Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 152
Entry Year 2016
Acreage: 1,796
County Kalkaska
Management Area: Manistee River Valley

Revision Date: 04/01/2014

Stand Examiner: Steve Crigier

Legal Description:

T25N R6W Sections 31, 32, and 33

Identified Planning Goals:

Vegetation management in the Manistee River Valley management area will provide timber products; maintain or enhance wildlife habitat; protect areas of unique character including the Manistee River and its tributaries, a designated natural river; protect threatened, endangered and special concern species; and provide for forest-based recreational uses. Most of this management area sits on glacial outwash plain. A history of intensive management has resulted in the varied forest cover types present today. Timber management will emphasize aspen harvests to maintain early successional habitat for hunting and other wildlife-related recreational opportunities; increasing regeneration of oak; balancing the red pine age class structure through final harvests and re-planting; and improving red pine quality through partial harvests. Expected trends within this 10-year planning period are increased recreational pressure, especially on the established trails and along the Manistee River and its tributaries; a need to restore barrens communities through prescribed fire; and invasive plant control.

Soil and topography:

The predominant soils are Rubicon, Graycalm, Croswell and other sands with Tawas-Lupton mucks along the stream corridors. The compartment is generally flat but contains some narrow stream valleys along Little Cannon Creek and its tributaries. The east half of Section 33 rises into hardwood-covered moraine hills.

Ownership Patterns, Development, and Land Use in and Around the Compartment:

The entire compartment is state-owned land except for the northeast quarter of Section 31 which has multiple private residences and seasonal cabins. The compartment is mostly surrounded by state land except for a few scattered privately owned 40-acre parcels. In 2001, 18.6 acres in Section 31 NESE (Stand 35) was administratively transferred to Michigan State Police for a communications tower.

Unique Natural Features:

Some of the compartment is potential habitat for wood turtle (State SC). The lowland areas may provide adequate habitat for Eastern massasauga rattlesnakes (State SC and federal candidate).

Archeological, Historical, and Cultural Features:

There are known concerns within the compartment. All proposed management activities have taken these concerns into consideration.

Special Management Designations or Considerations:

Sections 32 and 33 are part of the long-term lease with Camp Grayling for military training. As tributaries of the Manistee River, Little Cannon Creek and its tributaries are protected by Natural Rivers designation.

Watershed and Fisheries Considerations:

The headwaters of Little Cannon Creek, a tributary of the Manistee River, start from a spring in Section 31. Little Cannon Creek, a Designated Trout Stream, has very cold temperatures and self-sustaining populations of brook and brown trout. Whiskey Creek, a headwater tributary to Little Cannon Creek, also has self-sustaining populations of brook trout.

Wildlife Habitat Considerations:

Featured wildlife species for this management area include: black bear, golden-winged warbler, pileated woodpecker, ruffed grouse, snowshoe hare, and white-tailed deer. Some of the most significant wildlife management issues will be maintenance of young forest, large open grassland complexes and marsh/grassland complexes; the retention of large, over-mature trees and snags; and the maintenance and expansion of hard mast and mesic conifer components.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact and glacial outwash sand and gravel and postglacial alluvium. The glacial drift

thickness varies between 400 and 600 feet. Beneath the glacial drift is the Mississippian Michigan Formation. The Michigan is quarried for gypsum elsewhere in the state. A gravel pit is located in Section 33 and potential is good in this area. This pit has been used by Kalkaska County, [but the lease is now open for re-bid.] This compartment was part of the Cannon Creek Field. The field produced gas from the Devonian Traverse and oil from the Detroit River Formation. There are currently no leases in the compartment.

Vehicle Access:

There is sufficient vehicle access throughout the compartment. The road along the south edge of Section 33 may need improvement or closure if erosion becomes a problem.

Survey Needs:

There are no survey needs at this time.

Recreational Facilities and Opportunities:

Significant stretches of the North Missaukee Motorcycle Trail run through the entire compartment. The Miss-Kal Snowmobile Trail runs through the south part of Section 31. The North Missaukee ORV Route runs on a two-track through Sections 32 and 33. Appropriate trail protections specifications should be added to the timber sale contracts to reduce impacts to trails where treatments are prescribed. Other recreational opportunities include hunting and trout fishing. (T.M.N. 5/15/14)

Fire Protection:

There is moderate potential for wildfire in this compartment, primarily in the planted pine stands of Sections 31 and 32. Grassy openings were included as firebreaks in some of these plantations. The spread of fire would also be checked by stream corridors and wet stands or by incompatible timber types. Fire protection would be provided by the Kalkaska FRD office and the Garfield Fire Department.

Additional Compartment Information:

The following reports from the Inventory are attached:

- **Total Acres by Cover Type and Age Class**
- **Cover Type by Harvest Method**
- **Proposed Treatments – No Limiting Factors**
- **Proposed Treatments – With Limiting Factors**
- **Stand Details (Forested and Nonforested)**
- **Dedicated and Proposed Special Conservation Areas**
- **Site Condition Details**

The following information is displayed, where pertinent, on the attached compartment maps:

- **Base feature information, stand boundaries, cover types, and numbers**
- **Proposed treatments**
- **Site condition boundaries**
- **Details on the road access system**

Cover Type & Treatment Map

Compartment: 152
T25N R06W
Sections: 31, 32, 33
County: Kalkaska
Unit: Traverse City
Management Area: Manistee River Valley
YOE: 2016
Acres: 1,796 GIS Calculated
Examiner: Steve Crigier
Map Revised: 06/16/2014
Map Phase: Web Post

Stand # / Stocking Density
23
(412)0) - A7
Level 3 / OI
Level 4 / Code
Cover Type Code

31 | 32 | 33

N

DEPARTMENT OF NATURAL RESOURCES · DNR · MICHIGAN

85°5'0"W 85°4'0"W 85°3'0"W 85°2'0"W
44°3'0"N

S Sharon Rd SE
Little Cannon Creek Rd SE
Little Cannon Creek Rd
E Fahrney Rd
N 7 Mile Rd
Delma Rd

1 2124-O3 | 2 4126-O8 | 3 310-G0 | 4 4133-A8 | 5 4226-MC9 | 6 4199-MD4 | 7 6129-Q6 | 8 4229-MC9 | 9 4130-A6 | 10 6124-Q4 | 11 4211-R6 | 12 310-G0 | 13 4111-M9 | 14 4130-A3 | 15 6118-E6 | 16 4229-MC9 | 17 4130-A6 | 18 330-U0 | 19 4191-MD5 | 20 4130-A3 | 21 4220-W6 | 22 6117-E6 | 23 4220-W6 | 24 6120-C6 | 25 4130-A3 | 26 4199-MD6 | 27 4226-MC9 | 28 4191-MD4 | 29 4130-A5 | 30 6120-C6 | 31 6112-P6 | 32 4226-MC9 | 33 4130-A6 | 34 330-U0 | 35 310-G0 | 36 122-X0 | 37 4130-A6 | 38 310-G0 | 39 4130-A6 | 40 4211-R6 | 41 6120-C6 | 42 4133-A5 | 43 622-L0 | 44 4130-A6 | 45 4191-MD4 | 46 4211-R6 | 47 4130-A3 | 48 4220-W9 | 49 310-G0 | 50 4226-MC9 | 51 4124-O8 | 52 4220-W9 | 53 6119-E6 | 54 310-G0 | 55 623-N0 | 56 4119-M6 | 57 4124-O9 | 58 623-N0 | 59 4130-A6 | 60 623-N0 | 61 330-U0 | 62 4220-W6 | 63 320-U0 | 64 500-Z0 | 65 4221-R9 | 66 4226-MC9 | 67 4310-UM4 | 68 4211-R6 | 69 4220-W6 | 70 4124-O8 | 71 4221-R6 | 72 4191-MD9 | 73 4133-A6 | 74 4191-MD3 | 75 4126-O9 | 76 4199-MD3 | 77 4191-MD4 | 78 4130-A5 | 79 4199-MD3 | 80 4126-O9 | 81 4130-A6 | 82 320-U0 | 83 4133-A3 | 84 4130-A3 | 85 4123-O9 | 86 4191-MD8 | 87 4123-O9 | 88 710-Y0

Legend

- Miris Corners
- Remonumented Section Corners
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Stream
- Intermittent Stream
- Lakes and Rivers

- Motorcycle Trails (DNR License)
- MCCCT Trails
- ORV Trails
- ORV Routes
- Snowmobile Trails
- Motorcycle (DNR Sticker)
- ORV Trail
- ORV Route
- Snowmobile Trail
- MCCCT Trail

Planned Regeneration
- Natural
- Planted

Treatments
- Clearcut (w/Reserves, Patch/Strip)
- Shelter Wood (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Selection (Group, Single Tree)
- Other Harvest - See Comments
- Opening Maintenance
- Other Treatment - See Comments
- Treatments w/ Site Condition

Forest Stands
- 411 - Northern Hardwood
- 412 - Oak Types
- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest

Non-Forest Stands
- 122 - Road/Parking Lot
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 710 - Sand, Soil
- State Forest Land

1 0.5 0 1 Miles

Unknown
57 11 05

Stand Boundary Map

Compartment: 152
T25N R06W
Sections: 31, 32, 33
County: Kalkaska
Unit: Traverse City
Management Area: Manistee River Valley
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Examiner: Steve Crigier
Map Revised: 06/16/2014
Map Phase: Web Post

Stand # 23 — Stocking Density
(412)0) - A7
Level 3 OI
Level 4 Code
Cover Type Code

31 | 32 | 33

N

DEPARTMENT OF NATURAL RESOURCES · MICHIGAN · DNR

Little Cannon Creek Rd SE
S Sharon Rd SE
E Fahrney Rd
W Fahrney Rd
N 9 Mile Rd

85°5'0"W 85°4'0"W 85°3'0"W 85°2'0"W 85°6'0"W
44°32'0"N 44°31'0"N 44°30'0"N

1 Stand 23 1 4126-O8
2 4124-O3
3 310-G0
4 4133-A8
5 4226-MC9
6 4199-MD4
7 6129-Q6
8 4229-MC9
9 4130-A6
10 6124-Q4
11 4211-R6
12 310-G0
13 4111-M9
14 4130-A3
15 6118-E6
16 4229-MC9
17 4130-A6
18 330-U0
19 4191-MD5
20 4130-A3
21 4220-W6
22 6117-E6
23 4220-W6
24 6120-C6
25 4130-A3
26 4191-MD4
27 4226-MC9
28 4191-MD4
29 4130-A5
30 6120-C6
31 6112-P6
32 4226-MC9
33 4130-A6
34 330-U0
35 310-G0
36 122-X0
37 4130-A6
38 310-G0
39 4130-A6
40 4211-R6
41 6120-C6
42 4133-A5
43 622-L0
44 4130-A6
45 4191-MD4
46 4211-R6
47 4130-A3
48 4220-W9
49 310-G0
50 4226-MC9
51 4124-O8
52 4220-W9
53 6119-E6
54 310-G0
55 623-N0
56 4119-M6
57 4124-O9
58 623-N0
59 4130-A6
60 623-N0
61 330-U0
62 4220-W6
63 320-U0
64 500-Z0
65 4221-R9
66 4225-MC9
67 4310-UM4
68 4211-R6
69 4220-W6
70 4124-O8
71 4221-R6
72 4191-MD9
73 4133-A6
74 4191-MD3
75 4126-O9
76 4199-MD3
77 4191-MD4
78 4130-A5
79 4199-MD3
80 4126-O9
81 4130-A6
82 320-U0
83 4133-A3
84 4130-A3
85 4123-O9
86 4191-MD8
87 4123-O9
88 710-Y0

31 32 33

Legend

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- ORV Route
- Snowmobile Trail
- MCCCT Trail
- Stand Boundaries

1 0.5 0 1 Miles

Special Conservation Areas & Site Conditions Map

Compartment: 152
T25N R06W
Sections: 31, 32, 33
County: Kalkaska
Unit: Traverse City
Management Area: Manistee River Valley
YOE: 2016
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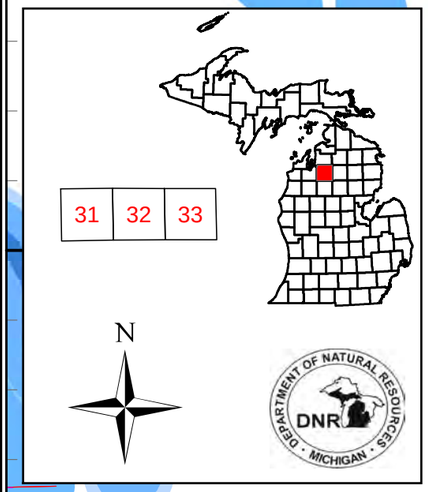

Stand # 23 — Stocking Density
(412)0) - A7
Level 3 OI
Level 4 Code
Cover Type Code

85°5'0"W 85°4'0"W 85°3'0"W 85°2'0"W
44°32'0"N 44°31'0"N 44°30'0"N

5C - 016 2G - 007 2G - 008 3J - 003 5C - 013 3J - 002 2G - 017
3J - 005 2G - 018 5C - 012 5C - 011 3J - 005
3J - 006 5C - 014 5C - 015

Legend

- Miris Corners
- Remonumented Section Corners

Site Condition Available
- Available w/ Constraints (Factor - Number)
- Unavailable (Factor - Number)

Reviewable SCAs
- Proposed SCA
- SCA Removal

Dedicated Special Conservation Areas
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Cold Water Streams
- High Priority Trout Stream Buffer
- Research, Development, and Military Lands
- Stand Boundaries

1 0.5 0 1 Miles

Report 1 – Total Acres by Cover Type and Age Class

Traverse City Mgt. Unit **Compartment 152 Year of Entry 2016**

Steven Crigier : Examiner

Age Class

	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +	Uneven Age	Total
Aspen	32	16	40	106	73	96	0	0	0	0	0	0	0	0	**363**
Cedar	0	0	0	0	0	0	0	0	0	27	0	6	0	0	**33**
Herbaceous Openland	37	0	0	0	0	0	0	0	0	0	0	0	0	0	**37**
Low-Density Trees	5	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
Lowland Aspen/Balsam Poplar	0	0	0	0	11	0	0	0	0	0	0	0	0	0	**11**
Lowland Conifers	0	0	0	0	0	0	0	0	0	0	0	29	0	0	**29**
Lowland Deciduous	0	0	0	0	0	0	2	0	14	0	0	0	0	0	**15**
Lowland Shrub	2	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Marsh	12	0	0	0	0	0	0	0	0	0	0	0	0	0	**12**
Mixed Upland Deciduous	24	40	14	5	17	6	16	11	0	0	33	0	0	0	**165**
Natural Mixed Pines	0	0	0	0	0	0	12	92	0	73	0	15	0	0	**192**
Northern Hardwood	0	0	0	0	0	0	0	25	11	0	0	0	0	0	**36**
Oak	11	0	0	0	0	0	0	0	104	10	321	89	0	0	**535**
Red Pine	0	0	0	0	119	123	25	0	0	0	0	0	0	0	**267**
Sand, Soil	8	0	0	0	0	0	0	0	0	0	0	0	0	0	**8**
Upland Mixed Forest	0	0	4	0	0	0	0	0	0	0	0	0	0	0	**4**
Upland Shrub	9	0	0	0	0	0	0	0	0	0	0	0	0	0	**9**
Urban	9	0	0	0	0	0	0	0	0	0	0	0	0	0	**9**
Water	8	0	0	0	0	0	0	0	0	0	0	0	0	0	**8**
White Pine	0	0	0	0	0	10	29	9	8	0	0	0	0	0	**55**
Total	**157**	**56**	**58**	**111**	**220**	**234**	**84**	**137**	**136**	**110**	**354**	**139**	**0**	**0**	**1796**

Report 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2016

Compartment 152
Total Compartment Acres: 1,796

Acres by Treatment Type

Commercial Harvest - 568	Tree Planting - 0	Other - 0
Habitat Cut - 0	Opening Maintenance - 50	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen Types	78	0	0	0	0	0	**78**
Lowland Deciduous Forest	11	0	0	0	0	0	**11**
Northern Hardwood	0	11	0	0	0	25	**36**
Oak Types	69	200	0	55	0	0	**324**
Planted Pines	0	0	0	0	119	0	**119**
Total	**158**	**211**	**0**	**55**	**119**	**25**	**568**

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
9	61152009-Cut	24.0	4130 - Aspen	High Density Pole	57		Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal

Prescription Specs: Clearcut stand. Mark to leave a few scattered pine and oak trees for retention. Concentrate retention around the ORV trail. Please include CWD (drumming log spec) in sale. Leave tops unchipped as much as possible, especially in lowland stands and aspen adjacent to lowlands, to provide horizontal habitat component for wildlife. Please leave tops in scattered piles for wildlife habitat as much as possible. Leave younger balsam for wildlife cover.

Other Comments: Add trail protection specifications for ORV and Snow trail. Possibly include stands 33 and 39 to make up the sale. There might be a green up issue with a sale to the west in C.244 that is on contract right now and will need to be evaluated when the time comes to set up the sale.

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
13	61152013-Cut	25.1	4111 - S.Maple, Hard Mast Association	High Density Log	78	51-80	Harvest	Other - Specify in Comments	411 - Northern Hardwood	Cmpt. Review Proposal

Prescription Specs: Salvage the ash and beech logs with the adjacent timber sale to the west in compartment 244 PC Mix. Please include CWD (drumming log spec) in sale. Leave tops unchipped as much as possible, especially in lowland stands to provide horizontal habitat component for wildlife. Please leave tops in scattered piles for wildlife habitat as much as possible.

Other Comments: Already added stand to the PC Mix sale (61-027-13-01) with a contract supplement.

Next Steps:

Proposed Start Date: 05/02/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
31	61152031-Cut	10.5	6112 - Lowland Aspen	High Density Pole	45		Harvest	Clearcut with Reserves	6112 - Lowland Aspen	Cmpt. Review Proposal

Prescription Specs: Final harvest stand. May want to use a cut to length system due to the low ground. Also look to save all the cedar either with some retention pockets or by specification. Please include CWD (drumming log spec) in sale. Leave tops unchipped as much as possible, especially in lowland stands and aspen adjacent to lowlands, to provide horizontal habitat component for wildlife. Please leave tops in scattered piles for wildlife habitat as much as possible. Any aspen cuts that are adjacent to a lowland stand please at conclusion of the sale have the logger fell the marked boundary trees in the adjoining lowland stand for hare habitat. Leave younger balsam for wildlife cover.

Other Comments: Will need dry or frozen ground conditions to operate. Sale area will also need to be adjusted on the ground there are a few tag alder patches that will need to be excluded.

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
33	61152033-Cut	7.0	4130 - Aspen	High Density Pole	44		Harvest	Clearcut	4130 - Aspen	Cmpt. Review Proposal

Prescription Specs: Final Harvest the stand. Will need to buffer the drainage to the east (retention). Please include CWD (drumming log spec) in sale. Leave tops unchipped as much as possible, especially in lowland stands and aspen adjacent to lowlands, to provide horizontal habitat component for wildlife. Please leave tops in scattered piles for wildlife habitat as much as possible. Any aspen cuts that are adjacent to a lowland stand please at conclusion of the sale have the logger fell the marked boundary trees in the adjoining lowland stand for hare habitat. Leave younger balsam for wildlife cover.

Other Comments: Put with the south part of stand 39 and st 9 for a timber sale. Use ORV and snowmobile trail protection spec.

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
39	61152039-Cut	46.7	4130 - Aspen	High Density Pole	54		Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal

Prescription Specs: Buffer the creek in the southwest. Add trail protection spec for the snowmobile and orv trail. Mark to leave some scattered oak and pine (1-2 trees/ac). trying to include stand 28 with the sale (opening maintence) if it make sense. Please include CWD (drumming log spec) in sale. Leave tops unchipped as much as possible, especially in lowland stands and aspen adjacent to lowlands, to provide horizontal habitat component for wildlife. Please leave tops in scattered piles for wildlife habitat as much as possible.

Other Comments: Don't use rye field as a landing.

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
40	61152040-Cut	27.4	42110 - Planted Red Pine	High Density Pole	43	141-170	Harvest	Crown Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Stand could be thinned for a second time. Mark the stand down to a residual BA of about 120-130. Leave the aspen to avoid sprouting. Also leave the large oak trees for mast and diversity. Management of the pine stands here should consider incorporating small (1-2 acre) islands that are left relatively un-thinned within mature stands to provide winter roosting cover for turkeys. Deciduous species should be encouraged within conifer plantations for diversity.

Other Comments: Stand has dirt bike trail in the east part use trail protection spec. Possibly pair stand up with 46 and 68 for a sale.

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
46	61152046-Cut	59.6	42110 - Planted Red Pine	High Density Pole	46	141-170	Harvest	Systematic Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Third row thin the stand. Work around the large oak trees if possible. Management of the pine stands here should consider incorporating small (2-5 acre) islands that are left relatively un-thinned within mature stands to provide winter roosting cover for turkeys. Deciduous species should be encouraged within conifer plantations for diversity.

Other Comments: Include stands from compartment 146 (51 &56), to the north, with this sale. Also include stands 40 and 68.

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
56	61152056-Cut	11.2	4119 - Mixed Northern Hardwoods	High Density Pole	88	81-110	Harvest	Single Tree Selection	411 - Northern Hardwood	Cmpt. Review Proposal

Prescription Specs: Thin stand down to ~80sqft/ac. Ground appears to be operable but looks like there are some lowland areas. Decent amount of ash to salvage. Please include CWD (drumming log spec) in sale. Leave tops unchipped as much as possible, especially in lowland stands and aspen adjacent to lowlands, to provide horizontal habitat component for wildlife. Please leave tops in scattered piles for wildlife habitat as much as possible. Leave younger balsam for wildlife cover.

Other Comments: Possibly look to move up the start date to harvest the ash before it is lost.

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
57	61152057-Cut	55.0	4124 - Red with White Oak	High Density Log	88	81-110	Harvest	Shelterwood	412 - Oak	Cmpt. Review Proposal

Prescription Specs: Mark to leave the trees in stand 57 about 20sq/ftac. Leave trees should be clumpy rather than evenly distribued to allow for larger canopy gaps. Also leave a decent amount of the red maple to avoid sprouting competition with the oak? Please include CWD (drumming log spec) in sale. Please leave tops in scattered piles for wildlife habitat as much as possible. Wildlife considerations regarding oak types include retaining mature mast-producing trees, protection of den/nest trees, regenerating oak in mature stands, maintaining the diversity of tree species within the stand.

Other Comments: Dirt bike trail runs through the north end of the sale, apply necessary protection specs.

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
68	61152068-Cut	32.0	42110 - Planted Red Pine	High Density Pole	45	141-170	Harvest	Systematic Thinning	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: 3rd row thin stand. Management of the pine stands here should consider incorporating small (1-2 acre) islands that are left relatively un-thinned within mature stands to provide winter roosting cover for turkeys. Deciduous species should be encouraged within conifer plantations for diversity.

Other Comments: Set up with a sale with stand 46 and 40.

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
75	61152075-Cut_small_1	27.5	4126 - White, Black, N. Pin Oak	High Density Log	110	81-110	Harvest	Clearcut with Reserves	412 - Oak	Cmpt. Review Proposal

Prescription Specs: Continue with the patch clearcut. So clearcut 1/2 of the stand and next year of entry will complete the rotation.Please include CWD (drumming log spec) in sale. Please leave tops in scattered piles for wildlife habitat as much as possible. Wildlife considerations regarding oak types include retaining mature mast-producing trees, protection of den/nest trees, regenerating oak in mature stands, maintaining the diversity of tree species within the stand.

Other Comments: Hauling will occur on the ORV route so apply route protection spec. Sell with stand 80 as well. Skidding will have to occur through the regenerating patches so try to protect as much regen as possible in the adjacent patches.

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
80	61152080-Cut	42.0	4126 - White, Black, N. Pin Oak	High Density Log	110	51-80	Harvest	Clearcut with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Clearcut/Seed tree harvest stand leaving about 1-2 trees/acres. Consider leaving some red maple in the overstory to avoid sprouting competition. Chip harvest to facilatate planting of redpine (post harvest). Please include CWD (drumming log spec) in sale. Leave younger balsam for wildlife cover. Wildlife considerations regarding oak types include retaining mature mast-producing trees, protection of den/nest trees, regenerating oak in mature stands, maintaining the diversity of tree species within the stand.

Other Comments: Protect regen in the patches that have already been harvested. Used ORV route protection spec. Sell with stand 75.

Next Steps: Mechanically treat site if necessary trench and plant red pine.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
87	61152087-Cut	199.7	4123 - Red Oak	High Density Log	102	111-140	Harvest	Group Selection	411 - Northern Hardwood	Cmpt. Review Proposal

Prescription Specs: Try a group selection cut and emphasize the regeneration gaps where younger oak is present and we will have a good shot at getting some oak back. Target residual BA should be around 70sqft/ac but incoporate 1-2 regen gaps/ac. Also cut all the ash trees and remove most of the beech. Wildlife considerations regarding oak types include retaining mature mast-producing trees, protection of den/nest trees, regenerating oak in mature stands, maintaining the diversity of tree species within the stand.

Other Comments: Move the the 2014 POW to harvest the ash and beech in time (Where is Northern Oak 61-030-14-01). I did see a few trees with scale on them. Use the ORV trail protection specs on this sale.

Next Steps:

Proposed Start Date: 05/02/2014

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
77	61152077-NonFor	13.7	4191 - Mixed Upland Deciduous with Conifer	Low Density Pole	28	1-50	Non-Forest Management	Other - Specify	330 - Low Density Trees	Cmpt. Review Proposal

Prescription Specs: A portion of this stand south of the existing 2 track was once a maintained opening. Possibly harvest some of the timber via adjacent timber sale (stand 75). WLD can mark trees. Remove exotics as needed by herbiciding, or other methods. Seed in forage crop appropriate for site location and seasonal (i.e. summer vs. winter forage) wildlife uses. May want/need to work around existing beneficial vegetation (i.e. blackberry). Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment. Plant to annual rye for several years and then convert to a pasture mix (i.e. clover/alfalfa) if soil will support it.

Other Comments:

Next Steps: Periodic maintenance such as mowing, fertilization, reseeding, and/or removal of woody encroachment.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
3	NF_61152003-NonFor	2.9	310 - Herbaceous Openland				Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
12	NF_61152012-NonFor	8.2	310 - Herbaceous Openland				Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
18	**NF_61152018-NonFor**	1.6	330 - Low-Density Trees				Non-Forest Management	Brush Cutting	320 - Upland Shrub	Cmpt. Review Proposal

Prescription Specs: Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
34	**NF_61152034-NonFor**	1.8	330 - Low-Density Trees				Non-Forest Management	Brush Cutting	320 - Upland Shrub	Cmpt. Review Proposal

Prescription Specs: Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
54	**NF_61152054-NonFor**	8.1	310 - Herbaceous Openland				Non-Forest Management	Other - Specify	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: This opening is a traditional wildlife planting. Plant to annual rye for several years and then convert to a pasture mix (i.e. clover/alfalfa) if soil will support it.

Other Comments:

Next Steps: Periodic maintenance such as mowing, fertilization, reseeding, and/or removal of woody encroachment.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
82	**NF_61152082-NonFor**	7.4	3205 - Mixed Upland Shrub				Non-Forest Management	Other - Specify	330 - Low Density Trees	Cmpt. Review Proposal

Prescription Specs: This opening was a traditional wildlife planting. Remove exotics as needed by herbiciding, or other methods. Seed in forage crop appropriate for site location and seasonal (i.e. summer vs. winter forage) wildlife uses. May want/need to work around existing beneficial vegetation (i.e. blackberry). Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment. Plant to annual rye for several years and then convert to a pasture mix (i.e. clover/alfalfa) if soil will support it.

Other Comments:

Next Steps: Periodic maintenance such as mowing, fertilization, reseeding, and/or removal of woody encroachment.

Proposed Start Date: 10/01/2015

Total Treatment Acreage Proposed: 611.3

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
26	61152026-NonFor	6.0	4199 - Other Mixed Upland Deciduous	High Density Pole	63	51-80	Non-Forest Management	Brush Cutting	330 - Low Density Trees	Cmpt. Review Proposal

Prescription Specs: Most of this stand was once a maintained opening along with stand 36 immediately to the south. Possibly harvest some of the timber via adjacent timber sale (stand 75). WLD can mark trees. Remove exotics as needed by herbiciding, or other methods. Seed in forage crop appropriate for site location and seasonal (i.e. summer vs. winter forage) wildlife uses. May want/need to work around existing beneficial vegetation (i.e. blackberry).

Other Comment:

Next Steps: Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment. Plant to annual rye for several years and then convert to a pasture mix (i.e. clover/alfalfa) if soil will support it. Periodic maintenance such as mowing, fertilization, reseeding, and/or removal of woody encroachment.

Proposed Start Date: 10/01/2015

Limiting Factor: 3J: Water quality / BMPs (stream, river, or lake)

Total Treatment Acreage Proposed: 6.0

Report 5 – Site Conditions

Traverse City Mgt. Unit | **Compartment 152**

Steve Crigier : Examiner | **Year of Entry 2016**

Availability for Management

Total Acres	Acres Available	Acres Not Available		Dominant Site Conditions No	5C	3J	2G
362	344	19	**Aspen**	302	41	19	
33	0	33	**Cedar**	0		6	27
11	11		**Lowland Aspen/Balsam Poplar**	11			
29		29	**Lowland Conifers**				29
15	3	12	**Lowland Deciduous**	3		12	
165	161	4	**Mixed Upland Deciduous**	161		4	
192	184	8	**Natural Mixed Pines**	184		7	0
36	36		**Northern Hardwood**	36			
534	530	4	**Oak**	364	166	4	
267	267		**Red Pine**	267			
4	4		**Upland Mixed Forest**	4			
55	43	12	**White Pine**	43		11	1
1,704	1,583	120	Total Forested Acres	1,376	207	63	57
	93%	7%	Relative Percent				

**Due to limitations in the current Site Conditions Analysis tool, all nonforested acres are considered available. Future development will enable analysis of nonforested types.*

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
002	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	6				
	Comments:						
003	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	21				
	Comments:						

005	Not Available	3J: Water quality / BMPs (stream, river, or lake)	43	

Comments:

006	Not Available	3J: Water quality / BMPs (stream, river, or lake)	12	

Comments:

007	Not Available	2G: Too wet (sensitive soils, does not include access issues)	19	

Comments:

008	Not Available	2G: Too wet (sensitive soils, does not include access issues)	10	

Comments:

011	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	43	

Comments:

012	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	6	

Comments:

013	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	18
Comments:			
014	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	10
Comments:			
015	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	116
Comments:			
016	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	15
Comments:			
017	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	7
Comments:			
018	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	21
Comments:			

Report 6 – PROPOSED SPECIAL CONSERVATION AREA* (SCA) DETAILS

* This is a partial list of SCAs for this compartment. Not included are those areas identified under other Department initiatives (Natural Rivers, Deer Wintering Areas, etc.). Those will be identified in separate, future map and report products.

SCA Name	SCA Category	Detail Type	Recommendation	Acres

Comments

Report 7 – EXISTING SPECIAL CONSERVATION AREA DETAILS

* This is a list of SCA's for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to the Special Conservation Area Map for locations of the below listed Conservation Areas.

ERA = Ecological Reference Area
HCVA = High Conservation Value Area
SCA = Special Conservation Area

Conservation Area	Type	Description
SCA	Archaeological Site	An aquatic or terrestrial area of the State that contains physical remains of human occupation. These are sites of cultural and historical significance that may occur upon terrestrial areas and Great Lakes bottomlands. They include thousands of Native American settlements and burial sites, as well as French and British outposts, nineteenth century logging camps, mines and homesteads. Beneath the waters of the Great Lakes, there are shipwrecks and other remains documenting the maritime trade. Such sites may be identified by Natural heritage data from the State Historic Preservation Office. Proposed treatments in this compartment will be implemented in such a manner as to maintain the integrity of these sites. Due to the sensitive nature of this information, no further detail about location is available.
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species (e.g., slimy sculpin) to persist from year to year. Coldwater streams in Michigan typically provide these conditions due to substantial contributions of groundwater to their stream flows. Such streams are established by Director's action and designated as trout resources by Fisheries Order 210.
SCA	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.
SCA	Riparian Area	A transitional area between aquatic and terrestrial ecosystems in which the terrestrial ecosystem influences the aquatic ecosystem and vice-versa. Because of the unique conditions adjacent to lakes, streams and open water wetlands, riparian areas harbor a high diversity of plants and wildlife. Riparian communities are ecologically and socially significant in their effects on water quality and quantity, as well as aesthetics, habitat, bank stability, timber production, and their contribution to overall biodiversity.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4126 - White, Black, N. Pin Oak	Medium Density Log	14.7	105	51-80	Stand was shelterwood harvested in 1999. Decent amount of oak regen but is a bit heavier to soft maple.
2	4124 - Red with White Oak	High Density Sapling	10.8	4		Stand was harvested in 2010. Left a few log trees/acre for seed. Regeneration is dense and most of it is 5'10' tall.
4	4133 - Aspen, Mixed Pine	Medium Density Log	9.6	46	51-80	Stand is a mixed bag of species. Heavier to pine on the western portion and then more aspen clones in the east.
5	42260 - Natural Pine, Mixed Deciduous	High Density Log	11.8	119	81-110	Stand was lightly thinned in 2008. Large diameter red pine. A decent amount of white pine in the understory in different size classes.
6	4199 - Other Mixed Upland Deciduous	Low Density Pole	10.5	65	1-50	Stand is mostly and old fire break that is filling in and also has some large oak scattered through
7	6129 - Mixed Coniferous Lowland Forest	High Density Pole	19.3	111		decent quality spruce. Lots of windthrow in areas.
8	42290 - Natural Mixed Pine	High Density Log	3.2	119	51-80	Stand was thinned in 2008. Quite a bit of aspen and soft maple regeneration. Some scattered bigtooth pole timber left. Red pine is of good quality 12" and 6 + sticks.
9	4130 - Aspen	High Density Pole	24.0	57		Nice quality bigtooth aspen, lot of 6 stick trees. Scattered red and white pine along with some scattered oak.
10	6124 - Lowland Spruce-Fir	Low Density Pole	9.8	111		Old inventory notes a timber tresspass from adjacent timbersale on private. Leaving smaller conifers and a few scattered W. pine.
11	42110 - Planted Red Pine	High Density Pole	107.0	58	111-140	Mostly 4-5 stick trees.
13	4111 - S.Maple, Hard Mast Association	High Density Log	25.1	78	51-80	Stand had the aspen cut out of it in 2008. The hardwoods were then marked down to 70sqft/ac. Looks like some of the ground might be soft. Thick aspen regeneration, along with ironwood in the understory too.
14	4130 - Aspen	High Density Sapling	4.9	6		was originaly apart of the hardwood stand but was heavy to aspen so is now a A3 pocket.
15	6118 - Lowland Deciduous with Cedar	High Density Pole	2.7	89		lots of withthrown. Stand has a small perrinial drain along its west boundary. Stand is working a riparian buffer.
16	42290 - Natural Mixed Pine	High Density Log	3.7	62	51-80	
17	4130 - Aspen	High Density Pole	20.4	48		Stand is prodominately aspen but with a mix of oak and soft maple and white pine. Also note that there is a perrential drain in the southern portion of the stand.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
19	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	17.1	44	1-50	Poor quality mixed stand. Had a hard time with the defining a timber type. It appears that the stand will eventually convert to white pine. Lots of age and size classes of timber. quite a bit of advanced regen.
20	4130 - Aspen	High Density Sapling	19.5	28		Trees are about 20-30' tall. Well stocked.
21	42201 - Natural White Pine, Mixed Deciduous	High Density Pole	4.7	70	81-110	Decent quality white pine. Quite a bit of advanced regen.
22	6117 - Lowland Deciduous, Mixed Coniferous	High Density Pole	1.6	61	51-80	some scattered cedar. transition ground down to the cedar type
23	42201 - Natural White Pine, Mixed Deciduous	High Density Pole	7.7	50	51-80	Natural pine stand with quite a bit of aspen and soft maple
24	6120 - Lowland Cedar	High Density Pole	5.9	112		Very dense stocking. Stand is heavily used by deer. Decent quality cedar. Also has a creek running through it.
25	4130 - Aspen	High Density Sapling	16.4	6		Stand was final harvested in 2008. They left scattered sugar maple and red oak log/pole timber. Stand also has some scattered white pine pole timber. Aspen regen is doing well about 10' tall and well stocked. Quite a bit of ironwood coming up as well.
26	4199 - Other Mixed Upland Deciduous	High Density Pole	6.0	63	51-80	Mixed hardwood stand with aspen stand along the creek.
27	42260 - Natural Pine, Mixed Deciduous	High Density Log	5.4	90	81-110	Big white and red pine (20" +) with some soft maple and aspen. A few scattered oak trees. Stand has a perennial creek running through it with a vain of cedar and hemlock that follow it.
28	4191 - Mixed Upland Deciduous with Conifer	Low Density Pole	5.8	52	1-50	Stand is an opening filling in with pockets of aspen. poor quality timber.
29	4130 - Aspen	Medium Density Pole	19.7	38		
30	6120 - Lowland Cedar	High Density Pole	5.8	90		Nice quality cedar poles. A lot of 3-4 stick cedar and good diameters too 8-10". Lots of blowdown in the center of the stand. Deer are using the heck out of the stand.
31	6112 - Lowland Aspen	High Density Pole	10.5	45		Decent quality aspen. 4-5 stick aspen.
32	42260 - Natural Pine, Mixed Deciduous	High Density Log	8.8	64	111-140	Mixed pine stand with a bit of oak and soft maple also. Lots of advanced white pine regen in the understory. Decent quality red and white pine.
33	4130 - Aspen	High Density Pole	13.6	44		Stand stocking is variable. Mostly made up of quaking aspen. Ground appears to be wet. Some bigtooth at the south end of the stand.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
37	4130 - Aspen	High Density Pole	13.2	53		Mix of quaking and bigtooth. Stand has Whiskey Cr. running through it. Southern half of the stand has a bit more oak and soft maple mixed in and serves as a bit of a riparian buffer/ tranistion ground. Quaking aspen is of pretty poor quality in the southern half of the stand.
39	4130 - Aspen	High Density Pole	51.7	54		Nice clones of bigtooth in areas. Some white pine in the understory. Scattered pine in the overstory. There is a perrenial creek that border the stand in the southwest corner.
40	42110 - Planted Red Pine	High Density Pole	27.4	43	141-170	Stand was 3rd row thinned in 2006. Rows are fairly straight, most trees are 5 stick. Some trees have room to grow others have already closed together.
41	6120 - Lowland Cedar	High Density Pole	21.3	94		Lots of blowdown. Looks like the deer are using the area for cover. Stand also has Whiskey Cr. Running through a portion of it.
42	4133 - Aspen, Mixed Pine	Medium Density Pole	25.9	40		Quaking aspen is pretty poor quality stuff, seems to be more on the east end of the stand. Quaking is 4-5'' and 2 sticks tall however the clones of bigtooth are doing real well.
44	4130 - Aspen	High Density Pole	6.9	55		
45	4191 - Mixed Upland Deciduous with Conifer	Low Density Pole	5.0	30	1-50	Stand is an opening filling in.
46	42110 - Planted Red Pine	High Density Pole	59.6	46	141-170	Stand is made up of 4 small plantation blocks. Trees are averaging 4 sticks in height. Trees are still a bit limby. Moderate quality trees. Stand is on the boarder line of whether to be treated or not.
47	4130 - Aspen	High Density Sapling	10.8	6		Stand was final harvested in 2008, all the oak was left as residual. Regen is about 5-10' tall and is well stocked. Stand appears to be mostly aspen with a decent amount of red maple and cherry also. Previous inventory noted some paper birch.
48	42201 - Natural White Pine, Mixed Deciduous	High Density Log	7.6	88	81-110	Stand is apart of the transition ground between the upland and lowland.
50	42260 - Natural Pine, Mixed Deciduous	High Density Log	91.7	72	111-140	White pine is pretty rough with lots of limbs and not very straight. Quaking aspen is starting to deteriorate. Lots of different age and size classes. More red pine in the eastern part of the stand, decent stuff 5-6 stick trees. extra ba120.
51	4124 - Red with White Oak	Medium Density Log	45.9	88	1-50	Stand was shelterwood harvested in 1999. Regen is varible in stocking. Some oak is now established but is mostly red maple and aspen. Some A3 pockets. There is some deer browse issue but it looks like the treatment was moderatly sucessful. extra ba 40.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
52	42200 - Natural White Pine	High Density Log	4.7	72	51-80	Stand was treated with a Manton sale in 2003, removing all the aspen and soft maple. Soft maple and aspen understory is about 10' and is pretty dense.
53	6119 - Mixed Lowland Deciduous Forest	High Density Pole	11.0	83	51-80	Stand has whiskey creek running through it. Stand is working as a riparian buffer.
56	4119 - Mixed Northern Hardwoods	High Density Pole	11.2	88	81-110	Stand appears to be on lower ground although I wouldn't call it low ground.
57	4124 - Red with White Oak	High Density Log	58.0	88	81-110	Old inventory notes a bunch of dead oak trees (confirmed). Quite a bit of white pine in the understory especially in the north 1/2 of the stand. North 1/2 of the stand is more of a white oak stand, stocking is less dense and the quality of log trees is less also. Not the best quality of oak although good diameters. extra ba100
59	4130 - Aspen	High Density Pole	3.8	45		
62	42201 - Natural White Pine, Mixed Deciduous	High Density Pole	28.7	67	81-110	Stand is quite variable with a creek running through it. Fairly steep banks going down to the creek. The northern portion of the stand is almost a pure W6. The southern portion of the stand isn't as well stocked as the north. Also, the timber in the southern end of the stand appears to be younger (30-40).
65	42210 - Natural Red Pine	High Density Log	16.0	59	81-110	Stocking is variable. Northern portion of the stand had a lot of nice quality red and white pine 5-6 sticks. The majority of the timber is shorter and limbier. Lots of size classes. It looks like white pine wants to come into the stand. It looks like portions of the stand had the red maple and oak cut out of it.
66	42250 - Pine, Oak	High Density Log	67.6	98	51-80	Stand was lightly thinned in 2006. Seeing quite a bit of advanced red pine regen! Lots of age and size classes, a very uneven looking stand. The pine is nice stuff, tall and clean. Stand has more of a pine component to it in the southern half. Extra BA 100, 90
67	4310 - Pine, Oak Mix	Low Density Pole	4.2	25	1-50	Stand is an opening filling in.
68	42110 - Planted Red Pine	High Density Pole	32.0	45	141-170	mostly 3-4 stick trees. Mediocur quality. Some areas need to be thinned then others have a lot of low limbs and poor height development. extra ba. 150, 110, 160,
69	42200 - Natural White Pine	High Density Pole	2.0	55	81-110	Limby trees, 3-4 stick tall. Not ready to thin yet
70	4124 - Red with White Oak	Medium Density Log	10.3	90	1-50	Open grown oak stand with some red maple and aspen. Oak is mature. South end of the stand has some good signs of oak and white pine regeneration. Northern part of stand is pretty bare in the understory.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
71	42210 - Natural Red Pine	High Density Pole	25.0	63	111-140	Red pine trees are fairly short (4 stick) and is fairly limby. Looks to be open growth. Stocking is quite variable. Lots of size and age classes of red pine. quite a bit of red pine seedlings!
72	4191 - Mixed Upland Deciduous with Conifer	High Density Log	10.9	76	111-140	Stand is an oak/ pine mix. The stand is filling in with white pine in the understory. There are lots of age classes of white pine. Middle portion of the stand is not as well stocked. Stand also has a couple clones of aspen.
73	4133 - Aspen, Mixed Pine	High Density Pole	13.3	38		Stand is well stocked and is a young A6 stand. Trees are 3-4 sticks.
74	4191 - Mixed Upland Deciduous with Conifer	High Density Sapling	23.9	4		Stands were a part of the 1 acre patch clearcuts and were completed in 2010. They seem to be fairly successful maybe close to 30% oak some patches a little more some a little less. Most of the patches are well stocked but some others are moderately stocked. Most of the oak is around 3-5' tall while the soft maple and aspen are up there 10' +. Note that there is quite a bit of deer browse in these patch cuts.
75	4126 - White, Black, N. Pin Oak	High Density Log	46.9	110	81-110	Stand was thinned in 1995. Pretty rough saw timber, good diameters but averaging 2 logs or so per tree. Stand is mature.
76	4199 - Other Mixed Upland Deciduous	High Density Sapling	22.8	19		Stand is a part of the 1 acre patch clearcuts and these ones were cut in 1995. Stand is coming back to a mix of aspen, oak, and maple. Some of the patches are full of oak regen but others aren't. Overall most of the patches are well stocked with probably lesser amount of oak than was originally here.
77	4191 - Mixed Upland Deciduous with Conifer	Low Density Pole	13.7	28	1-50	and old opening that is filling in with aspen, cherry
78	4130 - Aspen	Medium Density Pole	20.2	28		Stand is a converting from a sapling to a pole stand. 3-4 stick trees.
79	4199 - Other Mixed Upland Deciduous	High Density Sapling	16.8	19		Stand is made up of several one acre patches that were cut out of the parent stand (PI 72) in 1995. Regen pocket are doing okay but are sparse in areas. Trees are about 15-20' tall except for the oak which is more like 5-10'.
80	4126 - White, Black, N. Pin Oak	High Density Log	42.0	110	51-80	Stand had 1 acre portions of it clearcut back in 1995 that is now PI stand 73 the main stand was thinned at the time the 1 acre pockets were cut. The parent stand is an medium quality oak stand. The timber is a little rough. Lots of log trees with good diameter but they are rough and there is 2-3 logs/tree. I think a lot of the red oak is also 'black oak'. Blueberry for ground cover and looks like white pine wants to come in underneath. The eastern portion of the stand is more of a red oak and maple mix and the oak is a lot better quality. (extra BA 130).
81	4130 - Aspen	High Density Pole	72.9	38		Average dbh is around 6, 4-5 sticks tall and well stocked. Look to final harvest next entry or at least part of the stand
83	4133 - Aspen, Mixed Pine	High Density Sapling	3.9	16		Stand was also part of the MSU white pine research area.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
84	4130 - Aspen	High Density Sapling	12.3	16		Trees are about 20' tall.
85	4123 - Red Oak	High Density Log	106.0	102	51-80	Stand was harvested in 1999. Old inventory states that MSU used this sale area to underplant and do a study on white pine. This is not the best red oak fairly rough timber although it looks healthy. Rolling terrain on the south end of the stand. Stand has a unique mix of regeneration depending on what part of the stand you are in. South eastern part of the stand has quite a bit of sugar maple regen! Southwest has a decent amount of white pine and oak. North portion seems to have a lot of snow. Extra BA (90, 100)
86	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	32.7	106	51-80	Stand was harvested 2010. Quite a bit of red maple and aspen regeneration as well as white pine no oak regen visible. A large variety of species were harvested. Good quality red and white pine in the stand the oak is mediocur. Stand looks as if it wants to convert to a white pine and oak mix. Hold on any treatment to allow the regeneration to become more established.
87	4123 - Red Oak	High Density Log	200.4	102	111-140	Stand was thinned in 99. Not showing much signs of regeneration. The south end of the stand has more beech in the understory. North half of the stand is pretty decent oak and maple (4-5log oak). I also noticed quite few oak trees dieying off, so far the just seem to be individual trees no groups or clumps. Extra BA (110, 120)

Report 9 – Nonforested Stands

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
3	310 - Herbaceous Openland	2.9	Unspecified	Unspecified	
12	310 - Herbaceous Openland	8.2	Unspecified	Unspecified	
18	330 - Low-Density Trees	1.6	Unspecified	Unspecified	
34	330 - Low-Density Trees	1.8	No	Unspecified	
35	310 - Herbaceous Openland	2.1	Unspecified	Unspecified	
36	122 - Road/Parking Lot	8.7	Unspecified	Unspecified	
38	310 - Herbaceous Openland	8.9	Unspecified	Unspecified	
43	622 - Lowland Shrub	1.6	Unspecified	Unspecified	
49	310 - Herbaceous Openland	7.0	Unspecified	Unspecified	
54	310 - Herbaceous Openland	8.1	Yes	Unspecified	
55	623 - Emergent Wetland	2.6	Unspecified	Unspecified	
58	623 - Emergent Wetland	8.0	Unspecified	Unspecified	
60	623 - Emergent Wetland	1.3	Unspecified	Unspecified	
61	330 - Low-Density Trees	1.8	Unspecified	Unspecified	
63	320 - Upland Shrub	1.6	Unspecified	Unspecified	
64	50 - Water	8.3	Unspecified	Unspecified	
82	3205 - Mixed Upland Shrub	7.4	No	Unspecified	covered with sumac.
88	710 - Sand, Soil	7.9	No	Unspecified	