



# TIMBER SALE PRESCRIPTION

<b>GENERAL</b>	
Date	Forest, Mineral and Fire Management Unit
10/03/12	Grayling
Timber Sale Number (if applicable)	Sale Name (or prescription name)
720031301, 720041301	Comp 068 Mix

<b>LOCAL CONTACT</b>	
Name	Telephone
Tom Barnes	(989) 348-6371 ext: 7449
Email Address	FAX
Barnest2@michigan.gov	(989) 348-8825

Map of Project Area Attached

<b>LEGAL DESCRIPTION</b>
T24N R08E Section(s) 16, 17, 18, 20, 21 Description: Sec 16 - W1/2; Sec 17 - All; Sec 18 - S1/2; Sec 20 - NE1/4; Sec 21 - W1/2, NWNE, S1/2SE

Compartment: 068 stands: 17, 24, 28, 32, 33, 35, 45

**THIS TIMBER SALE CONTRACT IS BASED ON THE FOLLOWING ACREAGE**

Estimated Acres: 596 Source:  Other GIS (GDSE) Payment will be made on the basis of these estimated acres.

<b>TREATMENT &amp; OBJECTIVE</b>						
STAND NUMBER	TREATMENT NAME (IFMAP)	COVER TYPE	ACRES	BA Range	TREATMENT	MANAGEMENT OBJECTIVE
17	72068017-Cut	Black, N. Pin Oak (O8)	49	1-50	Clearcut w/Reserves	Mixed Hardwood & Pine
24	72068024-Cut	White, Black, N. Pin Oak (O8)	176	81-110	Clearcut w/Reserves	Mixed Hardwood & Pine
28	72068028-Cut	Pine, Oak Mix (UM9)	165	51-80	Clearcut w/Reserves	Mixed Jack Pine & Oak
32	72068032-Cut	White, Black, N. Pin Oak (O8)	38	51-80	Clearcut w/Reserves	Mixed Jack Pine & Oak
33	72068033-Cut	White, Black, N. Pin Oak (O9)	73	51-80	Seed Tree w/ Reserves	Mixed Hardwood
35	72068035-Cut	White, Black, N. Pin Oak (O5)	75	51-80	Seed Tree w/ Reserves	Mixed Oak and Pine
45	72068045-Cut	White, Black, N. Pin Oak (O9)	20	81-110	Clearcut w/Reserves	Mixed Oak and Pine

<b>INVENTORY DATA – Stand 17</b>				
SPECIES	% OF CANOPY COVER	SIZE CLASS	AVERAGE DBH	AGE
Black/Red (Hybrid) Oak	85%	Log/Pole	11	97
Bigtooth Aspen	13%	Pole/Log	9	
White Oak	2%	Log/Pole	12	

<b>INVENTORY DATA – Stand 24</b>				
SPECIES	% OF CANOPY COVER	SIZE CLASS	AVERAGE DBH	AGE
Black/Red (Hybrid) Oak	60%	Log/Pole	11	78
Jack Pine	15%	Pole	8	
White Oak	25%	Log/Pole	10	

<b>INVENTORY DATA – Stand 28</b>				
SPECIES	% OF CANOPY COVER	SIZE CLASS	AVERAGE DBH	AGE
White Oak	5%	Log/Pole	12	
Jack Pine	45%	Pole/Log	8	62
Black/Red (Hybrid) Oak	45%	Log/Pole	11	91
Bigtooth Aspen	3%	Log/Pole	11	
Red Pine	2%	Pole/Log	9	

<b>INVENTORY DATA – Stand 32</b>				
SPECIES	% OF CANOPY COVER	SIZE CLASS	AVERAGE DBH	AGE
White Oak	20%	Log	12	
Jack Pine	25%	Log/Pole	10	
Black/Red (Hybrid) Oak	43%	Log	12	78
Bigtooth Aspen	10%	Log/Pole	10	
Red Pine	2%	Log/Pole	10	

<b>INVENTORY DATA – Stand 33</b>				
SPECIES	% OF CANOPY COVER	SIZE CLASS	AVERAGE DBH	AGE
White Oak	25%	Log/Pole	12	
Jack Pine	15%	Pole/Log	8	
Black/Red (Hybrid) Oak	45%	Log/Pole	14	78

Bigtooth Aspen	10	Log/Pole	12	
Red Pine	5%	Log	14	

**INVENTORY DATA – Stand 35**

SPECIES	% OF CANOPY COVER	SIZE CLASS	AVERAGE DBH	AGE
White Oak	38%	Pole/Log	10	
Jack Pine	2%	Pole	8	
Black/Red (Hybrid) Oak	50%	Pole/Log	10	85
White Pine	5%	Log/Pole	10	
Red Pine	5%	Log	12	

**INVENTORY DATA – Stand 45**

SPECIES	% OF CANOPY COVER	SIZE CLASS	AVERAGE DBH	AGE
White Oak	20%	Log/Pole	12	
Jack Pine	8%	Pole/Log	8	
Black/Red (Hybrid) Oak	42%	Log/Pole	12	85
White Pine	5%	Pole	7	
Red Pine	15%	Pole/Log	9	
Bigtooth Aspen	10%	Log/Pole	12	

**PRESCRIPTION**

Stand 17 – Clearcut with Reserves:

- All red pine, white pine, white oak are designated leave trees and therefore do not need to be marked.
- Cruised residual for the stand should average no more than 5 sqft of BA.
- Where designated leave trees do not achieve 5 sqft of BA, mark some hybrid oak with green paint to meet this target.

Stand 24 – Clearcut with Reserves:

- Paint boundary lines to create retention islands within the stand that range from 0.5 to 1 acres in size, totaling 5 to 8 acres
- Mark-to-leave healthy looking white oak for vertical structure and for mast, 1-3 trees per acre if applicable.
- Exclude 5 spot cuts, small clearcuts from sale. Do not cruise these areas.

Stand 28 – Clearcut with Reserves:

- Paint boundary lines to create retention islands within the stand that range from 1 to 2 acres in size, totaling 8 to 17 acres.
- Distribute those islands across the stand. Make sure to include oak in retention islands.
- Mark-to-leave healthy looking oak for vertical structure and for mast, 1-3 trees per acre if applicable.

Stand 32 – Clearcut with Reserves:

- Paint boundary lines to create retention islands within the stand that range from 0.5 to 1 acre in size, totaling 1 to 4 acres.
- Distribute those islands across the stand.
- Consider visual aesthetics during the placement of the retention islands.

Stand 33 – Seed Tree with Reserves:

- Mark-to-leave 20 BA of oak and red pine for seed trees.
- Paint boundary lines to create retention islands within the stand that are each .5 to 1 acres in size, totaling 2 to 7 acres.
- Avoid aspen within the retention islands.
- Distribute those islands across the stand.

Stand 35 – Seed Tree with Reserves:

- Mark-to-leave 10 BA of oak for seed trees.
- Paint boundary lines to create retention islands within the stand that are each .5 to 1 acres in size, totaling 4 to 8 acres.
- Consider visual aesthetics during the placement of the retention islands.
- Distribute those islands across the stand.
- All red and white pine are designated leave trees and therefore do not need to be marked.

Stand 45 – Clearcut with Reserves:

- Paint boundary lines to create 2 approximately half acre retention islands.
- Distribute those islands across the stand.
- Mark to leave 5 BA of miscellaneous species throughout the sale.
- Cruised residual for the stand should average no more than 5 sqft of BA.

**Access:** Bissonette Rd to Dutcher Trail, also off Nine Point Rd and Wentworth Rd to Pine Rd.

DNR PREPARATION WORK TO BE DONE PRIOR TO CONTRACT WORK	ESTIMATED DATE
Private Line	Done

**CONTRACT WORK CAN BEGIN**  immediately **CONTRACT WORK MUST BE COMPLETED BY:** 31 July 2014

**PAINT LINE WORK**

This is included in the bid     This is not included in the bid

Paint line work to be performed: (See attached map for locations)

TYPE OF LINE	WORK TO BE DONE	NOT APPLICABLE	PAINT COLOR	
Payment Unit Boundary	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Yellow	<input type="checkbox"/> Other:
Sale Boundary - State	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Red	<input type="checkbox"/> Other:
Sale Boundary - Private	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Blue	<input type="checkbox"/> Other:
Retention Islands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Other:

**Exclusions to mark and why:**

See leave islands specified by stand under the page 2 PRESCRIPTION section. Five spot cut acreage must be subtracted from the encompassing stand's acreage.

**Standards for marking lines against private land**

N/A

**AREA CALCULATION**

This is included in the bid     This is not included in the bid

UNIT	METHOD	STANDARD
Sale	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	
Payment Unit	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	
Stand	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	
Retention Islands	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> String Chain <input type="checkbox"/> Other	

**Special Instructions:**

See Appendix A

**TIMBER CRUISING SPECIFICATIONS**

This is included in the bid     This is not included in the bid

Required Basal Area Factor:  10     20     Other: see Appendix B.5 regarding 10 vs. 20 BAF

Cruise Line Directions: North-south or east-west grid, by the approximate spacing below if compass and pacing, or by a uniform square, GPS-calculated grid.

CRUISING UNIT	ESTIMATED ACRES	NUMBER OF PLOTS PER ACRE	APPROXIMATE SPACING (CHAINS)
17	49	0.9	3 x 3.7
24, 124, 224, 324, 424	176	0.5	4 x 5
28, 128, 228	165	0.5	4 x 5
32	38	1	3 x 3.3
33, 133	73	0.8	3.2 x 4
35, 135	75	0.8	3.2 x 4
45	20	1	3 x 3.3
<b>TOTAL NUMBER OF CRUISE POINTS</b>	390 (estimate)		

**Cruise Special Instructions:**

See Appendix B and Appendix 8 (Product Standards, revised 6-24-2011, will be provided upon request. Note on page 29 the addition of the Walkthrough Method for cruising edge points.) Do not cruise the 5 spot areas.

The type of tally sheet used must meet with the approval of the contract administrator.

**TIMBER MARKING SPECIFICATIONS** This is included in the bid Precise specifications to be delineated at pre-work meeting with DNR staff**Total Merchantable Residual BA (Basal Area):**

Stands 17 and 45 – 5 sq. ft. (Min 0 to Max 10 sq. ft.)

Stand 33 – 20 sq. ft. (Min 10 to Max 30 sq. ft.)

Stand 35 – 10 sq. ft. (Min 0 to Max 20 sq. ft.)

For stands 17 and 45: Any given point can have 0 to 10 sq. ft. left as residual, but the average residual BA for each stand cannot exceed 5 sq. ft.

TREATMENT		NUMBER	SIZE
Regeneration Gaps Per Acre		NA	
Girdled Trees Per Acre		NA	
PRODUCT	MARKING SYMBOL	MINIMUM DBH	TOP DIB
Sawlogs		9.1"	8.0"
Sawbolts	N/A		
Pulpwood		4.6"	4.0
TYPE OF WORK	WORK TO BE DONE	STANDS	PAINT COLOR
Trees marked to leave	<input checked="" type="checkbox"/>	All Stands	<input checked="" type="checkbox"/> Green <input type="checkbox"/> Other
	<input type="checkbox"/>		<input type="checkbox"/> Orange <input type="checkbox"/> Other
TALLY INTENSITIES			
SPECIES / PRODUCT		RATIO	
		1 :	

**SPECIAL MARKING INSTRUCTIONS:**

Do not mark trees to leave within a tree length of overhead powerlines.

Where the snowmobile &amp; ORV trails cross thru the treatment area, favor trees to leave along the trails for visual and at key locations to help define the trail's location.

See page 2 PRESCRIPTION details.

**Unless otherwise specified, the tally sheets used must be those provided by the Forest, Mineral and Fire Management Unit.****RESTRICTIONS**

1. Forest Management Division staff must to be able to identify who did what on the timber sale.
2. The contractor may not have more than two markers in one payment unit without prior approval.
3. Each marker should have an assigned area to mark (not strips).

**PAINT**

1. Paint will be supplied from the Grayling Field Office.
2. Call (989) 348-6371 ext 7449 (Tom Barnes) or ext 7443 (Joan Charlebois) to make arrangements for paint.
3. Contractor's work schedule must coincide with the DNR work schedule for paint supply.
4. The DNR will not be available on weekends or evenings.

**DELIVERABLES**

1. A list of names that marked or cruised each payment unit.
2. A summary of paint used (in quarts) by color.
3. Tally summaries for each payment unit (one summary, regardless of the number of markers) and all of the original tally sheets.
4. GPS files and acreages for line running and area calculation work.
5. Cruise data entered into POSALE and exported onto a disk or other electronic format. Use the sale name/number from page 1.

## **Grayling Management Unit** **Boundary Marking and Area Calculation**

1. Establish sale boundary lines as shown on the attached map. Paint each line so that it can be seen from both inside the sale area and when walking along the line from either direction.
2. Establish payment unit lines as shown on the attached map. Paint each payment unit line so that it can be seen from both adjoining payment units and when walking along the line from either direction.
3. Establish boundaries around Retention Islands as described in the page 2 Prescription. Paint each line so that it can be seen from inside the sale area.
4. Marking must be done in dry weather and when tree surfaces are not wet.
5. Place bole marks approximately five feet above the ground.
6. Each line tree must be stump-marked at its base and extending onto the ground.
7. The contractor will record total quarts of paint used by color.
8. The contractor will use a GPS unit to determine acreage by stand and payment unit to the nearest acre, and mortality pockets to the nearest tenth-acre.
9. GPS units must be compatible with Pathfinder Office (2.01 or later) or produce an ArcMap-compatible shapefile. Correct and edit (clean up outlier/erroneous points) the GPS files before submitting the data.
10. Required GPS receiver signal quality settings for data collection: a minimum of four satellites, with a maximum DOP (dilution of precision) of 5.
11. The GPS receiver must log and save DOP and SNR (signal-to-noise-ratio) data.
12. Sale boundaries and Retention Islands must be recorded as area features, not lines. Isolated stands must be recorded as separate area features.
13. Payment Unit lines must be recorded as line features.

## Grayling Management Unit Timber Cruising Specifications

1. Cruise designated timber using Appendix 8 Product Standards (revised 6-24-2011) to determine products and heights of products. Record cruise data by species/product.
2. Record BA of residual trees by species.
3. Cruise at the sampling intensity specified in the Timber Sale Prescription and apply that rate to your GPS-determined stand acreage.
4. Separate cruise data by the payment units shown on the contract map.
5. Use a 10-factor prism for all stands.
6. Mark plot locations on a map, using the plot number.
7. Unless otherwise agreed to by the contract administrator and the contractor, plot center will be marked by a stake or stick firmly inserted in the ground (not snow) with a ribbon attached to it at a height of not less than two feet above the ground, and labeled with the PU/stand number and plot number. In addition, ribbon at least 12 inches long must be attached to the tree closest to plot center.
8. All cruise sheets must be labeled with the compartment #, stand #, unit #, prism factor, date and the cruiser's name. If a portable data recorder is used for cruising, submit a summary sheet that details the rest of the required information.
9. **A copy of the "POSALE" program will be provided to the successful bidder for cruise data entry. Original cruise sheets and an electronic copy of the cruise data exported from POSALE must be delivered upon completion of the contract field work.**
  - Enter each payment unit's cruise data separately by entering the payment/cruising unit number as the stand number in POSALE.
  - At the cruise data entry screen in POSALE, when prompted to enter the stand acres, enter your actual GPS'd acres (rounded to the nearest whole acre) for that payment unit – NOT the contract's estimated inventory-based acreage.
  - Stands 24, 35 and 45 will make up Timber Sale 72-003-13-01
  - Stands 17, 28, 32, and 33 will make up Timber Sale 72-004-13-01