
TOTAL	157	1,190	872	12,322	320	5,338	0	0	1,349	18,900

()* INCLUDES SUPERIOR NATIONAL FOREST
excluding the BWCA

MINNESOTA DEPARTMENT OF NATURAL RESOURCES

STUDY FOR LOUISIANA PACIFIC

50 MILE ZONE - TWO HARBORS, MINNESOTA

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

TOTAL VOLUME AND AREA BY COMMERCIAL COVER TYPE

COMMERCIAL COVER TYPE	TOTAL VOLUME (1,000 CORDS)	TOTAL AREA (1,000 ACRES)	AV. CORDS/ACRE
ASPEN	4,444 (6,254)*	350 (493)*	12.7
BALSAM FIR	1,860	159	11.7
BALSAM POPLAR	520	40	13.0
BLACK SPRUCE	769	73	10.5
JACK PINE	231	12	19.3
LOWLAND HDWS.	515	47	11.0
N. WHITE CEDAR	633	38	16.6
NOTHERN HDWS.	1,179 (1,637)*	86 (121)*	13.6
OAK	28	1	20.9
PAPER BIRCH	3,118 (4,381)*	204 (287)*	15.3
RED PINE	333	8	41.5
TAMARACK	149	17	8.7
WHITE PINE	42	3	13.5
WHITE SPRUCE	53	4	12.8
TOTAL	13,874	1,043	13.3

* INCLUDES SUPERIOR NATIONAL FOREST
excluding the BWCA

TOTAL AREAS BY COMM. COVER TYPE BY OWNERSHIP

.....(IN 1,000 ACRES).....

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL COVER TYPE	NATIONAL FOREST	BUREAU OF LAND MGT.	INDIAN LAND	MISC. FEDERAL	STATE LAND	COUNTY LAND	FOREST INDUSTRY	OTHER PRIVATE	UNKNOWN CODE	TOTAL AREAS (1,000 ACRES)
ASPEN	0	0	6	3	29	156	18	138	0	350
BALSAM FIR	0	0	3	2	26	65	29	35	0	159
BALSAM POPLAR	0	0	0	0	4	16	0	20	0	40
BLACK SPRUCE	0	0	0	3	24	17	8	22	0	73
JACK PINE	0	0	0	2	5	0	1	4	0	12
LOWLAND HDWS.	0	0	0	0	3	23	3	18	0	47
N.WHITE CEDAR	0	0	0	0	1	17	12	8	0	38
NOTHERN HDWS.	0	0	0	0	11	36	11	29	0	86
OAK	0	0	0	0	0	0	0	1	0	1
PAPER BIRCH	0	0	3	0	21	80	17	83	0	204
RED PINE	0	0	0	0	3	1	0	4	0	8
TAMARACK	0	0	0	0	3	10	0	5	0	17
WHITE PINE	0	0	0	0	0	2	0	1	0	3
WHITE SPRUCE	0	0	0	0	0	0	0	4	0	4
TOTAL	0	0	11	8	130	422	99	373	0	1,043

TOTAL VOLUME BY COMMERCIAL COVER TYPE BY OWNERSHIP

.....(IN 1,000 CORDS).....

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL COVER TYPE	NATIONAL FOREST	BUREAU OF LAND MGT.	INDIAN LAND	MISC. FEDERAL	STATE LAND	COUNTY LAND	FOREST INDUSTRY	OTHER PRIVATE	UNKNOWN CODE	TOTAL VOLUME (1,000 CORDS)
ASPEN	0	0	41	57	405	2,071	195	1,675	0	4,444
BALSAM FIR	0	0	21	11	340	795	313	379	0	1,860
BALSAM POPLAR	0	0	0	0	96	208	0	215	0	520
BLACK SPRUCE	0	0	0	20	248	177	69	255	0	769
JACK PINE	0	0	0	23	78	0	44	86	0	231
LOWLAND HDWS.	0	0	0	0	31	266	31	187	0	515
N.WHITE CEDAR	0	0	0	0	7	276	222	128	0	633
NOTHERN HDWS.	0	0	0	0	146	480	113	441	0	1,179
OAK	0	0	0	0	0	0	0	28	0	28
PAPER BIRCH	0	0	28	0	385	1,211	253	1,240	0	3,118
RED PINE	0	0	0	0	131	41	0	161	0	333
TAMARACK	0	0	0	0	34	85	0	29	0	149
WHITE PINE	0	0	0	0	0	27	0	15	0	42
WHITE SPRUCE	0	0	0	0	0	0	0	53	0	53
TOTAL	0	0	90	111	1,901	5,638	1,239	4,895	0	13,874

TOTAL AREAS BY COMM. COVER TYPE BY AGE CLASS

.....(IN 1,000 ACRES).....

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL	AGE CLASS (IN YEARS)													TOTAL
COVER TYPE	1 - 10	11- 20	21- 30	31- 40	41- 50	51- 60	61- 70	71- 80	81- 90	91-100	101-120	121-140	141 + (1,000 ACRES)	
ASPEN	28.8	21.3	32.6	71.0	90.7	73.9	17.9	5.3	6.8	1.6	0.	0.0	0.0	349.9
BALSAM FIR	3.1	7.4	8.0	24.6	44.7	45.0	12.3	6.9	4.5	2.8	0.	0.0	0.0	159.3
BALSAM POPLAR	0.0	1.4	1.2	5.6	13.3	8.2	5.6	3.0	1.4	0.0	0.	0.0	0.0	39.8
BLACK SPRUCE	0.0	4.0	5.4	10.1	13.6	14.7	12.5	10.1	0.0	1.3	1.	0.0	0.0	73.3
JACK PINE	0.0	0.0	0.0	4.7	2.9	2.8	0.0	1.5	0.0	0.0	0.	0.0	0.0	12.0
LOWLAND HDWS.	1.4	0.0	1.3	1.3	8.2	8.3	2.7	5.7	8.3	5.5	2.	1.3	0.0	47.0
N.WHITE CEDAR	0.0	0.0	1.2	1.3	1.3	3.9	2.6	4.0	5.3	2.6	8.	7.8	0.0	38.1
NOTHERN HDWS.	0.0	2.7	2.7	8.1	23.2	19.4	5.4	11.1	4.1	0.0	5.	4.3	0.0	86.5
OAK	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.	0.0	0.0	1.4
PAPER BIRCH	4.2	2.7	1.4	23.6	64.9	65.4	22.4	11.9	5.7	0.0	1.	0.0	0.0	203.6
RED PINE	0.0	0.0	0.0	0.0	2.8	1.4	0.0	3.8	0.0	0.0	0.	0.0	0.0	8.0
TAMARACK	0.0	1.3	5.3	0.0	1.1	4.0	2.8	2.7	0.0	0.0	0.	0.0	0.0	17.1
WHITE PINE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.	0.0	0.0	3.1
WHITE SPRUCE	0.0	0.0	1.4	0.0	1.4	0.0	1.3	0.0	0.0	0.0	0.	0.0	0.0	4.1
TOTAL	38	41	61	150	268	248	86	66	36	17	1	13	0	1,043

TOTAL VOLUME BY COMM. COVER TYPE BY AGE CLASS

.....(IN 1,000 CORDS).....

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL	AGE CLASS (IN YEARS)													TOTAL VOLUME
COVER TYPE	1 - 10	11- 20	21- 30	31- 40	41- 50	51- 60	61- 70	71- 80	81- 90	91-100	101-120	121-140	141 + (1,000 CORDS)	
ASPEN	202.6	150.9	302.5	897.5	1275.2	1082.7	263.5	147.7	108.3	13.2	0.	0.0	0.0	4444.0
BALSAM FIR	21.6	52.1	89.5	243.2	553.4	544.1	175.1	87.5	52.4	41.3	0.	0.0	0.0	1860.0
BALSAM POPLAR	0.0	13.4	7.1	92.3	168.4	70.9	84.2	55.6	28.0	0.0	0.	0.0	0.0	519.9
BLACK SPRUCE	0.0	31.1	45.5	70.7	132.8	197.0	151.8	110.5	0.0	21.1	8.	0.0	0.0	769.2
JACK PINE	0.0	0.0	0.0	66.5	74.8	62.1	0.0	27.7	0.0	0.0	0.	0.0	0.0	231.2
LOWLAND HDWS.	12.2	0.0	8.5	9.0	75.7	92.7	44.4	67.2	84.8	56.8	16.	47.3	0.0	514.7
N.WHITE CEDAR	0.0	0.0	8.0	22.4	20.5	34.1	26.0	39.0	77.5	31.5	188.	185.6	0.0	633.0
NOTHERN HDWS.	0.0	20.8	19.4	81.6	296.8	250.9	80.0	189.3	70.5	0.0	87.	82.4	0.0	1179.2
OAK	0.0	0.0	0.0	0.0	0.0	28.4	0.0	0.0	0.0	0.0	0.	0.0	0.0	28.4
PAPER BIRCH	39.2	14.9	12.3	320.5	1019.2	987.6	359.3	213.6	116.9	0.0	34.	0.0	0.0	3117.6
RED PINE	0.0	0.0	0.0	0.0	67.6	50.0	0.0	215.8	0.0	0.0	0.	0.0	0.0	333.3
TAMARACK	0.0	6.7	31.9	0.0	7.6	54.5	33.6	14.5	0.0	0.0	0.	0.0	0.0	148.8
WHITE PINE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.9	0.	0.0	0.0	41.9
WHITE SPRUCE	0.0	0.0	9.1	0.0	24.7	0.0	19.2	0.0	0.0	0.0	0.	0.0	0.0	53.0
TOTAL	276	290	534	1804	3717	3455	1237	1168	538	206	33	315	0	13,874

TOTAL AREAS BY COMM. COVER TYPE BY SITE INDEX CLASS

.....(IN 1,000 ACRES).....

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL	 SITE INDEX CLASS.....										TOTAL
COVER TYPE	NONE	1- 20	21- 30	31- 40	41- 50	51- 60	61- 70	71- 80	81- 90	91 +	(1,000 ACRES)
ASPEN	0.0	0.0	0.0	1.4	19.3	88.8	128.0	94.3	16.7	1.4	349.9
BALSAM FIR	0.0	0.0	1.3	29.1	51.7	56.7	19.3	1.3	0.0	0.0	159.3
BALSAM POPLAR	0.0	0.0	0.0	1.4	6.7	7.2	17.3	4.3	2.9	0.0	39.8
BLACK SPRUCE	0.0	0.0	9.7	22.4	33.4	6.5	0.0	1.3	0.0	0.0	73.3
JACK PINE	0.0	0.0	0.0	0.0	1.5	6.2	2.8	1.4	0.0	0.0	12.0
LOWLAND HDWS.	0.0	0.0	0.0	8.1	20.9	18.0	0.0	0.0	0.0	0.0	47.0
N.WHITE CEDAR	0.0	1.2	22.3	7.9	4.0	1.3	1.3	0.0	0.0	0.0	38.1
NOTHERN HDWS.	0.0	0.0	0.0	1.4	21.9	50.8	10.9	1.3	0.0	0.0	86.5
OAK	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	1.4
PAPER BIRCH	0.0	0.0	0.0	5.5	22.5	84.2	81.6	8.3	1.5	0.0	203.6
RED PINE	0.0	0.0	0.0	0.0	1.3	5.3	1.4	0.0	0.0	0.0	8.0
TAMARACK	0.0	0.0	1.3	1.3	13.2	1.3	0.0	0.0	0.0	0.0	17.1
WHITE PINE	0.0	0.0	0.0	1.4	0.0	1.7	0.0	0.0	0.0	0.0	3.1
WHITE SPRUCE	0.0	0.0	0.0	0.0	1.3	0.0	2.8	0.0	0.0	0.0	4.1
TOTAL	0	1	35	80	198	328	267	112	21	1	1,043

TOTAL VOLUME BY COMM. COVER TYPE BY SITE INDEX CLASS

.....(IN 1,000 CORDS).....

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL	SITE INDEX CLASS.....										TOTAL VOLUME
COVER TYPE	NONE	1- 20	21- 30	31- 40	41- 50	51- 60	61- 70	71- 80	81- 90	91 +	(1,000 CORDS)
ASPEN	0.0	0.0	0.0	8.1	145.2	896.5	1544.7	1481.9	284.6	83.1	4444.0
BALSAM FIR	0.0	0.0	28.6	246.3	570.8	752.9	228.7	32.8	0.0	0.0	1860.0
BALSAM POPLAR	0.0	0.0	0.0	11.6	61.9	90.9	218.5	82.7	54.2	0.0	519.9
BLACK SPRUCE	0.0	0.0	69.8	201.6	392.9	84.4	0.0	20.6	0.0	0.0	769.2
JACK PINE	0.0	0.0	0.0	0.0	23.4	79.0	77.4	51.3	0.0	0.0	231.2
LOWLAND HDWS.	0.0	0.0	0.0	70.7	231.1	212.9	0.0	0.0	0.0	0.0	514.7
N.WHITE CEDAR	0.0	8.0	365.7	152.3	67.8	18.8	20.5	0.0	0.0	0.0	633.0
NOTHERN HDWS.	0.0	0.0	0.0	18.9	235.2	754.4	161.2	9.4	0.0	0.0	1179.2
OAK	0.0	0.0	0.0	0.0	0.0	0.0	28.4	0.0	0.0	0.0	28.4
PAPER BIRCH	0.0	0.0	0.0	38.7	256.2	1271.4	1376.0	145.7	29.6	0.0	3117.6
RED PINE	0.0	0.0	0.0	0.0	26.6	256.8	50.0	0.0	0.0	0.0	333.3
TAMARACK	0.0	0.0	7.0	6.6	108.8	26.3	0.0	0.0	0.0	0.0	148.8
WHITE PINE	0.0	0.0	0.0	14.7	0.0	27.2	0.0	0.0	0.0	0.0	41.9
WHITE SPRUCE	0.0	0.0	0.0	0.0	19.2	0.0	33.8	0.0	0.0	0.0	53.0
TOTAL	0	8	471	769	2139	4471	3739	1825	368	83	13,874

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NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST ROAD

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

..... DISTANCE TO ROAD(IN MILES).....

COVER TYPE	0-0.125	.125-.25	.25-1.0	1.0-2.5	2.5-5.0	5.0-10	10-20	20+ MILES	TOTAL PLOTS
ASPEN	42	35	104	53	14	0	0	1	249
BALSAM FIR	15	13	56	24	8	1	0	0	117
BALSAM POPLAR	1	7	15	5	0	0	0	0	28
BLACK SPRUCE	4	6	20	17	5	2	0	0	54
JACK PINE	3	2	3	0	0	0	0	0	8
LOWLAND HDWS.	5	5	14	10	0	0	0	0	34
N.WHITE CEDAR	1	1	13	11	3	0	0	0	29
NOTHERN HDWS.	4	2	35	16	4	2	0	0	63
OAK	1	0	0	0	0	0	0	0	1
PAPER BIRCH	16	21	68	35	6	0	0	1	147
RED PINE	0	1	2	2	0	0	0	0	5
TAMARACK	0	2	9	2	0	0	0	0	13
WHITE PINE	0	0	1	1	0	0	0	0	2
WHITE SPRUCE	1	1	1	0	0	0	0	0	3
TOTAL	93	96	341	176	40	5	0	2	753
	12.4%	12.7%	45.3%	23.4%	5.3%	0.7%	0.0%	0.3%	100%

TOTAL VOLUME AND AREAS BY COMM. COVER TYPE AND SIZE CLASS.

...(AREA IN 1,000 ACRES AND VOLUME IN 1,000 CORDS)...

NOTE: DOES NOT INCLUDE THE SUPERIOR NATIONAL FOREST

OR TIMBER STANDS WITH LESS THAN 5 CORDS/ACRE

COMMERCIAL COVER TYPE	SAPLING/SEEDLING		POLE TIMBER		SAWTIMBER		UNKNOWN CODE		TOTAL	
	AREA	VOLUME	AREA	VOLUME	AREA	VOLUME	AREA	VOLUME	1000 ACRES	1000 CORDS
ASPEN	66 (93)*	477 (672)	235 (331)	3,153 (4,441)	49 (69)	814 (1,146)	0	0	350 (443)	4,444 (6,259)
BALSAM FIR	20	143	100	1,206	39	510	0	0	159	1,860
BALSAM POPLAR	1	13	24	297	14	209	0	0	40	520
BLACK SPRUCE	18	126	51	590	4	52	0	0	73	769
JACK PINE	0	0	3	50	9	181	0	0	12	231
LOWLAND HDWS.	3	21	34	370	10	124	0	0	47	515
N.WHITE CEDAR	0	0	20	208	19	425	0	0	38	633
NOTHERN HDWS.	7 (10)	50 (71)	48 (61)	605 (845)	32 (44)	524 (721)	0	0	86 (121)	1,179 (1,637)
OAK	0	0	1	28	0	0	0	0	1	28
PAPER BIRCH	10 (14)	80 (112)	161 (227)	2,510 (3,534)	33 (46)	528 (736)	0	0	204 (287)	3,118 (4,381)
RED PINE	0	0	1	27	7	307	0	0	8	333
TAMARACK	7	39	8	89	3	21	0	0	17	149
WHITE PINE	0	0	0	0	3	42	0	0	3	42
WHITE SPRUCE	1	9	0	0	3	44	0	0	4	53
TOTAL	133	958	686	9,134	225	3,781	0	0	1,043	13,874

() * INCLUDES SUPERIOR NATIONAL FOREST
excluding the BWCA

MINNESOTA AVERAGE FOB MILL PRICES
PAID FOR ASPEN

<u>PERIOD ENDING</u>	<u>100" cord</u>	<u>tree length</u>
JUNE 30, 1983	# 31.75	# 27.00
DEC. 31, 1982	29.75	29.25
JUNE 30, 1982	30.75	26.50
DEC. 31, 1981	30.25	29.25
JUNE 30, 1981	30.75	26.50
DEC. 31, 1980	29.50	27.50
JUNE 30, 1980	30.75	26.00
DEC. 31, 1979	27.50	24.75

AVERAGE PRICES RECEIVED for
STUMPAGE - all AGENCIES
- ASPEN -

JULY 1978 - JUNE 1980	# 2.79 /cord
JULY 1980 - MAY 1981	3.55
MAY 1981 - MAY 1982	3.11

MINNESOTA FOREST PRODUCTS PRICE REVIEW

Compiled by Department of Natural Resources, Division of Forestry - for the six month period ending June 30, 1983.

This report of delivered forest products is compiled from information provided by about 120 producers, brokers and wood industry firms. The cooperation of these individuals and firms is greatly appreciated.

Prices reported are composite figures. They do not necessarily reflect allowances for transportation, size of contract, grade, size of material and location in state, factors that may significantly alter prices actually received. Producers, landowners and others who are marketing forest products should obtain a contract before cutting any timber. This report does not necessarily indicate that there is a market at the prices given.

PULPWOOD PRICES

SPECIES	LOW	HIGH	AVERAGE
-- FOB Mill -- Rgh., Cord Basis ² --			
Aspen	\$28.00	\$46.50	\$31.75
Balsam Fir	41.00	59.00	43.00
Pine	34.00	58.50	43.75
Spruce	39.25	63.00	53.25
-- FOB Railcar -- Rgh. --			
Aspen	\$26.00	\$26.50	\$26.50
Balsam Fir	40.00	42.00	41.00
Birch	29.00	31.00	30.75
Pine	39.00	44.00	43.50
Spruce	53.00	58.00	55.75
Tamarack	42.00	44.00	42.50
-- FOB Mill -- Tree Length --			
Aspen	\$21.50	\$31.00	\$27.00
Pine	32.25	43.50	43.25
1 - Weighted Average To Nearest \$.25			
2 - All Prices On A Cord Basis. Weight			
Conversions Used Were:			
Aspen	4,500 lbs/cd summer; 4,800 lbs/cd winter		
Balsam	4,600 lbs/cd summer; 4,600 lbs/cd winter		
Pine	4,600 lbs/cd summer; 4,600 lbs/cd winter		

CHIP PRICES

SPECIES	LOW	HIGH	AVERAGE
-- FOB Mill -- Full Tree ¹ --			
Aspen	\$14.00	\$16.25	\$15.50
-- FOB Mill -- Debarked ² --			
Aspen	\$31.50	\$41.50	\$41.25
1 - Price On A Green Ton Basis			
2 - All Prices On A Bone (oven) Dry Ton Basis			

FUELWOOD PRICES

- Northern Minnesota - Per Cord (4 X 4 X 8')

SPECIES	LOW	HIGH	AVERAGE
(Delivered To Homeowner)			
Birch	\$35.00	\$40.00	\$38.00
Oak	40.00	40.00	40.00
Mixed Hdws.	33.50	40.00	35.00

SAWBOLT PRICES

SPECIES	LOW	HIGH	AVERAGE
-- FOB Mill -- Cord Basis -- (Hardwoods)			
Ash	\$40.00	\$66.00	\$56.75
Aspen	30.00	50.00	38.25
Basswood	37.50	42.00	38.25
Birch	45.00	63.00	49.50
Elm	35.00	50.00	41.00
Oak	40.00	55.00	52.00
(Softwoods)			
Balsam Fir	\$52.00	\$55.00	\$52.25
Cedar	35.00	60.00	51.00
Jack Pine	55.00	60.00	55.50
Red Pine	33.00	72.00	57.00
White Spruce	55.00	58.00	55.50

SAWLOG PRICES

SPECIES	LOW	HIGH	AVERAGE
-- FOB Mill Per MBF -- Scrib. Dec. C -- (Hardwoods)			
Ash	\$120.00	\$165.00	\$145.00
Aspen	70.00	125.00	111.75
Oak	90.00	125.00	101.75
(Softwoods)			
Red Pine	\$120.00	\$170.00	\$153.50
White Pine	120.00	170.00	157.25

PRICES FOR POST (PINE)

TOP DIAM.-LGTH.	LOW	HIGH	AVERAGE
-- FOB Mill Per Face Cord, Rgh. --			
3" 7'	\$46.00	\$50.00	\$47.50
4" 7'	46.00	50.00	47.50
5" 7'	46.00	50.00	47.50
4" 8'	55.00	56.00	55.75
5" 8'	55.00	56.00	55.75

TIE CUT PRICES

-- FOB Mill -- Per Piece Basis --			
Elm	\$4.00	\$5.00	\$4.75
Oak	4.25	6.50	5.25

STATE TIMBER SALE METHODS

	REGULAR AUCTION	INTERMEDIATE AUCTION	INFORMAL SALE
APPRAISAL MAX.	\$20,000	\$7,000	\$3,000
TYPE of BIDDING	ORAL or SEALED	ORAL or SEALED	NONE
PAYMENT on SALE DATE	25 %	25 %	100 %
BOND REQUIREMENTS	YES	YES	NO
LENGTH of PERMIT	2 years	1 year	1 year
POSSIBLE EXTENSIONS	3 w interest	2, one w interest	1, no interest
# PERMITS ALLOWED	any amount	4,	2
RESTRAINTS	NONE	Limited to Companies to 20 or less employees	Provisions for PARTNERSHIPS

STATE TIMBER SALES

% of Volume Sold by Type of Sale
July 1982 → June 1983

	<u>VOLUME</u>	<u>%</u>
① INFORMAL	205,000 cds.	48½%
② REGULAR AUCTION	108,000 cds.	25½%
③ INTERMEDIATE AUCTION	110,000 cds	26%
④ TRESPASS	550 cds.	—
	424,000 cds.	

