

\* 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	A c r e s	Age	avg. D		Site Indx	Mgt Obj	Condition	Silv. Criteria Met?	Method Cut	Trtmt. Period	Harvest Priority	Cultural Need
					B	Tot. BA								
1	L 3	L 3	35			0		lowland brush	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Lowland brush in area behind old beaver dams. Salix, tag alder, and some red-osier dogwood. Scattered spruce, balsam fir and aspen stems. Inclusion of ~2 acres of high ground on the west edge - - did not get over to look at it. SCA - Deward Area - a dedicated management area.</p>														
2	A 5	A 2	49	27	5	40	58	aspen (upland)	old growth (potential or actual)	N		10-19 years	0	
<p>comnts Fmd : Old notes indicate that the stand's N1/2 was K-G bladed in 1959 and then the entire stand was roller-chopped in 1981. The stand is in transition from an A3 to an A6. Shallow depth to water table, with narrow low swales in the S1/2. Balsam fir along the L-type border and heavier throughout in the stand's S1/2 along with a handful of large WP saw. Two mature aspen inclusions: ~1 acre at the north end near the well site, and a narrow strip (&lt; a chain wide) along the cleared pipeline corridor. Hypoxylon present (&lt;5%) along with black canker (individual clones affected to varying degrees). Consider harvesting sooner than typical (potentially next YOE, depending on condition noted then) in order to regen the aspen before it hits its pathological rotation age. A lot of hare use. Used previous SI. SCA - Deward Area - a dedicated management area.</p>														
3	U 1	U 1	10		1	0	51	upland brush	sparse	N		not scheduled	0	
<p>comnts Fmd : Old notes indicate that this was part of an area K-G bladed in 1959. Opening with cherry (saps &amp; cull pulp), viburnum cassinoides, rubus, witch-hazel, hawthorn, sugarplum and hazelnut. SCA - Deward Area - a dedicated management area.</p>														
4	A 6	U 2	33	52	7	80	65	aspen (upland)	old growth (potential or actual)	Y	final harvest	within 0-9 years	1	natural regeneration
<p>comnts Fmd : Old notes indicate that this was in an area K-G bladed in 1959. The stand has variable quality, health &amp; stocking, with an older component that was not run over by the D-7. Mostly TA with some BTA, balsam fir, and short, contorted RM poles and cull saw. Top dieback is starting to occur in the codominant aspen stems and some clones are unthrify as a result of black canker infection. Harvest now to regenerate the aspen before the decline becomes widespread. Retention: exclude the ~ 3 acres between the east side 2-track and the lake. Maintain at least a 150' uncut buffer along the lake. The stand includes lower ground north and east of the lake. Two informal lake access sites spur off from the east side two-track; the north one may need stabilizing. Used previous SI. SCA - Deward Area - a dedicated management area.</p>														
5	Q 4	L 3	13	50	8	30	56	mixed swamp conifer	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : On the flats bordering Lost Lake: Dense, tall tag alder with lowland conifers and hardwoods occurring in pockets and as scattered individual stems. Inclusion of ~1 acre of dense balsam fir and black spruce at the north end. YOE is an average of the current and previous SI, but there are older lowland hardwood stems. Previous SI: red maple 1950 SI-55. SCA - Deward Area - a dedicated management area.</p>														
6	V 0	V 0	2			0		bog or muskeg	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Bog with leatherleaf and short clumps of viburnum. SCA - Deward Area - a dedicated management area.</p>														
7	A 6	F 1	11	49	7	100	65	aspen (upland)	old growth (potential or actual)	Y	final harvest	within 0-9 years	1	natural regeneration
<p>comnts Fmd : Old notes indicate that it was part of an area K-G bladed in 1959. Health is starting to decline in both the TA &amp; BTA (false tinder fungus present and top mortality starting). There are a few very old aspen left from the K-G work. Harvest to regen the aspen -- it is being replaced by BF and RM. Retention: exclude that part of the stand on the sideslope down to stand 5. Used previous SI. SCA - Deward Area - a dedicated management area.</p>														

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					B	Tot. BA								
8	C 6	F 2	23	103	9	80	30	cedar	old growth (potential or actual)	N		10-19 years	0	
<p>comnts Fmd : There are pockets of closed-canopy cedar cover, but the stand is generally more open, with balsam fir, black spruce, and tamarack mixed in. There is more Q-type to the north, with scattered large tamarack. The stand's center has ~2.5 acres without tree cover. There are wind-thrown trees along the edge (did not try to crawl through on snowshoes). Regen - as seen from the edge - did not include cedar; nice sapling paper birch dominated the opening. The opening coincides with an area designated on a map from three YOE's ago that was prescribed for a "swamp clearcut". No other info was found related to that prescribed treatment. A stream runs through the stand's south side; it is 3-5' wide except where backed up by old beaver dams. No sign of deer use. Lots of hare tracks. SCA - Deward Area - a dedicated management area. HCVA within 400 feet of the Upper Manistee - a designated Natural River.</p>														
10	A 6	U 1	11	49	7	70	52	aspen (upland)	old growth (potential or actual)	Y		within 0-9 years	0	natural regeneration
<p><u>Treatment Limiting Factors:</u> Too wet</p> <p>comnts Fmd : Old records indicate this was part of an area K-G bladed in 1959. TA, some BTA, and scattered balsam fir on the high ground, grading into TA, BAM &amp; more BF on the lower ground adjacent to stand 11. BF poles are a large component in the stand's S. Hypoxylon is present in the stand. A lot of hare activity in stand 11. Aside from the K-G blading with a D-7 dozer, there is no record of the stand having been commercially cut in recent history. Areas of low ground on possible access routes to the north, and Natural River segments to the south would limit hauling operations. Because of access problems, cut to regenerate portions of the stand through a Wildlife Division FTP. Maintain a 150' buffer along the lake. Used previous SI. SCA - Deward Area - a dedicated management area.</p>														
11	E 4	L 3	24	75	7	40	50	swamp hardwoods	old growth (potential or actual)	N		20-29 years	0	
<p>comnts Fmd : Sparse, open E/P/Q stand on muck soils. Bam, black ash (near universal top-dieback) and elm with scattered NWC, black spruce and balsam fir. L3 in tag alder below. The drainage that flows through stand 8 &amp; into the Manistee River starts within this stand. The stand also borders Lost Lake to the west and the Manistee R floodplain to the E. A lot of hare sign. Used previous SI. SCA - Deward Area - a dedicated management area. HCVA within 400 feet of the Upper Manistee - a designated Natural River.</p>														
12	L 3	L 3	15			0	25	lowland brush	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Tag alder being colonized by balsam fir, black spruce, tamarack, cedar, red maple and aspen. Q/E components occur as scattered individual stems and in dense inclusions up to an acre in size. Kept previous SI info. SCA - Deward Area - a dedicated management area.</p>														
13	C 6	G 0	16	87	9	220	40	cedar	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Long, narrow stand of closed-canopy NWC with open understory along the edge of the Manistee River floodplain. The stand is cut by hillside seeps filling long north-south drains that converge and flow west into the mainstream. The cedar is healthy, with blowdowns generally limited to the drainage edges. High-traffic deer trail runs N-S just into the stand's east edge, but there is very little evidence of use within the stand; they're just passing through. Used previous SI. SCA - Deward Area - a dedicated management area. HCVA within 400 feet of the Upper Manistee - a designated Natural River.</p>														
14	A 5	A 1	60	39	6	50	49	aspen (upland)	old growth (potential or actual)	N		10-19 years	0	
<p>comnts Fmd : Old notes indicate this was part of an area (including stand 32) that was K-G bladed in 1969. Differs from stand 32 in that more residual trees were left following the K-G treatment: there is ~10 BA in large, open-grown NPO wolf trees, and ~10 BA in small RP saw and RP &amp; WP poles. Similar to stand 32, the aspen has denser stocking and is growing better near the river corridor, and site &amp; aspen quality decreases as you go east onto the outwash plain, with U/G inclusions more common also. The stand is mostly TA, but where it occurs, the BTA is growing better. The aspen to the east on the outwash plain has a higher incidence of black canker and hypoxylon. Used previous SI. SCA - Deward Area - a dedicated management area.</p>														

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					B	Tot. BA								
15	U 1	U 1	12			0	48	upland brush	old growth (potential or actual)	N		10-19 years	0	
<p>comnts Fmd : Opening on the outwash plain with clumps of cherry, serviceberry &amp; viburnum, scattered wide-crowned wolfy NPO, short limby pine, and small clones of TA &amp; BTA. SCA - Deward Area - a dedicated management area. HCVA within 400 feet of the Upper Manistee - a designated Natural River.</p>														
16	A 3	A 3	26	16	2	30	65	aspen (upland)	immature	N		40-49 years	0	
<p>comnts Fmd : Cut in '91 under 039-90 at the same time as stands 17 &amp; 18. All oak were designated to be left in stand 16. Good health mixed aspen regen on ridges and valleys, also some RM and beech sprouts. The harvest left ~30 BA in oak sawtimber unevenly distributed, generally in stump-clumps, and there is ~2 acres of O9 in the stand's SW corner. Featured the understory because it is the overall management objective. Used 17 &amp; 18's aspen SI. Previous SI on the oak was 1928 - 55.</p>														
17	A 3	A 3	23	16	2	0	65	aspen (upland)	immature	N		40-49 years	0	
<p>comnts Fmd : Cut in '91 under 039-90 at the same time as stands 16 &amp; 18. Decent health mixed aspen regen on ridge-side (west aspect) and flats. Also RM and nice oak stump sprouts. Used previous SI.</p>														
18	A 3	A 3	21	16	2	0	65	aspen (upland)	immature	N		40-49 years	0	
<p>comnts Fmd : Cut in '91 under 039-90 at the same time as stands 16 &amp; 17. Good health mixed aspen regen on relatively steep ridge-side (west aspect). Some RM, oak &amp; paper birch stump sprouts also, and scattered RM poles and oak saw that were left along the ridge-top. Used previous SI.</p>														
19	M 6	M 2	20	68	7	110	62	oak	two aged	N	shelterwood-seed	within 0-9 years	3	natural regeneration
<p>comnts Fmd : Two-aged low-quality northern hardwood type with a significant red oak component. This long, narrow stand occupies the east side of a relatively steep ridge that only becomes more shallow to the N1/4. The rubicon sand soils are at the lower end of sugar maple's site tolerance and that species exhibits poor form and health over most of the stand, with some improvement at the north end. The Kotar map indicates a PArVVb/AFO transition type. The stand appears to have been cut-over shortly before it was acquired in 1941. Residual from that cut is represented by large 18-24" DBH, wolfy red oak (~20 BA, 80+ years old), and scattered cull saw RM, sugar maple and beech (roughly 20 BA). The component regenerated by that cut is primarily stump-clump RM (mostly poles, with some stems reaching saw size), generally unthrifty hard maple (knobby, poorly-healed branch scars, some eutypella canker), and some beech poles. In addition to the wolf oak, there is a slightly younger cohort of smaller-diameter oak saw in their 70's that have straight, clean boles with tight bark - - really nice quality - - as well as large sap/small pole RO with the same very good form and vigor. Unevenly distributed across the stand is less than 10 BA of large TA and BTA. Beech and ironwood regen are most common in the understory. Previous SI was RM-1943-50. Based stand year of origin on the more common of the two age classes. Given the site quality, topography and condition of the hardwood stems available to work with, I would not recommend trying to selectively manage for northern hardwood sawtimber. The oak and aspen are well-suited to the site and the stand has good wildlife potential with its two hard-mast producers. To favor those species and maintain the aspen component, leave the oak and beech and harvest all aspen, RM and sugar maple. Mark some of the pioneer maple stems for girdling - many of them are dead-topped already. Harvest when the ground is frozen to minimize soil disturbance.</p>														
20	U 2	U 2	8			0	50	upland brush	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Opening with mostly cherry, ranging from saps to cull pulp. A few large clumps of stump-origin RM but not as much as in stand 120. Rubus in more open areas, some serviceberry and witchhazel. A scattering of generally unthrifty TA. SCA - Deward Area - a dedicated management area.</p>														
21	A 5	M 1	42	60	8	60	55	aspen (upland)	high risk	Y	final harvest	within 0-9 years	1	natural regeneration
<p>comnts Fmd : Variable stand in terms of species mix, age, size, condition and stocking. TA &amp; BTA ranging from vastly overmature cull saw to young poles. RM &amp; HM cull saw (generally either branches-to-the-ground or with poorly-healed branch scars) and small poles (the HM unthrifty, knobby, eutypella present). The stand's N end has less hardwood, and the far NW has an inclusion of limby WP (~1 acre). Scattered very nice RO small saw and poles (tight bark, clean boles, healthy) but less than 10 BA. Ironwood present. Top-kill from hypoxylon and false-tinder fungus are present. The HM is surviving but not thriving. This is the lower end of the site tolerance for that species. Final harvest to regenerate the aspen. Leave all oak for mast. Retention: exclude the WP inclusion in the far NW corner and 2 aspen pockets (~0.5 and 0.25 acres in size) at the far N-center and NE ends. Also leave a half-acre island of aspen and larger-diam maple in the stand's center. Used previous SI.</p>														

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22	W9	U2	8	60	13	70	56	white pine	two aged	N		not scheduled	0	
comnts Fmd : Small mixed stand of pine, oak, RM & aspen on a steep sidehill, ridgetop and valley; excluded due to terrain when the adjacent stands were cut. On the shallower west ridgeside and valley, there are a few remnant rows of WP & RP from the 1940's planting. Previous SI on the RM was 1924-58.														
23	A3	A3	32	16	2	0	66	aspen (upland)	immature	N		40-49 years	0	
comnts Fmd : Cut in 1991 under 039-90. Mixed aspen regen with a fair amount of RM stump sprouts. Small U/G inclusions. On west-facing hillside dissected with valleys. Used previous SI.														
24	W9	W3	4	112	20	140	52	white pine	old growth (potential or actual)	Y		20-29 years	0	
<u>Treatment Limiting Factors:</u> Delayed treatment for age/size class diversity														
comnts Fmd : Two-aged stand with large WP saw (18-30"+ DBH, much cull, heavy-limbed, crooks, forks, doubles), over dense WP, RM, TA & BF poles, and thick WP & BF regen. W3 is a composite of the WP and BF. Almost equal BA in sawtimber and young poletimber. Is a long, narrow stand separated from stand 30's similar type by a wide cleared pipeline corridor. Used stand 30's SI on the overstory WP. SCA - Deward Area - a dedicated management area.														
25	A3	A3	51	23	4	0	66	aspen (upland)	immature	N		30-39 years	0	
comnts Fmd : A3 in transition to A6. Cut in 1985 under 77-83-01, spec'd to remove all merch stems. Excluding the weeding-out stems and the scattered residual stems from the cut, the ave diam is 4". The BTA is further along than the TA, with 5" ave DBH in places, but even the TA has some stems moved into the pole class. The logging contractor also left stems that were merchantable at the time: in the stand's south-center, a 1.5 acre remnant of the 1940's R-W-J planting (mostly high-defect WP-1 and better RP-1) was left, and more residual WP, aspen and RM stems were left in the stand's N1/2, particularly west of the 2-track. Used previous SI.														
26	R8	M2	40	60	13	70	65	red pine	high risk	N	final harvest	within 0-9 years	1	planting
comnts Fmd : Old records indicate the area was planted with 2-year old RP, WP & JP in the fall of 1940. Unless it took the trees twice the usual amount of time to reach DBH, the trees cored are not that old (late 1940's & early 1950's). Previous SI on the JP component put the age at 1947. Possibly a supplemental planting was done later to fill in gaps. Odd species mix patterns other than R-W-J suggest that, such as R-R-R-W-J, W-W-W-R, and swathes of several rows that had only JP. There is also obviously younger WP & JP that recruited naturally into poorly-stocked areas and spread into the adjacent G, along with a few small pockets of TA. The planted JP component has significant mortality, the WP has almost universal poor form and high defect, and the RP is nice where the stocking stayed up. Previous SI on the JP was 45. RM, beech and ironwood seedlings in the understory. Hardwoods growing on the same soils to the N are just tolerating the site, so conversion to that that cover type is not recommended. RP is well-suited to the site. Final harvest and replant to RP. Retention: exclude that part of the stand that is west of the pipeline and gas well access road.														
27	A3	M1	32	6	1	0	65	aspen (upland)	immature	N		50-59 years	0	
comnts Fmd : Cut summer 2001 under 720030001. Aspen regen with RM and oak stump sprouts on both sides and the south end of a ridge. Approx. half-acre of mature aspen left uncut on a steep part of the ridgeline on the stand's center-west edge. Used previous SI.														
28	R8	A2	101	67	12	60	60	red pine	immature	N		10-19 years	0	
comnts Fmd : Except for a 3-acre exclusion in the SW corner, the stand was cut in summer 2001 under 720030001, all JP, WP, apen and RM 5" DBH and up. All RP were left. Old records indicate that the area had been planted to RP, WP and JP in fall 1940 and spring 1941. Varying stocking RP, mostly small saw, 20-70 BA, with a few denser pockets along the road. RP in areas with lower stocking are shorter, with more taper and heavier limbs. Remnant row segments are short, so it looks more like a natural-origin stand than a plantation. Scattered NPO saw and JP & TA residual from the cut. Nice mix of regen - aspen, oak and JP, with more aspen in the S & SE, and concentrations of JP regen along skid routes and landings. Regen stocking varies from 0-3; A2 average is a composite of all species. Kept the previous RP SI taken 20 years ago; current SI's were 48-49, which seems low and is probably more a reflection of the stocking levels than the site. Current SI's on a nearby RP stand on similar soils were in the 60's.														

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					B	Tot. BA								
29	R 9	A 1	11	67	13	90	60	red pine	old growth (potential or actual)	N		10-19 years	0	
<p>comnts Fmd : Stands 29, 129 and 229 are within an area that old records indicate was planted in 1941 to RP, WP &amp; JP, but these stands were excluded from the stand 28/128 2001 harvest area. Short remnant row segments are visible in places, but the plantation didn't take as well along the W &amp; N edges (stands 29, 129 &amp; 229), probably due to competition from the heavier aspen coverage that was there prior to the 1969 K-G blade treatment. These stands are in the transition zone between the majority RP type (stands 28/128) and the majority aspen type (stands 14, 114 &amp; 32). Stand 29 is a mix of more or less open-grown form RP saw (~30 BA) with lesser amounts of WP saw &amp; poles, JP poles, NPO saw, and scattered pockets of TA (regen from the K-G cutting). A1 understory is a composite of the TA, RM and WP regen present. Used stand 28's SI. Previous SI on the aspen was 57. SCA - Deward Area - a dedicated management area.</p>														
30	W 9	W 2	7	112	21	160	52	white pine	old growth (potential or actual)	Y		20-29 years	0	
<p><u>Treatment Limiting Factors:</u> Delayed treatment for age/size class diversity</p> <p>comnts Fmd : A majority of the large WP in this small stand have extremely poor form: large heavy limbs, forks, doubles, crook, etc. The RM component consists of mostly cull saw and younger poles, there are a few BTA and yellow birch, and there are pockets of 1 &amp; 2 stick hemlock poles that are in better condition than the hemlock in the adjacent harvest area (stand 40), with less top-dieback. There are few hemlock seedlings or saps, though. W2 understory is a composite of the WP, RM &amp; balsam fir regen present. Previous SI on the WP was 1915-58. SCA - Deward Area - a dedicated management area.</p>														
31	W 6	W 3	4	51	7	110	50	white pine	old growth (potential or actual)	N		20-29 years	0	
<p>comnts Fmd : Small stand of WP along the river, seeded in from a few scattered large cull WP. Below are mostly 1-3 stick WP poles along with WP just moving into the saw class and thick WP saplings. The stand's east end extends to the top of the riverbank. Based stand year of origin on the majority younger component. Previous SI was on the pioneer seed trees (WP-1928-57). SCA - Deward Area - a dedicated management area. HCVA within 400 feet of the Upper Manistee - a designated Natural River.</p>														
32	A 5	A 1	73	39	7	60	51	aspen (upland)	old growth (potential or actual)	N		10-19 years	0	
<p>comnts Fmd : Old notes indicate this was part of an area (including stand 14) that was K-G bladed in 1969. Differs from stand 14 in that fewer oak and pine were left across the area following the K-G treatment, although there is oak sawtimber and white pine poles concentrated along the river corridor. Similar to stand 32, the aspen has denser stocking and is growing better near the river corridor, and site &amp; aspen quality decreases as you go east onto the outwash plain, with U/G inclusions more common also. The stand is mostly TA, but where it occurs, the BTA is growing better. The aspen to the east on the outwash plain has a higher incidence of black canker and hypoxylon. The stand's east edge is within an area that old records indicate was planted to RP, WP &amp; JP in 1941. There is RP saw scattered and in pockets where the stand grades into the adjacent pine-dominant types. SI averaged between the low-end site to the east (TA, SI 44) and the better site to the west (BTA, SI 57). Previous SI on the BTA was 49. SCA - Deward Area - a dedicated management area. HCVA within 400 feet of the Upper Manistee - a designated Natural River.</p>														
33	U 2	U 2	10			0	52	upland brush	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Upland brush between the river and the upland aspen type. Mostly cherry, some hawthorn, WP saps scattered and in pockets, salix on lower ground near the riverbanks, and colonizing TA regen. It is within an area - including stand 34 - that old records indicate was K-G bladed in 1959. Kept previous SI on the aspen. SCA - Deward Area - a dedicated management area. HCVA within 400 feet of Lost Lake Outlet and the Upper Manistee - a designated Natural River.</p>														

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					B	Tot. BA	Site Indx							
34	A 5	U 2	34	49	7	50	60	aspen (upland)	old growth (potential or actual)	Y		within 0-9 years	0	natural regeneration

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Treatment Limiting Factors:

Bridge needed (portable bridge not available or inadequate)

comnts Fmd : Old records indicate this was part of an area K-G bladed in 1959. The stand extends from Lost Lake to the Manistee River. TA health, growth and stocking improves in the stand's N1/2, although hypoxylon and black canker are still present in even the best clones. WP regen is heaviest in the stand's S1/2, giving way to upland brush understory in the N1/2. Small U/G inclusions occur throughout. Balsam fir is heavier along the edge against stand 35. Areas of low ground on a possible haul route to the north, and Lost Lake Outlet to the south, would limit hauling. Lost Lake Outlet is part of the Upper Manistee's Natural River designation, making that area of the stand within 400 feet of the drainage and the Upper Manistee River an HCVA. A Natural River permit is required for crossing the drainage or for road work within the 400' HCVA zone, in addition to needing a stream crossing permit from the DEQ. The stand is also an SCA - Deward Area - a dedicated management area. Because of these concerns, cut to regenerate portions of the stand through a Wildlife Division FTP. Maintain at least a 150' buffer along Lost Lake and at least a 175' buffer along the Upper Manistee & Lost Lake Outlet. Used previous SI.

35	C 6	L 1	17	108	9	80	27	cedar	old growth (potential or actual)	N		20-29 years	0	
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comnts Fmd : Pockets of nearly closed-canopy cedar mixed in with opener areas that have scattered cedar, black ash, bam, and tag alder. BF heavy along Lost Lake. Top mortality common in the older bam and ash. Did not snowshoe out to the included peninsula on the Manistee River floodplain. Used previous SI. SCA - Deward Area - a dedicated management area. HCVA within 400 feet of the Upper Manistee - a designated Natural River.

38	L 3	L 3	7			0		lowland brush	old growth (potential or actual)	N		not scheduled	0	
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comnts Fmd : Lowland brush (mostly salix) bordering the S end of Lost Lake. Remnants of old beaver dam. A defined channel (Lost Lake Outlet) extends from this stand, SSE to the Manistee R. Lost Lake Outlet is part of the Manistee River's Natural River designation, making that part of the stand within 400' of the drainage an HCVA. Also an SCA - Deward Area - a dedicated management area.

39	A 6	M 2	24	49	7	70	56	aspen (upland)	old growth (potential or actual)	Y	final harvest	within 0-9 years	2	natural regeneration
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comnts Fmd : Old records indicate it was part of an area K-G bladed in 1959. Cull WP & RM residual not run over by the cutter (~20 BA total) are saw-sized but generally not saw quality. The stems regenerated by the treatment include TA, nearly as much RM, and WP poles. A few hemlock poles were seen along the N side. TA clones still have some sub-merch stems. Hypoxylon and black canker are present. RM and WP are replacing the aspen. Final harvest in order to maintain the aspen component. Do not cut any hemlock. Retention: Leave 2-3 islands totalling 3/4 acre - encompassing hemlock where possible - and exclude from the stand's east boundary at least 100 feet deep along the defined channel (~1.5 ac). This drainage, Lost Lake Outlet, is part of the Upper Manistee's Natural River designation, making that area of the stand within 400 feet of the drainage an HCVA. A Natural River permit is required for crossing the drainage or for road work within 400 feet of it. Also is an SCA - Deward Area - a dedicated management area. Used previous SI

40	E 9	M 2	20	96	13	70	55	swamp hardwoods	old growth (potential or actual)	Y		10-19 years	0	
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Treatment Limiting Factors:

Retention of stand for regeneration purposes (ie. shelterwood)

comnts Fmd : Thinned in winter 2004/2005 by Leon Corlew under 720260101. Previous comments indicate that the intent was to maintain the E-type and encourage hemlock regeneration. An uncut buffer was left along the lake (new stand 140). The residual is mostly saw-size RM (much cull) along with RM poles, 1-3 stick hemlock poles, WP saw, and a few black cherry, yellow birch and large cull beech. Regen visible above the deep snow pack included RM, cherry & beech. There is some browse on the RM but a lot is getting above the browse line. Stand will need to be looked at snow-off to evaluate the harvest's impact on hemlock regen. Hemlock large sap/small poles are scattered across the area and also occur in dense pockets in the stand's S & E. Top mortality in the smaller hemlock is common. Most of the hemlock >8" DBH had died out a while earlier. The hemlock is much healthier in stand 140. The organic soils around the lake edge are a better site than this stand's Crosswell sands. Post-logging decadence may be a factor in the harvest area, although top mortality was already occurring when the stand was inventoried in 1997. SCA - Deward Area - a dedicated management area.

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Stand	Cover Type-Size Dnsty	Under Story-Stkng Level	Age	Acrs	avg. DBH	Tot. BA	Site Indx	Mgt Obj	Condition	Silv. Criteria Met?	Method Cut	Trtmt. Period	Harvest Priority	Cultural Need
41	L 3	L 3	4			0		lowland brush	old growth (potential or actual)	N		not scheduled	0	
comnts Fmd : Dense tag alder L-type, close to Lost Lake's floodplain tag alder margin. SCA - Deward Area - a dedicated management area.														
42	Z 0	Z 0	45			0		water	old growth (potential or actual)	N		not scheduled	0	
comnts Fmd : Lost Lake. Two informal access sites along the NE side off the two-track. SCA - Deward Area - a dedicated management area.														
43	Z 0	Z 0	7			0		water	old growth (potential or actual)	N		not scheduled	0	
comnts Fmd : The Upper Manistee, a designated Natural River. HCVA. Sand trap/Sediment Basin #2 located in the SWSE section 6.														
44	X 0	X 0	1			0		other non-stocked or non-forest or non-productive	old growth (potential or actual)	N		not scheduled	0	
comnts Fmd : Sand trap maintenance work site and spoils area for the Upper Manistee River Sediment Basin #2. FTP: F72-533. SCA - Deward Area - a dedicated management area. HCVA within 400 feet of the Upper Manistee - a designated Natural River.														
101	L 3	L 3	4			0		lowland brush	old growth (potential or actual)	N		not scheduled	0	
comnts Fmd : Lowland brush in area behind old beaver dams. Salix, tag alder, and some red-osier dogwood. Scattered spruce, balsam fir and aspen stems. SCA - Deward Area - a dedicated management area.														
102	L 3	L 3	11			0		lowland brush	old growth (potential or actual)	N		not scheduled	0	
comnts Fmd : Lowland brush in area behind old beaver dams. Salix, tag alder, and some red-osier dogwood. Scattered spruce, balsam fir and aspen stems. Inclusion of ~2 acres of higher ground on the west edge - - did not get over to look at it. SCA - Deward Area - a dedicated management area.														
112	L 3	L 3	27			0		lowland brush	old growth (potential or actual)	N		not scheduled	0	
comnts Fmd : Floodplain along the Manistee River. Lowland brush, open marsh inclusions, and scattered Q/E. Several drains cut through the floodplain and feed into the mainstream. SCA - Deward Area - a dedicated management area. HCVA within 400 feet of the Upper Manistee - a designated Natural River.														
114	A 5	A 1	28	39	5	50	49	aspen (upland)	immature	N		10-19 years	0	
comnts Fmd : Appears to have been part of an area that was K-G bladed in 1969 along with stands 32 & 14. Mostly on the outwash plain, picking up small TA clones (unthrifty appearance reflecting tough site), U/G inclusions and scattered limby RP & WP poles. The stand's SW has remnant RP saw from the 1940's planting. To the E and SE, as the stand grades up out of the outwash plain, site and aspen quality improves and there is hybridized oak saw along with more BTA. Previous SI on TA was 48.														
115	U 1	U 1	16			0	48	upland brush	sparse	N		10-19 years	0	
comnts Fmd : Opening on the outwash plain with clumps of cherry, serviceberry & viburnum, scattered wide-crowned wolfy NPO, short limby pine, and small clones of struggling TA & BTA.														

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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								
120	U 2	U 2	12			0	50	upland brush	old growth (potential or actual)	N	final harvest	within 0-9 years	3	natural regeneration
<p>comnts Fmd : Opening with cherry (some large cull pulp) and clumps of stump-origin RM (low-forking, limby pole and cull-saw). Rubus in more open areas, minor amounts of serviceberry and witchhazel. A scattering of small TA clones. Remove the RM and aspen when the adjacent stand's 4 &amp; 7 are cut. SCA - Deward Area - a dedicated management area.</p>														
121	A 6	M 1	3	60	10	150	66	aspen (upland)	mature	Y	final harvest	within 0-9 years	1	natural regeneration
<p>comnts Fmd : Small stand on a south-facing slope: Stand is characterized by overmature BTA (large pole and saw) with RM and some HW poles and a minor amount of TA saw. Conks and other signs of interior rot are present. This stand is on the same soils as stand 23, but was not cut along with that stand in 1991. Used stand 23's SI. Final harvest in order to maintain the aspen type. No retention is necessary given its small size.</p>														
128	R 8	A 1	18	67	13	60	60	red pine	old growth (potential or actual)	N		10-19 years	0	
<p>comnts Fmd : Split from stand 28 by Manistee R. Road, was part of the same harvest: cut in summer 2001 under 720030001, all JP, WP, apen and RM 5" DBH and up. All RP were left. Old records indicate that the area had been planted to RP, WP and JP in fall 1940 and spring 1941. Varying stocking RP, mostly small saw. RP in areas with lower stocking are shorter, with more taper and heavier limbs. Remnant row segments are short, so it looks more like a natural-origin stand than a plantation. A1 understory is a composite of all species (TA, WP, JP, RP and oak). There are small pockets of A3, some residual from the cut (generally unthrifty) and others regenerated by the cut. Used stand 28's SI. SCA - Deward Area - a dedicated management area.</p>														
129	R 8	M 2	4	67	13	50	60	red pine	old growth (potential or actual)	N		10-19 years	0	
<p>comnts Fmd : Stands 29, 129 and 229 are within an area that old records indicate was planted in 1941 to RP, WP &amp; JP, but these stands were excluded from the stand 28/128 2001 harvest area. Short remnant row segments are visible in places, but the plantation didn't take as well along the W &amp; N edges (stands 29, 129 &amp; 229), probably due to competition from the heavier aspen coverage that was there prior to the 1969 K-G blade treatment. These stands are in the transition zone between the majority RP type (stands 28/128) and the majority aspen type (stands 14, 114 &amp; 32). Stand 129 is a mix of more or less open-grown form RP saw (~30 BA) with TA &amp; BTA (regen from the K-G cutting), and lesser amounts of WP &amp; JP poles and scattered NPO saw. M1 is a composite of all species present in the understory. Used stand 28's SI. Previous SI on the aspen was 57. SCA - Deward Area - a dedicated management area.</p>														
140	E 9	F 1	10	96	12	140	55	swamp hardwoods	old growth (potential or actual)	Y		not scheduled	0	
<p><u>Treatment Limiting Factors:</u> Water quality/bmps</p> <p>comnts Fmd : Was split off from stand 40 and left as an uncut buffer along Lost Lake. Primarily on Tawas-Leafriver mucks. RM is the most common (poles and cull saw), hemlock is second, followed by lesser amounts of yellow birch, WP, paper birch and NWC. The hemlock (including small saw) is much healthier than on stand 40's upland site. Used stand 40's SI. SCA - Deward Area - a dedicated management area.</p>														
212	L 3	L 3	27			0		lowland brush	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Floodplain along the Manistee River. Lowland brush, open marsh inclusions, and scattered Q/E. Several drains cut through the floodplain and feed into the mainstream. SCA - Deward Area - a dedicated management area. HCVA within 400 feet of the Upper Manistee - a designated Natural River.</p>														
215	U 1	U 1	6			0	48	upland brush	sparse	N		10-19 years	0	
<p>comnts Fmd : Opening on the outwash plain with clumps of cherry, serviceberry &amp; viburnum, scattered wide-crowned wolfy NPO, short limby pine, and small clones of TA &amp; BTA.</p>														

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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								
229	R 8	A 1	12	67	13	50	60	red pine	immature	N		10-19 years	0	
<p>comnts Fmd : Stands 29, 129 and 229 are within an area that old records indicate was planted in 1941 to RP, WP &amp; JP, but these stands were excluded from the stand 28/128 2001 harvest area. Short remnant row segments are visible in places, but the plantation didn't take as well along the W &amp; N edges (stands 29, 129 &amp; 229), probably due to competition from the heavier aspen coverage that was there prior to the 1969 K-G blade treatment. These stands are in the transition zone between the majority RP type (stands 28/128) and the majority aspen type (stands 14, 114 &amp; 32). Stand 229 is a mix of more or less open-grown form RP saw (~30 BA) with small pockets of TA (regen from the K-G cutting), and lesser amounts of WP saw (poor form), WP &amp; JP poles, and aspen saplings. Used stand 28's SI. Previous SI on the aspen was 57.</p>														
400	G 0	G 0	1			0		grass	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : South part of large well site (tanks and structures to N in Otsego County). Well itself is in the compt. SCA - Deward Area - a dedicated management area.</p>														
401	G 0	G 0	15			0		grass	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Wide cleared corridor with several buried pipelines. Some aspen and JP regen. Two low areas with salix. SCA - Deward Area - a dedicated management area.</p>														
402	G 0	G 0	3			0		grass	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Opening with pockets of cherry &amp; balsam fir. Was part of an area (including stand 10) that old records indicate was K-G bladed in 1959. Its west edge borders Lost Lake. SCA - Deward Area - a dedicated management area.</p>														
403	G 0	G 0	1			0		grass	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Clearing on the opposite side of the river from the sand trap work site. SCA - Deward Area - a dedicated management area. HCVA within 400 feet of the Upper Manistee - a designated Natural River.</p>														
404	G 0	G 0	10			0		grass	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Opening with clumps of cherry and scattered v. large wolfy NPO. TA colonizing the margins. SCA - Deward Area - a dedicated management area.</p>														
405	G 0	G 0	1			0		grass	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Former well site, being colonized by aspen. SCA - Deward Area - a dedicated management area.</p>														
406	G 0	G 0	1			0		grass	old growth (potential or actual)	N		not scheduled	0	
<p>comnts Fmd : Well site. SCA - Deward Area - a dedicated management area.</p>														
407	G 0	G 0	12			0		grass	nonstocked	N		not scheduled	0	
<p>comnts Fmd : Manistee River Road and pipeline cleared corridor. The wide spot in the corridor (in the SWSW sec 5) is a former well site.</p>														
408	G 0	G 0	1			0		grass	nonstocked	N		not scheduled	0	
<p>comnts Fmd : Well site</p>														

GRAYLING FOREST MGT UNIT

Stand Level Information

Compartment: 169 Entry Year: 2010

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Stand	Cover Type-Dnsty	Under Story-Stkng Level	Acres	Age	avg. DBH	Tot. BA	Site Indx	Mgt Obj	Condition	Silv. Criteria Met?	Method Cut	Trtmt. Period	Harvest Priority	Cultural Need
409	G 0	G 0	1			0		grass	nonstocked	N		not scheduled	0	
comnts Fmd : Former well site on the ridgetop. Fantastic view overlooking the Manistee River valley. Given the steep ascent, erosion is probably an issue on the SW access. Evaluate snow-off to determine road closure needs. There are currently five trail road spurs to the site. Keep one access route open, if possible.														
410	G 0	G 0	44			0		grass	nonstocked	N		not scheduled	0	
comnts Fmd : Long grassy opening in a valley. Scattered 3-stick cherry, cherry brush, serviceberry, and rubus in patches. Isolated 1 acre and smaller aspen clones. Pockets of short, open-grown RP, WP & JP. Old RR grades run most of its length.														
411	G 0	G 0	2			0		grass	nonstocked	N		not scheduled	0	
comnts Fmd : Well site and contiguous natural opening to the N.														
412	G 0	G 0	1			0		grass	nonstocked	N		not scheduled	0	
comnts Fmd : Well site														
413	G 0	G 0	2			0		grass	nonstocked	N		not scheduled	0	
comnts Fmd : Old notes indicate that it is a former well site and the sand piles are from the Manistee River sand trap. Operating well site just to the west (stand 412).														
414	G 0	G 0	1			0		grass	nonstocked	N		not scheduled	0	
comnts Fmd : Well site														
<b>Total Acres.....</b>			<b>1260</b>											