



MICHIGAN DEPARTMENT OF NATURAL RESOURCES
FOREST, MINERAL AND FIRE MANAGEMENT

TIMBER SALE PRESCRIPTION

GENERAL					
Date 11/17/08		Forest Management Unit Atlanta Unit			
Timber Sale Number (if applicable)		Sale Name (or prescription name) Compartment 12 Contract Packet			
LOCAL CONTACT					
Telephone Number (989) 785-4251 x 5242		FAX Number (989) 785-3513			
Name Robert Theiner		Email Address theinerr@michigan.gov			
<input checked="" type="checkbox"/> Map of Project Area Attached					
LEGAL DESCRIPTION					
T29N R02E Section(s) 22, 23, 24, 26, 27 Description: various – see map					
Year of Entry: 2009 Compartment: 12 Stand Number(s): 7, 10, 38, 60, 67, 79, 81, 82, 83, 84, 86, 92, 144, 206. Also includes Compartment 6 Stand 52.					
THIS TIMBER SALE CONTRACT IS BASED ON THE FOLLOWING ACREAGE					
Estimated Acres:326 Source: <input checked="" type="checkbox"/> OI <input type="checkbox"/> GPS <input type="checkbox"/> Other _____					
Actual Acres: Source: <input type="checkbox"/> OI <input type="checkbox"/> GPS <input type="checkbox"/> Other _____					
Total Acres: 326					
Payment will be made on the basis of these estimated acres.					
TREATMENT & OBJECTIVE					
STAND #	COVER TYPE	ACRES	BA	TREATMENT	MANAGEMENT OBJECTIVE
7	Oak	22	80	Shelterwood	Oak
10	Oak	26	110	Thinning	Oak
38	Red Pine	12	200	Third Row Thinning	Red Pine
60	Oak	8	100	Shelterwood	Oak
67	Oak	33	110	Shelterwood	Oak
79	Oak	39	100	Shelterwood	Oak
81	Oak	28	80	Shelterwood	Oak
82	Aspen	18	80	Clearcut	Aspen
83	Oak	14	70	Shelterwood	Oak
84	Oak	22	130	Shelterwood	Oak
86	Oak	17	90	Shelterwood	Oak
92	N Hardwood	19	110	Shelterwood	Northern Hardwood
144	Oak	43	90	Thinning	Oak
206	Red Pine	13	120	Thinning	Red Pine
Comp 6 Std 52	Oak	12	120	Shelterwood	Oak
PRESCRIPTION (see next page)					

Prescription:

On all stands: Put in all boundary and unit lines. Determine area by GPS for both harvest area and retention areas.

Stand 7: Cruise all aspen and red maple for harvest, mark oak to 30 BA. Tally marked oak logs and cruise marked oak pulp. Leave all red and white pine; cruise residual BA. Stay off steep slopes. Leave 3-5% of total acreage in retention along Co Rd 612 and on slopes. Note: Private line on east.

Stand 10: Cruise all aspen and red maple for harvest, mark poorer quality oak as needed for a total residual of 70 BA. Tally marked oak logs and cruise marked oak pulp. Leave 150 ft minimum no cut zone (retention) along Sage Lake and leave retention along stand 4. Total retention should add up to 1-3 acres.

Stand 38: Mark all cut trees for third row thinning. Cruise cut volume. Leave one half acre in far NW of stand as retention with no cutting.

Stand 60: Mark to 30 BA, tally logs and cruise pulp. Leave 1/2 acre retention on steep slopes.

Stand 67: Cruise all aspen and red maple for harvest, mark oak as needed for a total residual of 40 BA; tally marked oak logs and cruise marked oak pulp. Stay off steep slopes (in west), use slopes for retention (minimum 2 acres retention).

Stand 79 and Comp 6 Stand 52: Cruise all aspen and red maple for harvest, mark oak as needed for a total residual of 50 BA. Tally marked oak logs, cruise marked oak pulp. Leave a total of 2-4 acres retention along east of stand 79, using slopes for retention. Access from west through gas pad.

Stand 81: Cruise all aspen and red maple, mark oak as needed for a total residual of 50 BA, tally marked oak logs and cruise marked oak pulp. Leave 1-1.5 acres retention along north/south road in patches.

Stand 82: Cruise all species. Mark some oak and pine along snowmobile trail to leave. Also mark out a total of 1 acre retention as appropriate for visual.

Stand 83: Mark to 50 BA, leaving red and white pine. Tally logs and cruise pulp. Leave 1 acre retention in patches along trail and roads.

Stand 84: Cruise all aspen and red maple for harvest, mark oak as needed for a total residual of 80 BA. Tally marked oak logs and cruise marked oak pulp. Leave 1-1.5 acres retention along north south road or for visual as appropriate.

Stand 86: Cruise all red maple for harvest, and mark other species as needed for a total residual of 40 BA. Tally marked logs and cruise marked pulp. Protect young aspen patches, leave pine. Leave 1 acre retention along road or as appropriate for visual management. Note: Private on south. Recent survey.

Stand 92: Cruise volume for aspen and birch for harvest; record residual BA by species for other species. Leave 1-2 acres retention, along Soden Road and 1 chain buffer along stand 93 (Q6). Note: Private line to west.

Stand 144: Cruise volume for aspen and red maple for harvest, mark red or black oak for a total residual of 50 BA. Tally marked logs and cruise marked pulp. Do not cut white oak or conifer. Stay off steep slopes, using slopes for retention (minimum 3 acres retention).

Stand 206: Mixed pine/oak stand. Mark to 90 BA, manage for best tree in place. Tally marked logs and cruise marked pulp. Leave retention of 1/2 acre.

DNR PREPARATION WORK TO BE DONE PRIOR TO CONTRACT WORK	ESTIMATED DATE
All work in the Compartment will be done by Contractor.	

CONTRACT WORK CAN BEGIN:

Immediately Date:

CONTRACT WORK MUST BE COMPLETED BY: Date 09/01/2009

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	
Internal Buffer, Slope, or Reserve	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Blue	<input checked="" type="checkbox"/> Other: Green
Sale boundary	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Red	<input checked="" type="checkbox"/> Other: Blue (Pvt.)
Sale cutting unit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Yellow	<input type="checkbox"/> Other:
Stand type line	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Yellow	<input type="checkbox"/> Other:

Exclusions to mark and why:

Contractor will put in all sale and unit boundary lines. Refer to the contract and attached appendix for detailed instructions.

Standards for marking lines against private land:

See Contract Specifications 1-B,7.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	

Special Instructions:

All stands and payment units, including retention areas, will need the area calculated using a GPS unit as described in the contract. These files must be submitted as “.cor” files on media immediately accessible to the Local Contact's equipment. The corrected map at a scale of 1:15840 will be used to indicate the plot locations as the cruise map.

TIMBER CRUISING SPECIFICATIONS This is included in the bid This is not included in the bidRequired Basal Area Factor: 10 20 Other:

Cruise Line Directions: North-South

CRUISING UNITS	NUMBER OF PLOTS PER ACRE	SPACING (CHAINS)
Stand 7, 10, 38, 60, 67, 81, 82, 83, 84, 86, 92, 144, 206	Approx. 1.1	3 X 3
Stand 79 and Comp 6, Stand 52	Approx. 0.9	3 X 4
TOTAL NUMBER OF CRUISE POINTS	TBD by LCA, but approx. 320	

Cruise Special Instructions:

Refer to the contract and attached appendix for detailed instructions.

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

TIMBER MARKING SPECIFICATIONS

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

Precise specifications to be delineated at pre-work meeting with DNR staff

Total Residual BA (Basal Area): 30 (Minimum 20 to Maximum 40) Stands: 7, 60
40 (Minimum 30 to Maximum 50) Stands 67, 86
50 (Minimum 40 to Maximum 60) Stands 79, 81, 83, 144, Comp 6 Stand 52.
60 (Minimum 50 to Maximum 70) Stand 92
70 (Minimum 60 to Maximum 80) Stand 10
80 (Minimum 70 to Maximum 90) Stand 84
90 (Minimum 80 to Maximum 100) Stand 206
 Stand 38 – harvest 1/3 of stand
 Stand 82 – residual 0-5 (retention and visual trees)

TREATMENT		NUMBER	SIZE
Regeneration Gaps Per Acre in Stands:		NA	NA
Girdled Trees Per Acre		NA	NA
PRODUCT	MARKING SYMBOL	MINIMUM DBH	TOP DIB
Sawlogs	X and dot per 8ft log	10 inches	8 inches
Sawbolts	NA	NA	NA
Pulpwood	slash	4.6 inches	4 inches
TYPE OF WORK	WORK TO BE DONE	NOT APPLICABLE	PAINT COLOR
Trees marked to leave	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Green <input type="checkbox"/> Other
Trees marked to cut	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Orange <input type="checkbox"/> Other

TALLY INTENSITIES

SPECIES / PRODUCT	RATIO
Sawlogs	1 : 1
Pulpwood: see cruising section	

SPECIES TO FAVOR:
 Contact LCA for stand specific information.

SPECIES TO FAVOR:
 Contact LCA

SPECIAL MARKING INSTRUCTIONS:
 See attached Appendix and contact LCA.

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

- RESTRICTIONS:**
1. Forest, Mineral and Fire Division must 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. Call Robert Theiner at (989) 785 -4251 ext 5242, to make arrangements in advance for paint.
 2. Paint will be supplied from Atlanta Field Office.
 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.
 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 for any GPS work, including all red, green or yellow painted lines and retention areas.

Compartment 20 Hardwood Contract TIMBER SALE PRESCRIPTION APPENDIX

When establishing paint lines:

- The attached type map delineates the contract marking area.
- Avoid using dead or badly damaged trees - boundary trees must last for the duration of the timber sale (up to 3-4 years).
- Favor the use of reserved species such as cedar.
- Avoid using small (fast-growing) stems and those exposed to direct sunlight.
- Marking must be done in dry weather and when tree surfaces are not wet.
- Paint the boundary line in such a way that it can be seen both from the inside of the sale area and when walking along the line from either direction (two sides). Each boundary line tree must be stump-marked, at the base of the stump (one side) between the roots extending all the way to the ground.
- Place marks approximately six feet above the base of the tree.
- The contractor will keep track of total quarts of paint used per-sale by color.
- The contractor will use a GPS unit to determine enclosed acreage to the nearest one-tenth acre, unless an alternative method is approved prior by Unit Management.
- GPS units used must be compatible with Pathfinder Office (2.01 or later) and capable of producing a Trimble .COR file format. Supply a copy of the traverse file along with a hard copy of the corrected traverse file.
- Position Mode must be set so that GPS receiver collects data from a minimum of four satellites. This must be recorded in the position properties window after downloading.
- Positions deliver ODS (over determine system) data. 2D position will not be acceptable.
- The GPS receiver must log PDOP. This log must be recorded in the position properties window after downloading.
- PDOP mask must be less than or equal to 8.
- SNR setting must be less than or equal to 4.
- Sale boundaries are to be recorded as an area feature, not a line.
- Payment Unit lines may be recorded as a line feature bisecting the sale. Placement and number of payment unit lines will be determined by LCA.
- Excessively steep slopes and retention areas internal to the sale will be marked with green paint.

When Registered Corners or Witness Trees are discovered:

- Any wooden posts encountered at corners must also be painted/protected.
- Bearing and/or witness trees discovered during the course of sale preparation must be protected. This can be accomplished by painting a ring completely around the tree at 4-6 feet above ground level with either red paint (corner surrounded by state lands) or blue paint (corner on private property boundary line). In addition, tying ribbon on these trees helps alert loggers to their presence. Do not mark any trees for harvest if cutting them is likely to result in damage to corner monuments and/or bearing trees.
- Please report the condition of all corners, posts and bearing trees to the LCA.

When Cruising:

- Data must be recorded so volume can be determined by stand. If a stand is split into 2 or more payment units, each unit must be recorded separately. In addition, all data must be summarized by species or species grouping by payment unit.
- All saw logs must be 100% tallied by species and diameter.
- Within all marked stands, cruise all marked pulpwood tree species that will yield one or more 100" pulpwood sticks with a minimum top diameter of four (4) inches DIB. Contact LCA to see what grouping of pulpwood is acceptable.
- Within all marked stands, residual basal area (merchantable sized trees by species) at each plot must also be recorded on the cruise sheets. Borderline residual trees do not have to be measured, but every other borderline tree should be counted.

- Plot centers must be marked according to contract specifications and correspond to a legible 1:15840 scale cruise map. Cruise specifications may be altered as necessary by the LCA.

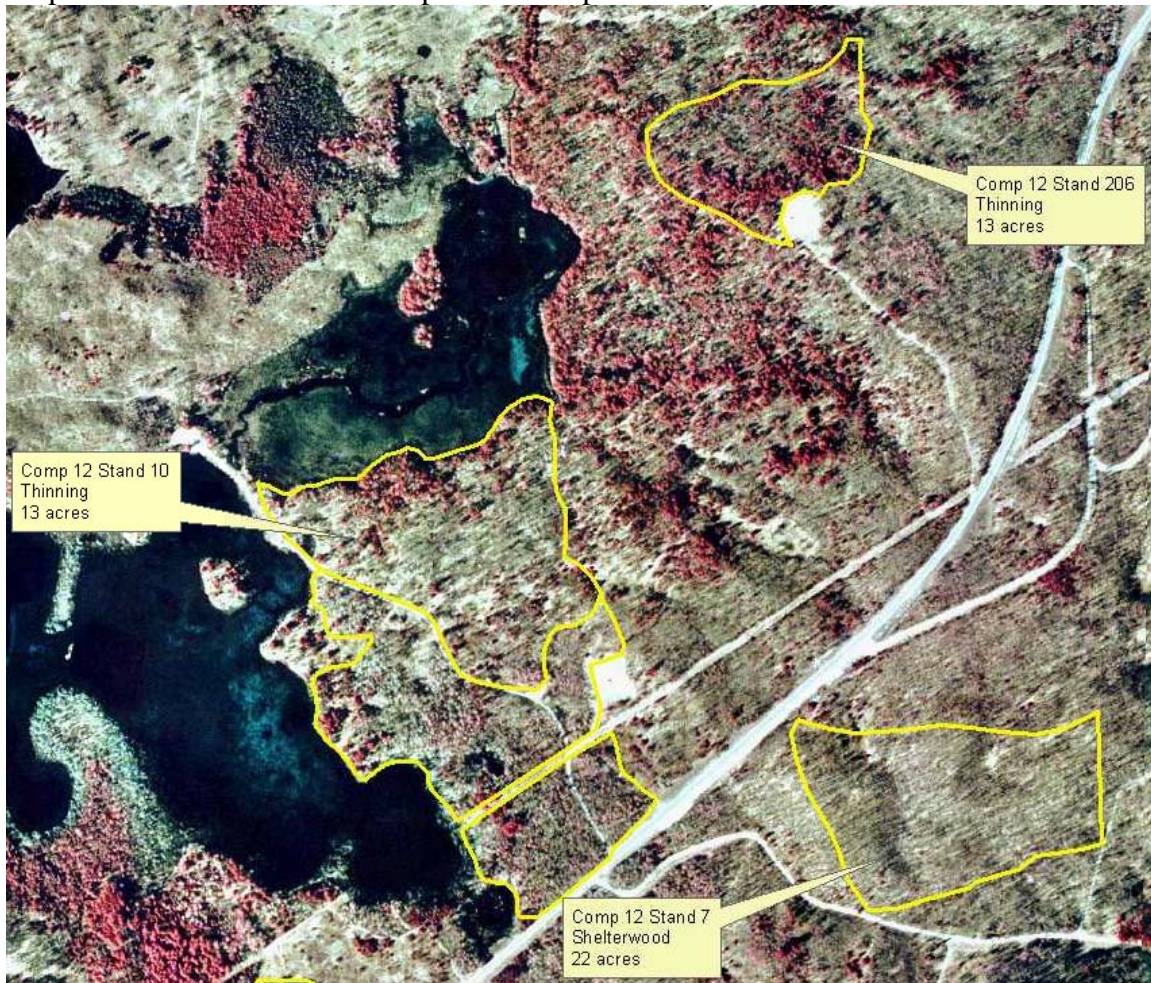
When marking, prioritize selection of trees to be cut in the following order:

1. Release suitable crop trees. (Refer to The Complete Marker for crop tree specifications.)
2. When appropriate, try to increase the number of lesser occurring species such as beech in areas of high bear use. LCA can provide an explanation of this priority.
3. Remove high-risk, poor quality and trees with poor crowns.
4. Maintain target basal area.
5. Maintain all species diversity.
6. For Stand specific marking instructions, see prescription page 2 and discuss with LCA for more specifics.

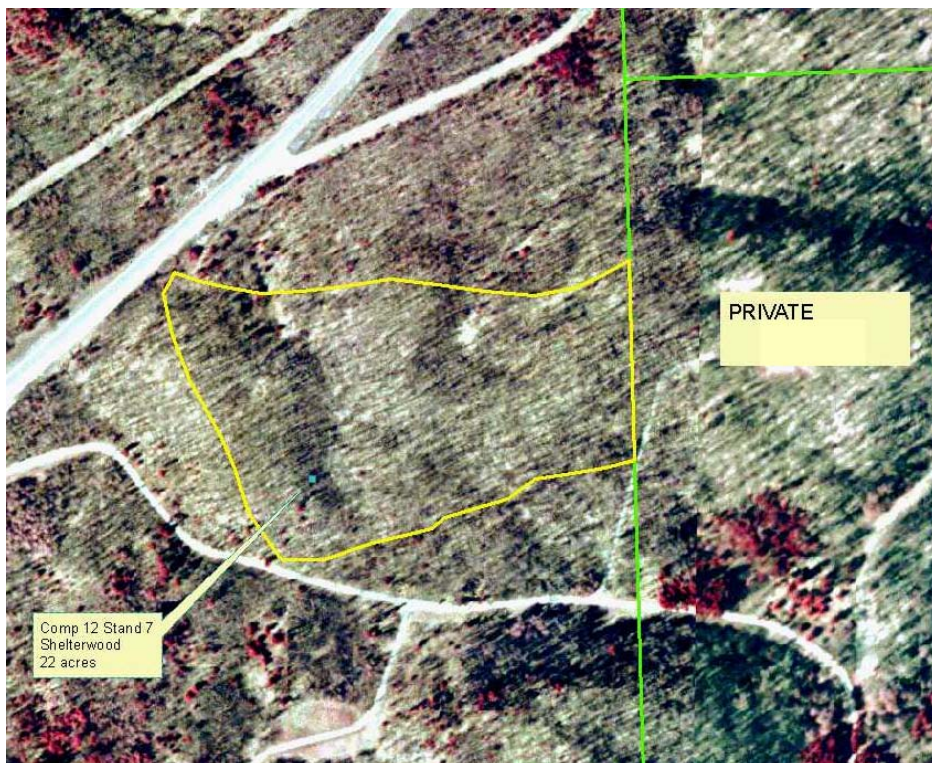
Reserved Species:

- Do not mark within 100' of any raptor nest trees. Report these to the LCA as soon as possible and directions will be given at that time.
- Marking of infrequently occurring species should be avoided. Consult the LCA for clarification.

Maps not to scale. Refer to compartment map for scale and locations.



Stands 10 and 206 - all lines in red. Note with stand 10 that there are additional stands to the south that will be marked by staff. Yellow lines for those stands are also shown on this map.



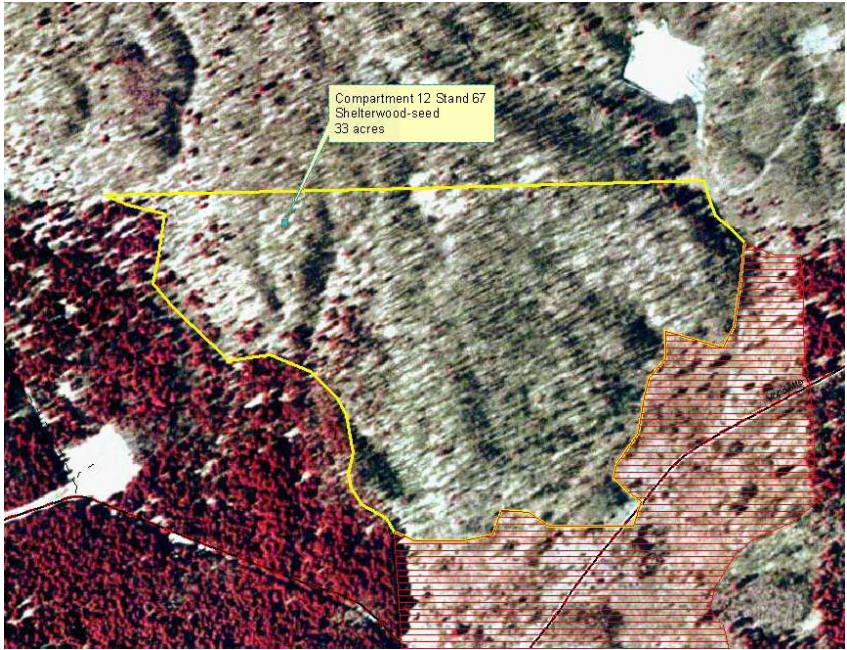
Stand 7 – eastern boundary should be blue (along private) and the rest in red.



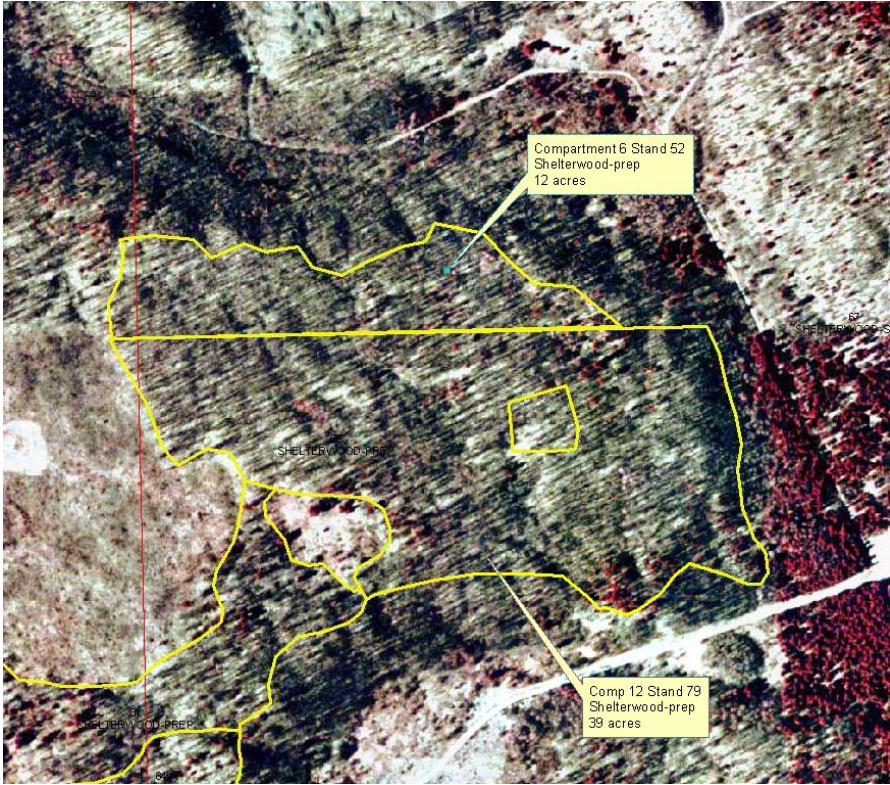
Stand 38 – red boundaries



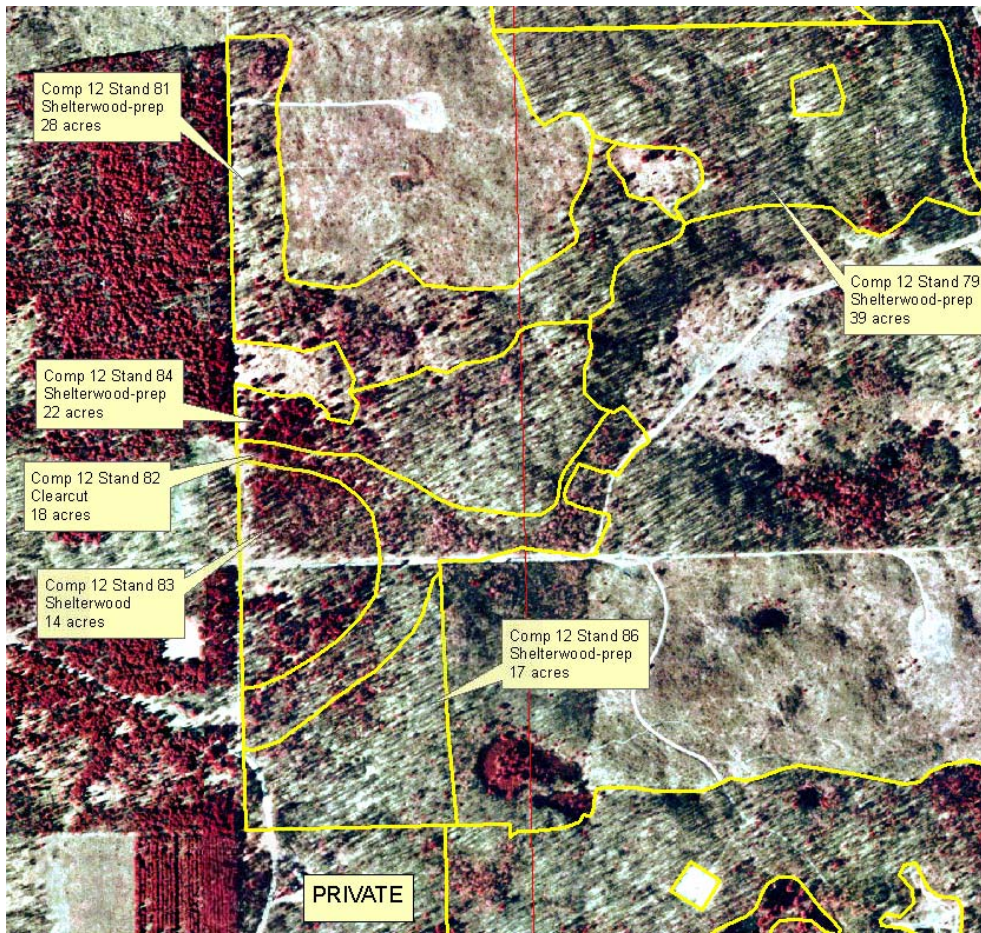
Stand 60 – all boundaries in red



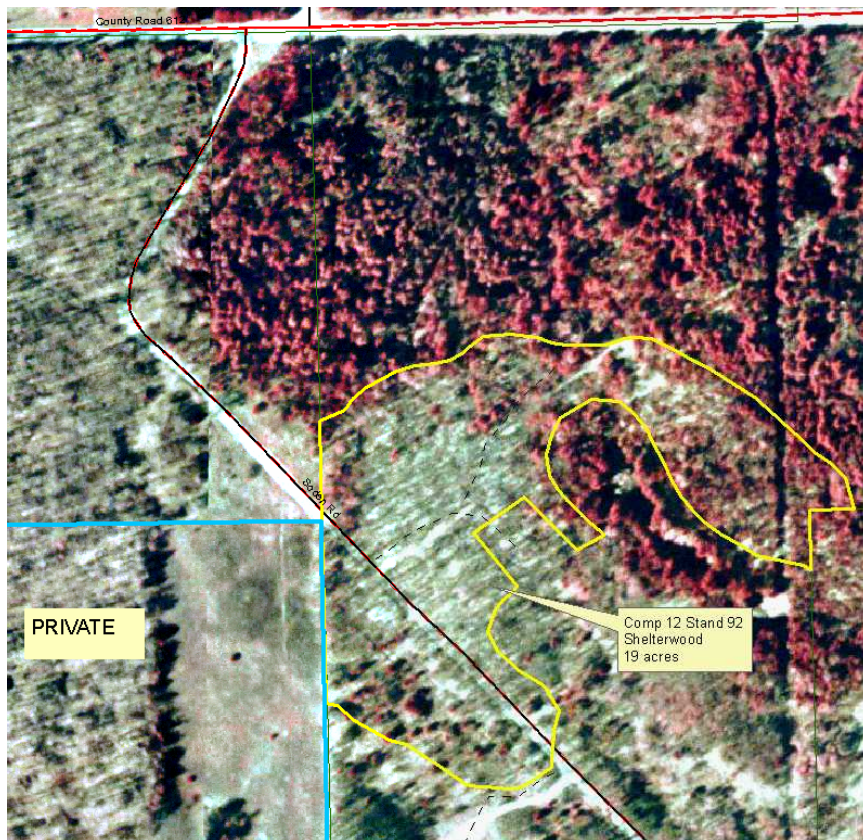
Stand 67 – all boundaries in red



Stand 79 and 52 – all boundaries in red.



Stands 81, 82, 83, and 84 – paint boundaries in red. Stand 86 in red except southern boundary against private land in blue.



Stand 92 – boundaries in red, except the part of the western boundary that is against private in blue

Stand 144 – boundary in red.

