

* See "Compartment Packets Glossary of Terms" document link on web site for further descriptions and code definitions.

Stand	Cover Type-Size Dnsty	Under Story-Stkng Level	Acrs	Age	avg. DBH		Site Indx	Mgt Obj	Condition	Silv. Criteria Met?	Method Cut	Trtmt. Period	Harvest Priority	Cultural Need
					D	Tot. BA								
1	J2	J2	16	16	2	0	50	jack pine	immature	N		40-49 years	0	
comnts Fmd : Cut in 1990 under 720029001, hand-seeded in 1992 (FTP C72-246) , J0-J3, ave J2. NPO stump sprouts above the JP. PVCd. Used previous SI. Note that there is a narrow strip of private property along the south edge of Arrowhead Road.														
2	J6	G0	90	62	8	80	55	jack pine	high risk	Y	final harvest	within 0-9 years	1	planting
comnts Fmd : Multiple-aged JP stand: JP saw (fair amount of cull due to limbiness and likely interior rot) and poles in their 70's, smaller poles in their 30's and 40's, and JP saps. Variable stocking in those age classes across the stand; the overmature JP tends to be in pockets, with younger poles adjacent, alternating with a pocket of regen, and so on. Mortality has been progressing in the overmature JP component; JP snags are common and there is no lack of coarse woody debris on the ground. Less than 10 BA of very poor health/quality NPO, and far less than O1 in saps. JP regen averaged less than J1. Harvest all merchantable JP, leave any oak, and protect the regen. Retention: Leave two 1-acre islands along the N line and one 1-acre island along the W line. Trench and plant to JP. Stand year of origin is a weighted average of the old and young components, SI is also an average of those. An 80-foot wide strip of JP along the south edge of Arrowhead Road has been part of compt 180 to the north, although previous cuts in both compts were taken to the road. Incorporate this narrow strip into compt 181. Note that the SWSW sec 31 T27N R4W is private and so there is also a narrow strip of private property on the south side of Arrowhead Road.														
3	J3	J3	187	23	3	0	49	jack pine	old growth (potential or actual)	N		30-39 years	0	
comnts Fmd : Previous notes indicate cut in 1982 (109-80A) and planted in 83, 85. Regen is 1-5" DBH, ave 3, with small pole resid from the cut. Trenches are shallow and narrow. As you go east and south in the stand, the ground gets wetter, there is more JP on the ground between the trenches than in the trenches, and the groundcover shifts from blueberry/grass to leatherleaf and kalmia angustifolia. The stand's SE edge on the lowest ground has poorer stocking, smaller ave diam, and the groundcover is almost exclusively leatherleaf growing in dense hummocks. Fragments of mesic sand prairie occur within the stand. Most of the stand is within a tentative buffer for that ERA. Used previous SI.														
4	J6	W1	6	47	6	70	48	jack pine	immature	N		10-19 years	0	
comnts Fmd : Small stand (most of the type is in the compt to the south) of JP poles with scattered older JP poles/saw, and WP/BF below. Dry ground with k. angustifolia. The stand is within a tentative buffer for identified mesic sand prairie ERA fragments. Consider as one type with stand 18, compt 182 to the south; current notes for that stand indicate not to treat due to the presence of a unique plant community. Used previous SI.														
5	J5	J1	63	51	7	50	50	jack pine	two aged	N	final harvest	within 0-9 years	1	
<u>Treatment Limiting Factors:</u> Threatened, endangered, and special concern species/communities														
comnts Fmd : Similar to stand 2 in range of age classes, but differs in proportion within each age class and spatial distribution. Less of the overmature saw component, more large saps and 1-2 stick poles (30-50 years old), and the oldest component is primarily in localized bands - - there is not as much mixing of the older and younger age classes. Not so much coarse woody debris and snags. PVCd groundcover persists to the S & E, but k. angustifolia and leatherleaf begin to show up there. Roughly 1/3 of the stand is within a tentative buffer for the mesic sand prairie ERA; if compatible with the ERA management plan, cut all JP greater than 2 sticks tall. Limit harvesting to when the ground is snow-covered to minimize surface disturbance. Retention will consist of the 2-stick and under JP. Do not replant; lower than typical stocking is acceptable and preferable in this area. Set up as one harvest with stand 54, applying the same specs. A narrow strip along the south edge of Arrowhead Road has been part of compt 180 to the north, although previous cuts in both compts were taken to the road. Incorporate this narrow strip into compt 181. Note that the SWSW sec 31 T27N R4W is private and so there is also a narrow strip of private property on the south side of Arrowhead Road.														
7	J3	J3	121	24	3	0	45	jack pine	old growth (potential or actual)	N		30-39 years	0	
comnts Fmd : Cut in early 80's and seeded with a tractor and row seeder in 1983 & 1984 under FTP's C71-210 and C71-211, with the portion in sec 6 planted first and roughly 6 acres on the line between sections 5 & 6 not planted at all. Seeding was done in shallow, narrow trenches. Where the ground wasn't as wet and a lot of seeds took, there is excessive stocking within rows - - hedge-row JP ~1-foot apart. Where it is wetter, there are more JP between the trenches than within them. Diam's are 1-5" , 3" ave for dominant stems. Ground gets wetter to S & E, with more k. angustifolia and leatherleaf. Areas with primarily leatherleaf have lower stocking (J1-J2). Three-quarters of the stand is within a tentative buffer for the mesic sand prairie ERA fragments that occur within and adjacent to the stand. Used previous SI. A narrow strip along the south edge of Arrowhead Road has been part of compt 180 to the north, although previous cuts in both compts were taken to the road. Incorporate this narrow strip into compt 181. Note that the SWSW sec 31 T27N R4W is private and so there is also a narrow strip of private property on the south side of Arrowhead Road.														

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Stand	Cover Type-Dnsty	Under Story-Stkng Level	Acrs	Age	avg. D		Site Indx	Mgt Obj	Condition	Silv. Criteria Met?	Method Cut	Trtmt. Period	Harvest Priority	Cultural Need
					B	Tot. BA								

8	J2	J2	13	16	2	0	50	jack pine	old growth (potential or actual)	N		40-49 years	0	
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comnts Fmd : Old notes indicate hand-seeded in 1992. Resulting stocking is variable (J0 - J3+), changing from over- to under-stocked over short distances. Groundcover is grass and blueberry with patches of k. angustifolia and leatherleaf. Contains a portion of the mesic sand prairie ERA.

9	J5	S1	107	77	9	60	49	jack pine	old growth (potential or actual)	Y	final harvest	within 0-9 years	1	
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Treatment Limiting Factors:

Threatened, endangered, and special concern species/communities

comnts Fmd : Overmature JP poles and saw - - relatively uniform in age/size - - over k. angustifolia and leatherleaf. Root-tipped trees, snags and DWD are common. On the lowest ground, there are S5, S2 and uncolonized leatherleaf inclusions. A low ridge of dry ground on the E side has terrible health NPO and some WP along with the JP. The stand contains a fragment of mesic sand prairie, and roughly half of the stand is within a tentative buffer for that ERA. If compatible with the ERA management plan, harvest the merchantable JP and do not replant. Cut only when the ground is snow-covered to minimize disturbance and treat at the same time as stand 10. SI averaged with previous.

10	S6	S3	19	69	7	70	44	black spruce-swamp	two aged	N	delayed removal	within 0-9 years	2	
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Treatment Limiting Factors:

Threatened, endangered, and special concern species/communities

comnts Fmd : BS (mostly poles), JP poles & saw dying out, and scattered WP saw, over leatherleaf on sphagnum hummocks. Good advanced spruce regen below. Remove the merchantable overstory, cutting when the ground is snow-covered - along with stand 9 - if compatible with the ERA plan. The stand may lie partially within the mesic sand prairie ERA buffer, pending development of an ERA management plan.

12	Q4	Q2	60	71	6	30	41	mixed swamp conifer	old growth (potential or actual)	N		10-19 years	0	
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comnts Fmd : Sparse Q over tag alder over marsh grass hummocks and standing water, with lesser coverage in leatherleaf & sphagnum (more to west) Tamarack, black spruce and N. white cedar, off-site WP & JP. L3 inclusions and small pockets (generally <1 acre) of denser spruce poletimber. Contains a fragment of the mesic sand prairie ERA and 2/3's of the stand is within a tentative ERA buffer. Averaged stand age and SI with previous.

13	R9	X0	17	88	14	110	53	red pine	mature	Y		10-19 years	0	
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Treatment Limiting Factors:

Other Agency concerns (name in comments)

comnts Fmd : Eleven acres were thinned by Tree Doc in late 2006 under 726570501 (Mighty Margrethe Pine) along with the rest of the type in Compt 182 to the south. The stand's bottleneck just north of the tank trail was not treated because it was at or below the Rx target BA already. Clean RP & WP saw & poles, relatively open below (less than S1 overall). Since it was just cut a year and a half ago, would not recommend re-entering the stand so soon. Consider a regen cut next year of entry. Averaged stand age and SI with previous.

14	R9	W2	35	96	16	70	61	red pine	two aged	Y		10-19 years	0	
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Treatment Limiting Factors:

Retention of stand for regeneration purposes (ie. shelterwood)

comnts Fmd : Cut in 1991 under 720479001, except for ~3 acres in the stand's NE that is a similar type but was not part of the sale. In the sale area, oak 10" DBH and greater were left along with RP & WP <5" DBH and scattered marked pine (tend to be large-diam (20-24"), limby RP pioneer trees). Result is a 3-storied stand: ~ 40 BA of RP, WP and NPO saw over 20 BA of small WP and RP poles, with WP and RM saps below. The NPO is in terrible health, with much cull and many snags. Deer are stripping bark off of the RM stump sprout saps, but oddly enough, there is not a browse problem in the WP regen. The WP is starting to show branch flagging similar to what the pathologists are investigating in the unit. While there is currently adequate regen to allow the overstory to be removed, do not cut now. If the WP regen flagging progresses to mortality, as has been seen to the N & W, will want to maintain the scattered pine overstory to serve as a seed source to re-regenerate the stand. WP flagging/mort observed within the compt will be forwarded to the Forest Health Specialist for diagnosis. Does not appear to be white pine blister rust at this time. Stand age is based on the mature pine saw component and is averaged with the previous SI.

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					B	Tot. BA								
15	J1	W1	15	17	2	0	48	jack pine	immature	N		40-49 years	0	
<p>comnts Fmd : Cut in '91 under 720479001. JP regen 1-4" diam, ave 2" DBH, with larger WP saps and short, limbs-to-ground WP pole resid from the cut. RM stump sprouts have the bark chewed off by deer. Some nice oak stump sprouts. Almost a third of the stand at the N end is on lower ground with k. angustifolia and leatherleaf. Rest of the stand is on PVCd. Distribution of the regen is clumpy, especially in the JP, ranging from J0 to J3+. J1 is a composite of all species regen averaged across the stand. Used previous SI.</p>														
16	O8	W1	59	81	15	70	56	oak	in process of regeneration	N		10-19 years	0	
<p>comnts Fmd : Declining NPO saw (30 BA) and overmature JP (10 BA) with much cull, snags and CWD in both species, along with younger JP poles, WP & RP saw and poles, and a little WO & RM (30 BA total). Stand is filling in with WP regen (W2-W3 in places) but a concern is that the regen is beginning to show some branch flagging (see stand 14's comments re WP health problems).</p>														
17	J3	J3	24	16	2	0	46	jack pine	immature	N		40-49 years	0	
<p>comnts Fmd : Old notes indicate hand-seeded in 1992 (FTP C72-275). Swathes of excessive stocking alternating with swathes of under-stocking. Diam 1-3", ave 2" DBH. Approx 3 acres at the NW end are within a tentative ERA buffer for the adjacent mesic sand prairie fragments. Used previous SI.</p>														
18	J5	J1	68	57	7	60	55	jack pine	two aged	N	final harvest	within 0-9 years	1	natural regeneration
<p><u>Treatment Limiting Factors:</u> Threatened, endangered, and special concern species/communities</p>														
<p>comnts Fmd : Multiple-aged JP stand, 3/4 of it is on ground with a seasonal high water table; the other 1/4 is on sandy shallow rises. Groundcover ranges from blueberry and brackenfern to k. angustifolia and leatherleaf. Three main JP age classes: overmature saw and poles 60+ years old, younger poles 30-50 years old, and large saplings. Distribution tends to be in pockets of a single age class. Dieback and windthrow are occurring in the overmature JP. Occasional large WP & RP saw and terrible health/quality small oak. Harvest the JP 3-stick and up, leave all other species. Retention will consist of the 2-stick and under JP poles (at least 10% of BA) and the advanced regen. Given the seasonally-saturated soils, limit harvesting to when the ground is dry, frozen or snow-covered to prevent rutting. The stand is likely to need longer to reach full stocking through natural regen, so a lower stocking level is acceptable at the year-4 regen survey. SI & year of origin averaged with previous. The stand is near a mesic sand prairie ERA fragment and may lie within a buffer that is likely to be delineated to protect the ERA. Harvest if the treatment is compatible with the ERA management plan.</p>														
19	O7	J1	27	85	10	20	47	jack pine	sparse	N		within 0-9 years	0	planting
<p>comnts Fmd : Was a J5, harvested in spring of 2002 under 720330001, all merch JP & RP. All oak were left. Stand is variable, with pockets of J2/J5 in large saps/small poles, scattered WP saps/small poles, open areas with J0-J2 seedlings, and actively-declining oak (mostly along the stand's edges). The lowest ground has k. angustifolia, yet it was dry in April. FTP C72-580 was submitted in Jan 08 (replacing earlier FTP #C72-467) for trenching and planting JP in under-stocked areas. Oak SI from adjacent stand 28. Previous JP SI was 1961-49. A 1.5 acre triangle of J5 between Howes Lake Road, Camp Shawano & the ball field (stand 27) was excluded from the 2002 harvest boundary but will be maintained within the original stand boundary.</p>														
20	J5	U1	7	57	8	60	55	jack pine	two aged	N	final harvest	within 0-9 years	2	natural regeneration
<p><u>Treatment Limiting Factors:</u> Inadequate volume due to small acreage</p>														
<p>comnts Fmd : Multiple age classes of JP; two main ones are the overmature saw & poles (60-70's) and small poles (30-40's), along with lg saps and scattered WP & RP. Overmature JP declining. Except for the stand's NNW, cover is k. angustifolia or leatherleaf over a seasonal high water table. Given the stand's very small size, set up for harvest only if stand 18's Rx is approved, and incorporate it into one sale with the same specs. Averaged SI between old and younger components.</p>														
21	J2	J2	31	17	2	0	54	jack pine	immature	N		40-49 years	0	
<p>comnts Fmd : Cut in '91 under 720319001. JP regen is a mosaic of over- and under/non-stocked areas. JP is particularly dense along the skid routes. Oak and cherry stump sprouts, heaviest to the east. J2 is a composite of all spp regen averaged across the stand. Used previous SI & GC.</p>														
22	O2	M1	13	26	3	0	60	oak	immature	N		40-49 years	0	
<p>comnts Fmd : Cut in '81 under #119-80A, followed by FTP W71-141 to clean up pre-comm stems. Primarily NPO stump sprouts, followed by RM, then WO, and some aspen stems mixing in along the E edge. Most of the oak stump clumps have thinned down to 3-5 dominant stems. Diameters range from 1-5", ave 3" DBH. Some of the stems have reached one stick. The better clumps are 30' tall. Scattered, generally short & limby RP poles and small saw & WP poles. O3 if average # of stems across the areas; called it O2 to reflect wider spacing between clumps. Used previous SI.</p>														

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					B	Tot. BA								
23	O7	A2	156	88	13	30	57	oak	in process of regeneration	Y		10-19 years	0	
<u>Treatment Limiting Factors:</u>														
Retention of stand for regeneration purposes (ie. shelterwood)														
comnts Fmd : Shelterwood cut between 2002 and 2005 under 720390001, all aspen, RM, JP & unmarked oak. Hilly terrain; can see Lake Margrethe from ridgetop. Areas on steep slopes were excluded from harvest (stands 123, 223, 323 & 124). Approx 30 BA residual oak, epicormic branching and snags becoming more common. Regen includes BTA sprouts, RM & oak stump sprouts, and scattered WP saps primarily to S. Generally decent-quality oak except for NPO on the flats. Few scattered RP and WP saw and poles. Deer browse evident but concentrated on the flats, along roads and major deer trails. Most of the oak stump clumps have at least one stem above the browse line. A2 is a composite of the aspen, RM and oak sprouts. By next YOE, could feature the resulting regen as the cover type. Used previous SI														
24	A3	A3	35	26	4	0	60	aspen (upland)	immature	N		20-29 years	0	
comnts Fmd : Cut in 1991 (#119-80A) followed by FTP W71-141 to clean up pre-comm stems. Aspen in transition from A3 to A6; a minority of the stems are merchantable, most stems are on the cusp of becoming merch. Nice oak stump sprouts; many clumps have thinned down to 1 or 2 stems that are up there with the aspen and generally above the RM. Stand has inclusions to the center and E that are heavier to RM and oak. On rolling hills. Used previous SI.														
25	N0	N0	6			0		marsh	nonstocked	N		not scheduled	0	
comnts Fmd : Marsh with open water, emergent grasses, and leatherleaf at the margins. Encompasses a small, roughly 1/2 acre pond at the S end. There is also an island of slightly higher ground in the middle with spindly off-site JP & WP, and spruce. Nesting pair of Canada geese.														
26	V0	V0	5			0		bog or muskeg	nonstocked	N		not scheduled	0	
comnts Fmd : Half-acre lens of open water (Dollar Lake) surrounded by dense leatherleaf cover. Narrow ring of treed bog at the water's edge. Stand boundary brought across the closed road to include a <0.5-acre bog that probably would be contiguous if it weren't for the road building and sand mining.														
27	I0	I0	3			0	51	local use	nonstocked	N		not scheduled	0	
comnts Fmd : Military leased to Camp Shawano for use as a rec field. Set up with a baseball diamond.														
28	O8	U1	28	85	11	70	47	oak	low quality	Y		10-19 years	0	
<u>Treatment Limiting Factors:</u>														
Inadequate volume due to low stocking/small diameter/etc.														
comnts Fmd : Mixed oak and pine stand. On Grayling sands; short ridges, up-and-down terrain. Long stand boundary is very narrow in places, borders two wetlands, Howes Lake Rd, M-72, and the former Dollar Lake sand pit where restoration efforts are ongoing. Small bog in the far SE corner across from Dollar Lake was included in the Dollar Lake stand boundary - would be contiguous if the road wasn't there. The stand's WO has decent vigor, but the NPO is rapidly declining and much has already become snags or downed woody debris. JP is a mix of overmature saw/poles and younger small poles. WP has been seeding in, particularly along M-72, but does not ave out to W1; neither does the oak or RP regen. Evaluate the natural regen stocking next YOE to determine if underplanting is needed. Used previous SI.														
30	J1	J1	27	6	0	0	47	jack pine	sparse	N		within 0-9 years	0	planting
comnts Fmd : Cut in spring 2002 under 720330001. Scattered and in small patches: short one-log WP, and WP & JP large sap/small pole resid from the cut. Pocket of NPO on dryer ground on the east side. There are patches of JP seedlings intermixed with non-stocked areas. Difficult to ave out to J1, but felt it was more descriptive of what's out there than labelling it as a G or L type. FTP C72-580 was submitted in Jan 08 (replacing C72-467) for trenching and planting JP in the understocked areas. Groundcover is k. angustifolia & leatherleaf. While there was some standing water in mid-April, this appears to be the result of seasonal fluctuation in the water table, and is likely to dry out May-October unless the summer is unusually wet. Ditches along the tank trail may have standing water through most of the year. Used previous SI.														
31	O5	W1	5	90	9	60	49	oak	low quality	Y		10-19 years	0	
<u>Treatment Limiting Factors:</u>														
Inadequate volume due to small acreage														
comnts Fmd : Small stand on hilltop bounded by M-72, McIntyre Landing Road, and pvt. 1/3 of stand is on steep sideslope. Tough site, Grayling sand. WO ok, but the short, poor-quality NPO is breaking up. Some WP branch flagging. Used previous SI. Garbage/yard waste dumping; most likely from residence(s) along S edge. Potential yard trespass from residence on the south edge. Poor operability due to small acreage, access issues & terrain. WP & JP are recruiting-in naturally; evaluate that stocking next YOE.														

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					B	Tot. BA								
32	R 5	J 1	30	50	8	70	52	red pine	immature	N		30-39 years	0	
<p>comnts Fmd : Diam limit cut in 1981 (129-80A), removing primarily JP saw, along with RP & oak saw, and lesser amounts of mixed pine and oak pulp. Two-aged mixed pine stand: about equal representation in WP & RP small saw and poles, with JP lg saps/small poles. JP regen unevenly distributed in clumps of J3, mostly on the slightly higher and drier ground with less leatherleaf and more k. angustifolia. Scattered WP & RP tends to occur on the lower areas that have denser leatherleaf. Stand is a mosaic of the two ground types. Much of the leatherleaf-cover area was dry in April. Short ridge of higher ground in the NW has more RP and denser WP filling in below. WP was showing flagging, with some entirely dead saps. Used previous SI.</p>														
33	J 2	J 2	32	12	2	0	59	jack pine	immature	N		40-49 years	0	
<p>comnts Fmd : Cut in 1991 under 720389001. Old notes indicate it was roller chopped the same year, with some natural regen resulting, and then hand-seeded in 1996. Excluding the under-stocked low ground to the north, and the higher ground to the E with residual NPO, 18 acres were trenched and seeded to JP in 1996 (FTP C72-274), resulting in excessive stocking within rows. Areas to the S & E that appear to have been broadcast seeded without trenching also have excessive stocking. There are also pockets of small JP poles and WP residual from the cut. Except on the higher ground, there is leatherleaf cover but even that is often over more upland mosses, including cladina. The lowest ground in the N-center has leatherleaf over sphagnum moss. Set stand year of origin to the trench and seed year. Used previous SI.</p>														
34	J 3	J 3	59	25	3	0	47	jack pine	immature	N		30-39 years	0	
<p>comnts Fmd : Cut in 1981 under 73-80A. Old notes indicate that a tractor and Whitfield planter were used in 1983. Decent health JP lg saps, a minor amount of gall rust. Oak stump sprouts are 20-30' tall. Some merch JP & WP residual from the cut. Where the stand grades down onto lower ground near the bog types, it appears that the area was instead broadcast seeded in swatches. Used previous SI.</p>														
35	V 0	V 0	24			0		bog or muskeg	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Part of a large intermittent wetland community identified by MNFI as an ERA. Most of the type is within compt 204 to the east. Leatherleaf over sphagnum moss in standing water, with areas of open marsh. Off-site WP & JP on higher hummocks, with spindly spruce. One-acre inclusion of denser spruce on drier ground in the NE, and two <1-acre islands of JP and BS to the SE. JP & tamarack seeding in along the W side, almost J1. An ERA management plan will be developed.</p>														
36	W 6	W 1	12	44	9	70	59	white pine	old growth (potential or actual)	N		30-39 years	0	
<p>comnts Fmd : Relatively young white pine stand, progressively replacing the RP/JP/NPO. Multiple age/size classes of WP: small saw, poles and large saps. Low density: RP-1, terrible health/quality small NPO saw/poles, and JP-1 with a majority of the stems died out. WP is continuing to fill in. Branch flagging on some poles. On ground with a seasonal high water table. The slightly higher ground has k. angustifolia and bracken fern, and it is dissected with low swales of leatherleaf. N & E part of the stand is within an intermittent wetland ERA.</p>														
37	J 2	J 2	9	26	3	0	47	jack pine	old growth (potential or actual)	N		30-39 years	0	
<p>comnts Fmd : JP on mostly dry ground but with a seasonal high water table. Ground cover varies: k. angustifolia, bracken fern & wintergreen, & leatherleaf. JP 2-5" diam, ave 3" DBH. Slowly moving into the pole class; a majority of the stems are still sub-merch. Occasional WP, RP & BS saplings. FTP C71-80 (Comp 204 folder) indicates that the area (most of it in compt 204) was clearcut in 1976 and prescribed for trenching & seeding back to JP where operable. Does not appear to have been trenched here. Most of the wet ground with leatherleaf and sphagnum moss was separated out as part of the adjacent bog stand 43. E1/2 of the stand is within an intermittent wetland ERA boundary.</p>														
38	R 9	W 1	31	86	13	80	47	red pine	two aged	N		10-19 years	0	
<p>comnts Fmd : Mixed pine stand with some oak, on lower ground than the adjacent mixed oak/pine stand 39. The two stands have a long shared boundary and grade into each other. Slightly more RP (30 BA ave) than either the WP or JP (20 BA each), but species comp and density is variable across the stand, with some pockets heavier to RP, others to JP, and so on. NPO (~10 BA) on the highest ground has very poor health/quality. Black spruce mixes in on the lowest ground and there are inclusions of seasonally-flooded leatherleaf. The stand is multi-aged and multi-storied, with RP saw, WP small saw & poles, JP saw (most died out already) & poles, NPO cull saw, and WP filling in below. Some branch flagging on the WP, some dead saps. Monitoring plot (Forest Health?) north of plot 5. While there are obviously younger components, aged stand based on RP and averaged with previous SI.</p>														

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					B	Tot. BA								
39	O9	W1	36	83	13	90	54	oak	two aged	N		10-19 years	0	
<p>comnts Fmd : Mixed oak/pine stand on higher & drier ground (Crowell & Grayling Sands) than adj. Stand 38's mixed pine/oak type. Terrible health/quality NPO (30 BA mostly cull saw) giving way to a mix of pine: RP (30 BA), WP (20 BA) and JP (10 BA). "O9" but nearly as much RP as oak. WP is filling in below, with some branch flagging and a pocket of mortality. Used previous SI. In the 1960's, Fisheries Division constructed an earthen berm with a 6' tall concrete water control structure in order to create a pike marsh. The old boards are rotted and thrown off to the side; the concrete portion is in good shape. Water flowing south of the structure enters an engineered channel that crosses onto private and appears to empty into M-72's north ditch, which then drains through a culvert into Lake Margrethe.</p>														
40	O9	W2	19	85	13	80	47	oak	low quality	Y		10-19 years	0	
<p><u>Treatment Limiting Factors:</u> Inadequate volume due to low stocking/small diameter/etc.</p>														
<p>comnts Fmd : Similar to stand 28's type; separated from it by Dollar Lake. This long, narrow stand borders M-72, Dollar Lk, and a small bog. There is decent-health WO but it is a minor component and the NPO is breaking up (40 BA total of oak), along with 40 BA of mixed pine (20 BA mature JP, 20 BA RP & WP). A few large WP & RP have been contributing seed. The understory is filling in with WP & RP. Some branch flagging in the lg sap/small pole WP. Evaluate the natural regen stocking next YOY to determine if underplanting is needed. Used stand 28's SI.</p>														
41	X0	X0	25			0		other non-stocked or non-forest or non-productive	nonstocked	N		not scheduled	0	
<p>comnts Fmd : M-72, Howes Lake Road and McIntyre Landing Road.</p>														
42	Q5	S1	13	55	7	60	56	mixed swamp conifer	two aged	N		30-39 years	0	
<p>comnts Fmd : Q/E mix on primarily low ground. Mostly small spruce poles, with scattered lg cull RM and lesser amounts of RP, WP, tamarack, NWC, and PB. A wide range of age classes are represented; took an average based on the spruce and set the year of origin to that. A 1-4' wide stream cuts the stand in half, flowing in an engineered channel dug ~8' wide to the south of a water control structure (in stand 39). Heavy deer browse on the viburnum.</p>														
43	V0	V0	30			0		bog or muskeg	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Dense leatherleaf cover on a deep sphagnum mat, with the feel of a floating bog in places. Cut by old railroad grades, with flowing water in the ditches. Standing water over the rest of the stand with strips of open marsh. Scattered small pole/large sap Q (heavier S of tank trail). Spring peepers, mallards. East edge of the stand is within an intermittent wetland ERA boundary.</p>														
44	V0	V0	2			0		bog or muskeg	nonstocked	N		not scheduled	0	
<p>comnts Fmd : Tall leatherleaf, growing in dense clumps on sphagnum hummocks with standing water. Includes a string of small bogs with pine-covered "higher" ground in between; some of these small wetlands appear to be seasonally flooded only, with less-dense leatherleaf and k. angustifolia cover and more upland mosses. Spring peepers.</p>														
45	V0	V0	1			0		bog or muskeg	nonstocked	N		not scheduled	0	
<p>comnts Fmd : Along M-72. Dense leatherleaf cover over standing water. Large WP at edges and on "higher" ground. Tree frogs.</p>														
46	J5	U1	7	52	8	50	48	jack pine	two aged	N		10-19 years	0	
<p>comnts Fmd : Small stand on mostly low ground, bounded by M-72 and private. E part of stand is on Kinross muck (seasonal high water table) with leatherleaf and k. angustifolia. The W end is dryer, on Crowell-AuGres sands. Generally 2-3 stick JP & WP poles with low density RP saw, scattered NPO on the high ground, and JP saw, balsam fir and black spruce mixed in on the low ground. Some WP regen, but not W1. Averaged age and SI with previous. Private drive(s) cross at E end, some mowing although most appears to be part of M-72 maintained ROW.</p>														
47	O7	G0	11	83	14	40	52	oak	sparse	N		10-19 years	0	
<p>comnts Fmd : Open, park-like stand to N with low-forking cull NPO & mostly 1 or 2 stick JP poles scattered across U/G. Slightly better form oak to S. Some RP, WP & JP seeding in, but less than minimum stocking level. Used previous SI.</p>														

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Stand	Cover Type-Dnsty	Under Story-Stkng Level	Acrs	Age	avg. DBH		Site Indx	Mgt Obj	Condition	Silv. Criteria Met?	Method Cut	Trtmt. Period	Harvest Priority	Cultural Need
					D	Tot. BA								
49	X0	X0	1			0		other non-stocked or non-forest or non-productive	nonstocked	N		not scheduled	0	
comnts Fmd : Small former borrow pit, had been used as an illegal ORV scramble area. Stand 23's harvest made access difficult. The quad runs are brushing in.														
50	J3	J3	19	24	2	0	45	jack pine	old growth (potential or actual)	N		30-39 years	0	
comnts Fmd : Cut in early 80's and furrow-seeded with a tractor and row seeder in 1984 under FTP C71-210. Seeding was done in shallow, narrow trenches. Excessive stocking - too many seeds took - resulting in hedge-row JP, stems often only inches apart. 1-4" DBH, ave 2" overall. GC primarily k. angustifolia or leatherleaf dominated; some areas unflooded, others with standing water. Only on the wettest ground did stocking drop below excessive. Aside from stunting due to high stocking, good health overall. Contains a fragment of the mesic sand prairie ERA.. Used previous SI.														
51	J2	J2	30	16	2	0	50	jack pine	immature	N		40-49 years	0	
comnts Fmd : Old notes indicate it was hand-seeded in 1992 under FTP C72-275. Alternating bands of over- and under-/non-stocked JP regen. 1-3" DBH, ave 2". Mosaic of slightly higher ground (grass/blueberry cover), lower ground (k. angustifolia), and flooded ground (leatherleaf). If averaged total #stems/acre across the entire stand, would be J3. Called it J2 to reflect the poorly-stocked bands (almost a third of the area). Adjacent to a mesic sand prairie ERA fragment and west part of the stand is within a tentative ERA buffer. Used previous SI.														
52	Q5	L3	111	72	8	60	57	mixed swamp conifer	two aged	N		10-19 years	0	
comnts Fmd : Mixed swamp conifer stand on muck soils. Shallow root mat with standing water. Mostly tamarack and black spruce poles, with tamarack small saw, and NWC saw and poles. Over tag alder with marsh grasses below. Root-tips common. N end on slightly higher ground on sphagnum mat -- pick up more black spruce and even some JP. Year of origin does not reflect the age of the younger majority component; only cored saw-sized tamarack. A portion of the stand is within a tentative buffer for mesic sand prairie ERA fragments.														
53	V0	V0	5			0		bog or muskeg	old growth (potential or actual)	N		not scheduled	0	
comnts Fmd : Primarily leatherleaf cover with scattered JP regen. Most of the stand was part of stand 3's early 80's harvest and planting boundary, with low seedling survival due to seasonal flooding. During snowmelt this spring, the stand was flooded and draining to the west, with water flowing across the Tank Trail/county line intersection and then heading S & W. Historic road grades are impeding this springtime water movement. The stand contains portions of the mesic sand prairie ERA fragments.														
54	J6	J1	11	69	8	70	47	jack pine	two aged	Y	final harvest	within 0-9 years	1	
<u>Treatment Limiting Factors:</u> Threatened, endangered, and special concern species/communities														
comnts Fmd : Similar to stands 2 & 5. Narrow grassy opening in center that was trenched at the same time as stand 3 but was either not planted or most seedlings died. A lot of snags and DWD (downed woody debris) from mature JP breaking up. Old fire plow lines. The stand is adjacent to a tentative buffer for the mesic sand prairie ERA; if compatible with the ERA management plan, cut all JP greater than 2 sticks tall. Limit harvesting to when the ground is snow-covered to minimize surface disturbance. Retention will consist of the 2-stick and under JP. Do not replant; lower than typical stocking is acceptable and preferable in this area. Harvest along with stand 5, applying the same specs. Used previous SI														
57	N0	N0	5			0		marsh	nonstocked	N		not scheduled	0	
comnts Fmd : Bog/marsh: this spring, open water 1 to 2 feet deep with emergent grasses, surrounded by dense leatherleaf cover. Pair of mallards. A portion of the stand is within a tentative buffer for mesic sand prairie ERA fragments.														
58	J2	J2	4	16	2	0	50	jack pine	immature	N		40-49 years	0	
comnts Fmd : Old notes indicate hand-seeded in 1992. Stocking tends to be at one extreme or the other; either non/poorly-stocked or excessively over-stocked. DBH range 1-3", ave 2". If average the total number of stems across the stand area, get J3; called J2 to reflect the under-stocked areas. Stand is drier to the N (grass/blueberry), picks up more k. angustifolia as you go S, and ends up with leatherleaf cover along M-72. Within tentative ERA buffer boundary. Used previous SI.														

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Stand	Cover Type-Dnsty	Under Story-Stkng Level	Acrs	Age	avg. DBH		Site Indx	Mgt Obj	Condition	Silv. Criteria Met?	Method Cut	Trtmt. Period	Harvest Priority	Cultural Need
					D	Tot. BA								
59	J2	J2	67	16	2	0	49	jack pine	immature	N		40-49 years	0	
comnts Fmd : Cut in 1990 under 720029001 and hand-seeded in 1992 (FTP C72-246), Variable stocking J0-J3+, ave J2. DBH 0-4", ave 2". Small clumps of JP pole residual from the cut. Cherry brush, grass, blueberry and cladina. Used previous SI.														
107	V0	V0	5		0	0		bog or muskeg	old growth (potential or actual)	N		not scheduled	0	
comnts Fmd : Leatherleaf bog on sphagnum hummocks. Was part of stand 7 and was trenched and seeded through at the same time in 1984. Few surviving JP saps in standing water. Contains a mesic sand prairie fragment - ERA.														
113	W9	W1	25	88	12	110	51	white pine	old growth (potential or actual)	N		20-29 years	0	
comnts Fmd : Excluded from stand 13's treatment boundary the previous YOE due to low ground. Occupies a narrow, shallow-gradient transition zone between stand 13's upland pine and stand 52's standing-water Q types. WP & RP saw over WP, RP, BS poles, over primarily spruce regen. Groundcover varies from k. angustifolia and blueberry to k. a. and sphagnum moss. Year of origin averaged with previous. POG														
116	J9	G0	9	87	11	80	53	jack pine	two aged	Y		10-19 years	0	
<u>Treatment Limiting Factors:</u> Inadequate volume due to small acreage														
comnts Fmd : Long narrow strip of JP and NPO along M-72 and split by 50'-wide cleared overhead powerline corridor. Buried fiber optic runs through the stand also. JP saw is 70-100 years old, with interior rot and top dieback common. Few WP & RP; some younger JP poles. Pockets of JP, RP & WP regen, but averages out below minimum stocking threshold. Some WO saps, younger oak and RM. WP continuing to seed in. Due to small acreage, treat concurrent with adjacent stand 16. Note low spot on the powerline across from Dollar Lake. Stand age reflects the mature JP component.														
117	J3	J3	4	16	2	0	46	jack pine	immature	N		40-49 years	0	
comnts Fmd : Stand 17: Old notes indicate hand-seeded in 1992 (FTP C72-275). Swathes of excessive stocking alternating with swathes of understocking. Diam 1-3", ave 2" DBH. Approx 3 acres at the NW end are within a tentative ERA buffer for the adjacent mesic sand prairie fragments. Used previous SI. Stand 117 is a narrow strip along M-72 that was split off by the clearing of a utility corridor. A short piece of stand 7 was included. A portion of the stand is within a tentative buffer for mesic sand prairie ERA fragments.														
118	V0	V0	1		0	0		bog or muskeg	nonstocked	N		not scheduled	0	
comnts Fmd : Small bog with dense leatherleaf surrounding open water in the center. Spring peepers														
121	N0	N0	1			0		marsh	nonstocked	N		not scheduled	0	
comnts Fmd : Marsh; open water with emergent grasses, surrounded by dense leatherleaf cover. Boundary gerrymandered to SE to pick up small nearby leatherleaf bog. Spring peepers and wood frogs.														
123	O9	U3	4	88	11	110	57	oak	mature	Y		not scheduled	0	
<u>Treatment Limiting Factors:</u> Too steep														
comnts Fmd : Stands 123, 223, 323 and 231: Uncut islands of oak saw & poletimber excluded from stand 23's shelterwood harvest due to steep slopes. Used stand 23's SI.														
134	W7	J2	12	46	10	30	57	white pine	two aged	N		30-39 years	0	
comnts Fmd : Within the same harvest area boundary as stand 34 and cut in 1981 under 73-80A, but was not planted. On lower ground with a seasonal high water table. Low-density short, limby residual WP saw & poles over JP saps. Most of the groundcover is leatherleaf over sphagnum moss in standing water, but there are patches of slightly higher ground with k. angustifolia instead of leatherleaf. JP appears to have seeded in naturally, with variable distribution, J0 to J3+. Averages out to the low end of the J2 stocking range, with open bog inclusions. Next entry would likely be to remove the JP at the same time as stand 34's treatment.														

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Stand	Cover Type-Size Dnsty	Under Story-Stkng Level	Acrs	Age	avg. D B H	Tot. BA	Site Indx	Mgt Obj	Condition	Silv. Criteria Met?	Method Cut	Trtmt. Period	Harvest Priority	Cultural Need
135	V 0	V 0	2			0		bog or muskeg	old growth (potential or actual)	N		not scheduled	0	
comnts Fmd : Dense leatherleaf over sphagnum moss in standing water. E 1/2 is within an intermittent wetland ERA.														
136	W 9	W 2	7	106	18	120	58	white pine	old growth (potential or actual)	N		not scheduled	0	
comnts Fmd : Island of higher ground surrounded by N/V. Large old WP and RP saw. RP going faster. Great snags. WP poles and saps filling in below. Lower ground to E has smaller, younger WP and spruce. Pileated. Isolated now by wetlands, but has at least two old grades cutting through it. POG														
143	V 0	V 0	5			0		bog or muskeg	nonstocked	N		not scheduled	0	
comnts Fmd : Leatherleaf bog over sphagnum moss. Water from part of stand 43 drains through a tank trail culvert and then flows south through a dug channel in stand 143 to a water control structure in stand 39.														
223	O 9	U 3	12	88	11	110	57	oak	mature	Y		not scheduled	0	
<u>Treatment Limiting Factors:</u> Too steep														
comnts Fmd : Stands 123, 223, 323 and 231: Uncut islands of oak saw & poletimber excluded from stand 23's shelterwood harvest due to steep slopes. Used stand 23's SI. Stand 223 contains a small discontinued borrow pit that had also been used as an illegal ORV scramble area (is progressively being stabilized by sweetfern and grasses).														
231	O 9	U 3	3	88	11	110	57	oak	mature	Y		not scheduled	0	
<u>Treatment Limiting Factors:</u> Too steep														
comnts Fmd : Stands 123, 223, 323 and 231: Uncut islands of oak saw & poletimber excluded from stand 23's shelterwood harvest due to steep slopes. Used stand 23's SI.														
234	V 0	V 2	3			0	0	bog or muskeg	nonstocked	N		not scheduled	0	
comnts Fmd : Dense leatherleaf on sphagnum hummocks in standing water.														
323	O 9	U 3	14	88	11	110	57	oak	mature	Y		not scheduled	0	
<u>Treatment Limiting Factors:</u> Too steep														
comnts Fmd : Stands 123, 223, 323 and 231: Uncut islands of oak saw & poletimber excluded from stand 23's shelterwood harvest due to steep slopes. Used stand 23's SI. Stand 323 borders the former Dollar Lake sand pit.														
334	V 0	V 2	1			0	0	bog or muskeg	nonstocked	N		not scheduled	0	
comnts Fmd : Dense leatherleaf on sphagnum hummocks in standing water.														
400	G 0	G 0	8			0	48	grass	nonstocked	N		not scheduled	0	
comnts Fmd : Roughly 50-foot wide cleared utility corridor with overhead powerline, paralleling M-72. NW third within a tentative ERA buffer. Quarter-acre of low ground with leatherleaf at the south end, north of the Tank Trail. A portion of the stand is within a tentative buffer for mesic sand prairie ERA fragments.														
401	G 0	G 0	2			0	48	grass	nonstocked	N		not scheduled	0	
comnts Fmd : Grassy opening along Arrowhead Road. Patches of sweetfern, cherry brush, short limby JP poles and saps.														

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S t a n d	Cover Type- Size Dnsty	Under Story- Stkng Level	A c r e s	Age	avg.			Mgt Obj	Condition	Silv. Criteria Met?	Method Cut	Trtmt. Period	Harvest Priority	Cultural Need
					D B H	Tot. BA	Site Indx							
429	G 0	G 0	12			0		grass	nonstocked	N		not scheduled	0	

comnts Fmd : Former Dollar Lake sand pit. Old notes indicate that is was contoured and reseeded on the west side. Part of the Military's rehab effort has included blocking vehicle access; the pit had been used as an illegal hill climb/scramble area. Most recent illegal use has been by quads on the east side. Cover includes grass, mosses, some St. John's Wort and spotted knapweed. A Military communications tower was installed on the hilltop in 2006. Access to the tower's service road is not restricted; consider gating near Dollar Lake Road.

Total Acres..... 1967