



Report 1 – Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 136

Entry Year 2015

Acreage: 1,847

County Kalkaska

Management Area: Kirtland's Warbler

Revision Date: 04/18/2013

Stand Examiner: Steve Crigier

Legal Description:

T25N , R6W, Sec 9, 10, 11 and 16

Identified Planning Goals:

The purpose of the proposed treatments for the 2015 year of entry have a variety of goals. The selection cuts in the natural pine stands will create some gaps in the canopy to allow for regeneration while further developing size class diversity in the stand. There are several treatments proposed in the lowland coniferous types that are going to be treated with a seed-tree or shelterwood type of harvest. Restarting these stands will provide some much needed age class diversity amongst these timber types. While working in the lowland types the Best Management Practices will have to be followed to avoid damage to soil and adjacent water features. The final harvests in the jack pine stands are proposed to be converted to red pine or to mixed pine stands to establish more species diversity in a jack pine dominated landscape.

Soil and topography:

The terrain with in the compartment is flat. The upland soils are on an excessily drained Grayling Sand and the lowlands are on a Lupton Muck.

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

The area is dominated by State forest land except for land adjacent to the south west boundary where there is several private dwellings along Cannon Creek. The state land around the compartment has been mostly managed for Kirtland's Warbler's habitat. General forestry along with some oil and gas development make up some of the more intensive land uses in the area.

Unique, Natural Features:

There is a threatened and endangered species listed within the compartment.

Archeological, Historical, and Cultural Features:

There is reminace of an old logging camp with in the compartment.

Special Management Designations or Considerations:

The Big Devil Creek, Little Devil Creek and the Cannon Creek are designated as a part of the Natural Rivers System and are also designated Trout Streams. The Big Devil Creek Deer Yard is also within the compartment.

Watershed and Fisheries Considerations:

Big Cannon Creek, Big Devil Creek, Little Devil Creek, and a tributary to Big Cannon Creek all flow through Compartment 136. All are Designated Trout Streams. Big Cannon Creek and Big Devil Creek are both high quality trout streams with self sustaining populations of brook and brown trout. Big Cannon Creek is also the only Upper Manistee tributary that has a self-sustaining population of rainbow trout. Therefore, BMPs should be followed when working near any of these streams. Also, future management near Big Cannon Creek, its tributary, and Big Devil Creek should be for tree species other than aspen, in order to discourage beaver impact on these important trout streams.

Wildlife Habitat Considerations:

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium and minor dune sand. The glacial drift thickness varies between 200 and 400 feet. Beneath the glacial drift is the Mississippian Michigan Formation. The Michigan is quarried for gypsum elsewhere in the State. The nearest gravel pit is located one mile to the east and potential appears to be limited. This area is located just north of Tiger's Garfield 14 Field that produces from the Devonian Richfield and the Ordovician PdC. The Compartment is leased for oil and gas development for the Collingwood Formation.

Vehicle Access:

Access into the compartment is fairly limited. Seasonal county roads parallel the compartment boundary on three sides. There are a few two tracks that branch off the county roads that enter into the compartment but they are limited due to low ground and creeks that are present (see map).

Survey Needs:

Further research is needed but we have not yet found corners for the treatments in section 16.

Recreational Facilities and Opportunities:

A dual use trail (Snowmobile Trail # 76-Craneberry Lake & Kalkaska ORV Route) is located in the very NE portion of the compartment. Proposed timber management activities should include trail protection specifications to reduce impacts, as well as serve as an example of how silviculturally sound timber harvesting practices can co-exist, and often improve recreation and hunting experiences for future generations. Treatments proposed directly adjacent to the ORV trail tread should include either a "flush cut" specification, or be stumped high enough (3 feet) to avoid being hidden by perennial flora (ferns). (TMN 3/13).

Fire Protection:

Fire protection in and around the compartment could be hindered by the lack of vehicle access. The vast amount of low ground should help contain any fires that get going in the jack pine but that also might mean they will burn into the ground and create extended mop-up period. The private dwelling on the west side of the compartment are in jack pine but are also near the Cannon Creek. There are lots of locations along the nearby creeks that can act as a water source for the responding resources.

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**

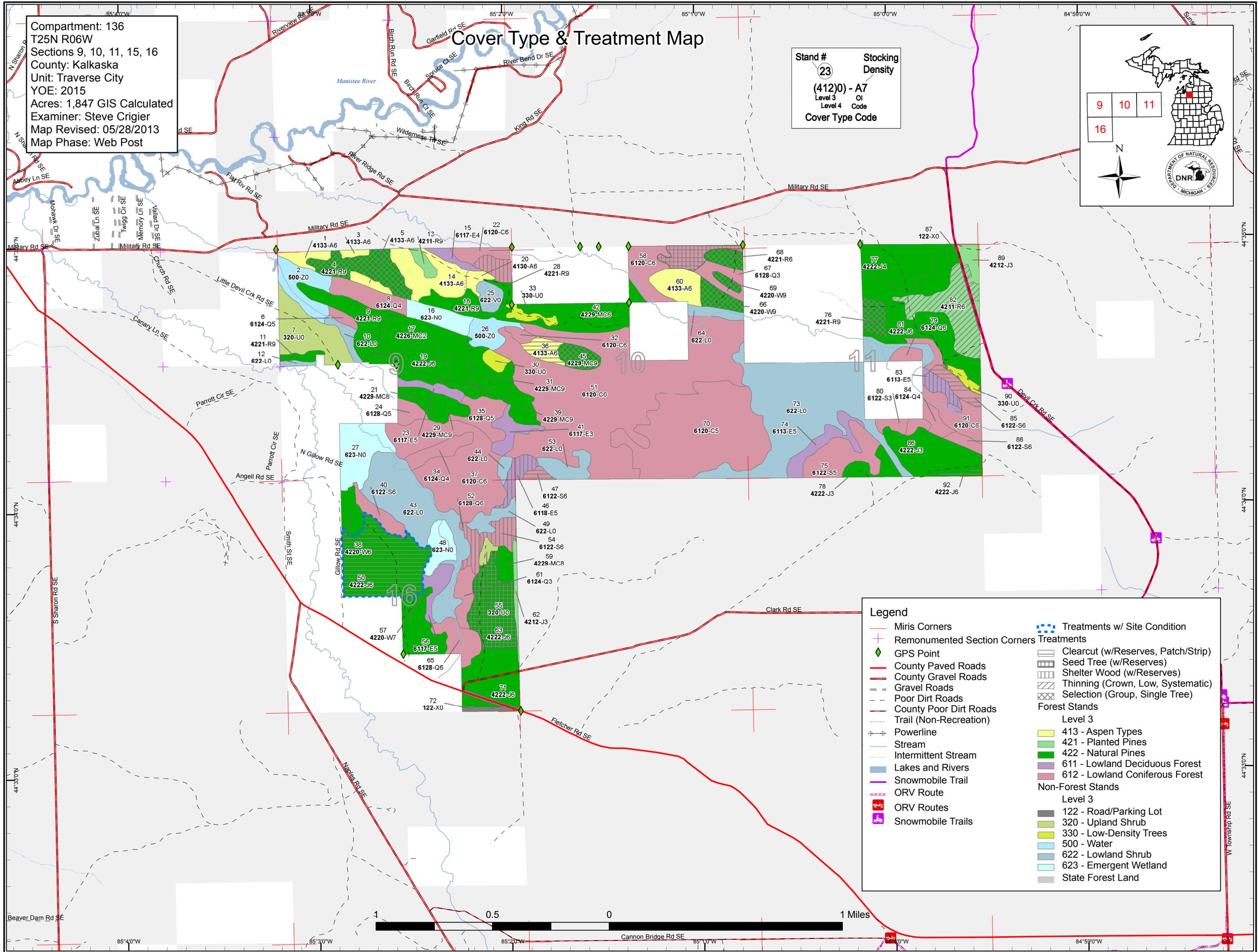
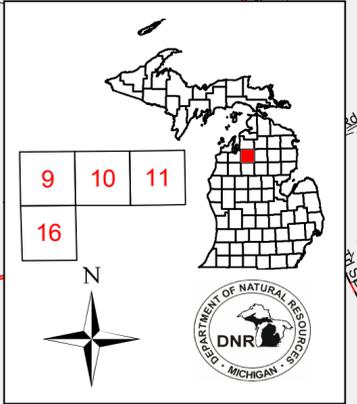
The following information is displayed, where pertinent, on the attached compartment maps:

- 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: 136
 T25N R06W
 Sections 9, 10, 11, 15, 16
 County: Kalkaska
 Unit: Traverse City
 YOE: 2015
 Acres: 1,847 GIS Calculated
 Examiner: Steve Crigier
 Map Revised: 05/28/2013
 Map Phase: Web Post

Stand #
 23
Stocking Density
 (4120) - A7
 Level 3 OI
 Level 4 Code
Cover Type Code



Legend

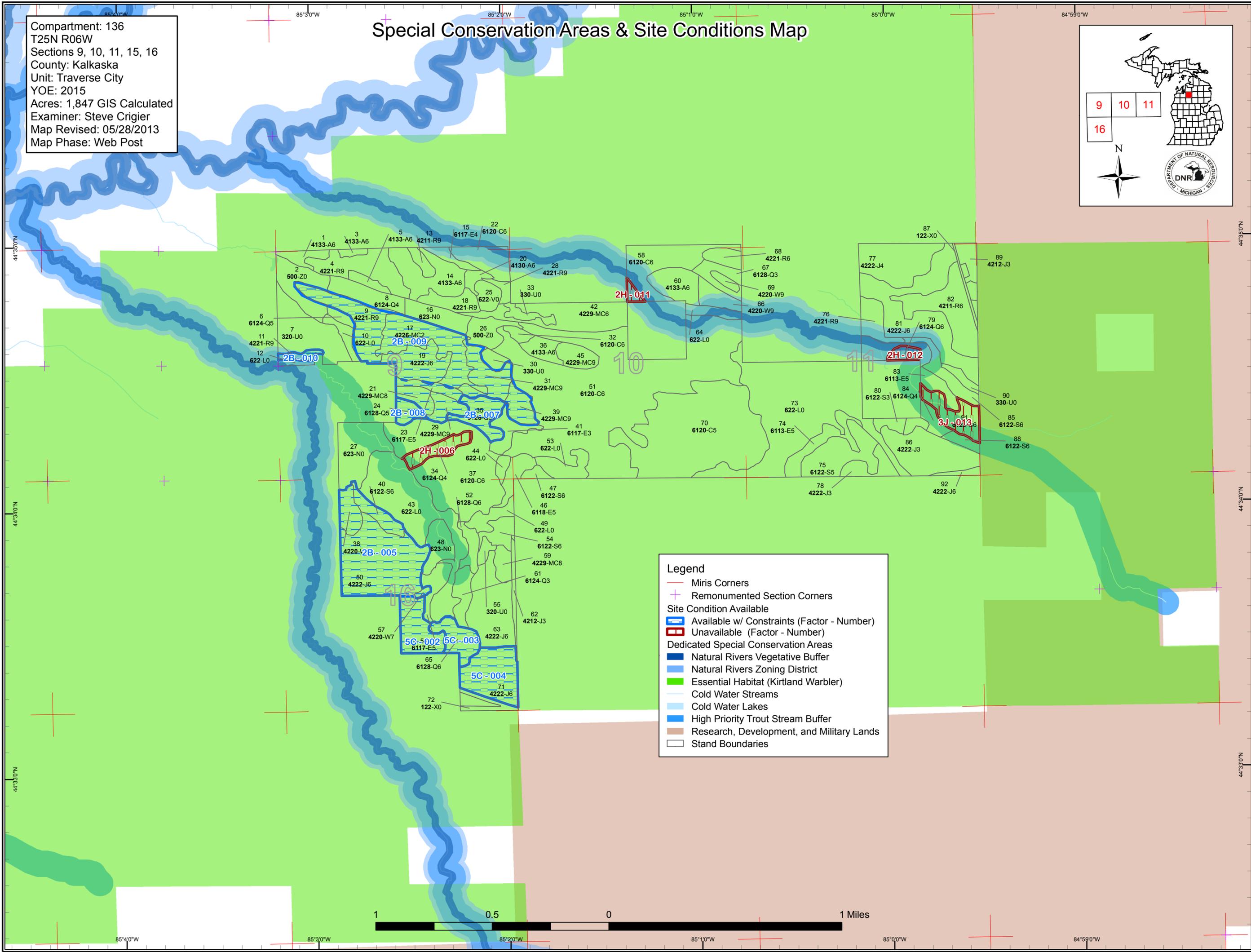
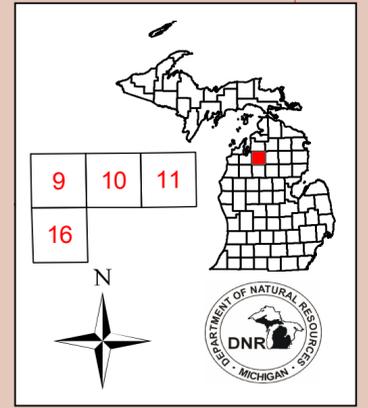
—	Miris Corners	⬢	Treatments w/ Site Condition
+	Remonumented Section Corners	▨	Treatments
◆	GPS Point	▩	Clearcut (w/Reserves, Patch/Strip)
—	County Paved Roads	▨	Seed Tree (w/Reserves)
—	County Gravel Roads	▨	Shelter Wood (w/Reserves)
—	Gravel Roads	▨	Thinning (Crown, Low, Systematic)
—	Poor Dirt Roads	▨	Selection (Group, Single Tree)
—	County Poor Dirt Roads		Forest Stands
—	Trail (Non-Recreation)		Level 3
—	Powerline		413 - Aspen Types
—	Stream		421 - Planted Pines
—	Intermittent Stream		422 - Natural Pines
—	Lakes and Rivers		611 - Lowland Deciduous Forest
—	Snowmobile Trail		612 - Lowland Coniferous Forest
—	ORV Route		Non-Forest Stands
—	ORV Routes		Level 3
—	Snowmobile Trails		122 - Road/Parking Lot
			320 - Upland Shrub
			330 - Low-Density Trees
			500 - Water
			622 - Lowland Shrub
			623 - Emergent Wetland
			State Forest Land



Beaver Dam Rd SE, 85°40'W, 85°30'W, 85°20'W, 85°10'W, 84°50'W, 44°30'N, 44°30'N, 44°30'N, 44°30'N, W Township Rd SE

Special Conservation Areas & Site Conditions Map

Compartment: 136
 T25N R06W
 Sections 9, 10, 11, 15, 16
 County: Kalkaska
 Unit: Traverse City
 YOY: 2015
 Acres: 1,847 GIS Calculated
 Examiner: Steve Crigier
 Map Revised: 05/28/2013
 Map Phase: Web Post



Legend

- Miris Corners
- + Remonumented Section Corners
- Site Condition Available
- Available w/ Constraints (Factor - Number)
- Unavailable (Factor - Number)
- Dedicated Special Conservation Areas
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Essential Habitat (Kirtland Warbler)
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Research, Development, and Military Lands
- Stand Boundaries



Report 2 – Total Acres by Cover Type and Age Class



	Age Class													Total	
	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
Aspen	0	0	0	45	25	0	0	0	0	0	0	0	0	0	70
Bog	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Cedar	0	0	0	0	0	0	0	32	476	0	0	0	0	0	508
Jack Pine	0	0	59	33	0	164	73	3	0	0	0	0	0	0	331
Low-Density Trees	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14
Lowland Conifers	0	11	0	10	0	0	0	27	59	0	0	0	0	0	108
Lowland Deciduous	0	0	11	0	0	16	15	13	9	0	0	0	0	0	63
Lowland Shrub	238	0	0	0	0	0	0	0	0	0	0	0	0	0	238
Lowland Spruce/Fir	0	0	0	4	0	0	10	48	12	0	0	0	0	0	75
Marsh	56	0	0	0	0	0	0	0	0	0	0	0	0	0	56
Natural Mixed Pines	0	0	37	0	0	46	38	7	0	0	0	10	0	0	138
Red Pine	0	0	0	0	0	105	11	8	12	0	0	0	0	0	136
Upland Shrub	38	0	0	0	0	0	0	0	0	0	0	0	0	0	38
Urban	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Water	33	0	0	0	0	0	0	0	0	0	0	0	0	0	33
White Pine	0	0	0	0	0	10	0	13	1	0	0	0	0	0	24
Total	394	11	107	92	25	341	146	150	571	0	0	10	0	0	1847



Report 3 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2015

Compartment 136
Total Compartment Acres: 1847

Acres by Treatment Type

Commercial Harvest - 271 Tree Planting - 66 Other - 0
Habitat Cut - 10 Opening Maintenance - 0

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
(Habitat Cut)Natural Pines	0	10	0	0	0	0	10
Aspen Types	9	0	0	0	0	0	9
Lowland Coniferous Forest	11	0	13	24	0	0	48
Lowland Deciduous Forest	0	0	0	16	0	0	16
Natural Pines	66	57	38	0	0	0	161
Planted Pines	0	0	0	0	37	0	37
Total	86	66	51	40	37	0	281



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
4 61136004-Cut	27.1	42210 - Natural Red Pine	High Density Log	58	111-140	Harvest	Single Tree Selection	42210 - Natural Red Pine	Cmpt. Review Proposal

Prescription Specs: Thin Stand lightly keeping the residual BA around 110-120. Leave the aspen less than 6" to avoid too much sprouting/competition for pine regeneration.

Other Comments: Leave some of the large overmature trees for retention and manage for and uneven aged stand.

Next Steps:

Proposed Start Date: 10/01/2014

22 61136022-Cut	8.1	6120 - Lowland Cedar	High Density Pole	80		Harvest	Shelterwood	6128 - Lowland Coniferous, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Specs: Mark to leave about 20-30sqft of cedar and spruce to leave as residual. Try to protect advanced regen by not cutting any conifers less than 4" in diameter. Leave any white pine that is out there.

Other Comments: Ground appears to be operatable, I have not checked the ground conditions with out snow. Corner are in for the property line. Will need to buffer the creek to the north appropriately (retention). Use a cut to length operation as they are generally easier on the soft ground.

Next Steps:

Proposed Start Date: 10/01/2014

36 61136036-Cut	8.5	4133 - Aspen, Mixed Pine	High Density Pole	40		Harvest	Clearcut with Reserves	4133 - Aspen, Mixed Pine	Cmpt. Review Proposal
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Prescription Specs: Clearcut stand but leave the white pine that is greater than 12" in diameter. Also leave the balsam fir that is less than 4" in diameter. The scattered timber mention above will be the retention.

Other Comments: Access will have to be from the north (st 33 and 46) and freeze across the swamp. With mats/cordrouy and cold temps it shouldn't be a problem to skid the wood to the north.

Next Steps:

Proposed Start Date: 10/01/2014

45 61136045-Cut	9.9	42290 - Natural Mixed Pine	High Density Log	115	171-200	Harvest	Single Tree Selection	42290 - Natural Mixed Pine	Cmpt. Review Proposal
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Prescription Specs: Thin stand lightly leaving a residual BA around 120 -140sqft/ac. Manage stand for large diameter timber. Protect what advance regen is present.

Other Comments: Timber will have to be skidding through the cedar stand to the north into stand 33/42. With some crane mats/cordrouy and cold weather is doesn't appear to be an issue.

Next Steps:

Proposed Start Date: 10/01/2014



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
46 61136046-Cut	9.3	6118 - Lowland Deciduous with Cedar	Medium Density Pole	80		Harvest	Shelterwood	6117 - Lowland Deciduous, Mixed Coniferous	Cmpt. Review Proposal

Prescription Leave all the cedar and oak. Also leave the balsam fir and spruce less than 4" in diameter. Should also green ring some scattered birch and spruce.
Specs:

Other Will have to skid across the L0 (st 49) to the south and will probably need mats or cordrouy and cold weather to make that work. Use a cut to length operation as they are generally easier on the soft ground.
Comments:

Next Steps:

Proposed Start Date: 10/01/2014

47 61136047-Cut	3.1	6122 - Black Spruce	High Density Pole	83		Harvest	Clearcut	6122 - Black Spruce	Cmpt. Review Proposal
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Prescription Clearcut stand but leave the spruce and balsam that are less than 4" in diameter. Leave any red or white pine.
Specs:

Other Stand appears to continue south into compartment 137. If it makes sense possibly ch 7 the 137 stand and harvest also. Set stand up with stand 46 and skid through the low spot (st 49). Use a cut to length operation and only harvest during winter or very dry conditions due to the low ground.
Comments:

Next Steps:

Proposed Start Date: 10/01/2014

52 61136052-Cut	7.3	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	80		Harvest	Shelterwood	6128 - Lowland Coniferous, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Shelterwood harvest stand leaving the cedar and white pine. In addition mark a few spruce and red maple/acre to leave for seed/retention.
Specs:

Other Sell with adjacent lowland harvests. Protect the advanced regen of spruce and balsam. Cut to length operation will be the least impact on the soft ground.
Comments:

Next Steps:

Proposed Start Date: 10/01/2014

54 61136054-Cut	9.1	6122 - Black Spruce	High Density Pole	80	81-110	Harvest	Shelterwood	6125 - Lowland Black Spruce, Jack Pine	Cmpt. Review Proposal
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Prescription Shelterwood harvest the stand. Cut the black spruce and jack pine out of the stand over 4" in dbh. Protect the pine and spruce advanced regen. Sell with adjacent lowland type cuts
Specs:

Other Mostly a black spruce stand with some pockets of upland that are a mixed pine type. Use a cut to length operation to cut the stand because of the low ground. Sell with stand 52, 46, and 47
Comments:

Next Steps:

Proposed Start Date: 10/01/2014



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
58 61136058-Cut_small	12.6	6120 - Lowland Cedar	High Density Pole	75		Harvest	Seed Tree	6128 - Lowland Coniferous, Mixed Deciduous	Cmpt. Review Proposal

Prescription Seed tree harvest the eastern portion of the stand. Mark to leave some healthy cedar and occasionally some birch for seed (about 20sqft/ac).

Specs: Try to protect the advance balsam fir regen by not cutting any that is less than 4".

Other Use a cut to length operation for less ground disturbance. Should also only be cut in the winter or during a dry summer.

Comments:

Next Steps:

Proposed Start Date: 10/01/2014

63 61136063-Cut	37.9	42220 - Natural Jack Pine	High Density Pole	60	51-80	Harvest	Seed Tree with Reserves	42140 - Planted Mixed Pine	Cmpt. Review Proposal
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Prescription Cut the jack pine out and leave the red and white pine. Cut the spruce along the west edge but exclude the interior pocket from the sale area.

Specs: Try to protect the white pine regeneration during the harvest.

Other Run redline of the sale into the transition ground on the west end to harvest some of the mature spruce.

Comments:

Next Steps: Interplant with red pine where there is less dense advanced white pine regeneration.

Proposed Start Date: 10/01/2014

66 61136066-Cut	9.5	42200 - Natural White Pine	High Density Log	70	141-170	Harvest	Single Tree Selection	42290 - Natural Mixed Pine	Cmpt. Review Proposal
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Prescription Lightly thin stand down to about 120sqft/ac. Leave the aspen if possible to avoid sprouting.

Specs:

Other Trail road coming into stand will limit this to a winter cut. Set up stand with 68 and 69.

Comments:

Next Steps:

Proposed Start Date: 10/01/2014

68 61136068-Cut	7.2	42210 - Natural Red Pine	High Density Pole	70	141-170	Harvest	Single Tree Selection	42210 - Natural Red Pine	Cmpt. Review Proposal
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Prescription Thin Stand down to about 120sqft/ac.

Specs:

Other corners are in for the property line work. Set up stand with 66 and 69.

Comments:

Next Steps:

Proposed Start Date: 10/01/2014



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
69 61136069-Cut	3.1	42200 - Natural White Pine	High Density Log	70	141-170	Harvest	Single Tree Selection	42290 - Natural Mixed Pine	Cmpt. Review Proposal

Prescription Thin stand down to about 120sqft/ac. Leave the aspen and red maple to avoid sprouting. Should do a winter harvest to be able to skid the wood on the two track.
Specs:

Other Sell stand with 69 and 66.
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2014

76 61136076-Cut	9.3	42210 - Natural Red Pine	High Density Log	80	171-200	Harvest	Single Tree Selection	42290 - Natural Mixed Pine	Cmpt. Review Proposal
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Prescription Thin the pine to a residual BA of 140 sqft/ac. Cut all the black spruce larger than 6 inches in diameter. Leave the red maple to avoid sprouting.
Specs:

Other Manage the stand for large diameter saw timber and try to maintain the natural look to the stand. Buffer the creek on the south side. Property line looks to be roughed in by private landowner. MNFI Data shows and eagle nest to the southeast. Need to check on the status of the nest to apply appropriate buffers and sale specs.
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2014

82 61136082-Cut	37.5	42110 - Planted Red Pine	High Density Pole	50	171-200	Harvest	Systematic Thinning	42110 - Planted Red Pine	Cmpt. Review Proposal
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Prescription third row thin stand, also take the jack pine out as well.
Specs:

Other Be flexible with the producer on row spacing might have to mark the ends of the cut rows due to their variability. MNFI Data shows and eagle nest to the south. Need to check on the status of the nest to apply appropriate buffers and sale specs.
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2014

83 61136083-Cut	6.6	6113 - Lowland Maple	Medium Density Pole	72	51-80	Harvest	Shelterwood	6117 - Lowland Deciduous, Mixed Coniferous	Cmpt. Review Proposal
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Prescription Shelterwood stand. Leave the balsam fir and spruce less than 6". Buffer the creek. Target residual BA around 30-40sqft/ac. Set up with adjacent black spruce stand.
Specs:

Other MNFI Data shows and eagle nest to the northwest. Need to check on the status of the nest to apply appropriate buffers and sale specs.
Comments:

Next
Steps:

Proposed
Start Date: 10/01/2014



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
85 61136085-Cut	8.3	6122 - Black Spruce	High Density Pole	72		Harvest	Clearcut with Reserves	6122 - Black Spruce	Cmpt. Review Proposal

Prescription: Clear cut stand leave the spruce 4" and less. May also mark a few black spruce to leave. Also, leave any white or red pine

Specs:

Other Comments: Winter cut only do to low ground conditions. Protect any advanced regen. Buffer along the creek on the north side of the stand. Also, look to see how far the stand continues into the adjacent compartment and maybe do an out of year entry in c137. MNFI Data shows and eagle nest to the northwest. Need to check on the status of the nest to apply appropriate buffers and sale specs.

Next Steps:

Proposed Start Date: 10/01/2014

92 61136092-Cut	2.7	42220 - Natural Jack Pine	High Density Pole	73		Harvest	Clearcut	42120 - Planted Jack Pine	Cmpt. Review Proposal
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Prescription: Stand is currently under contract with 'Eagle and Warblers 2'. 61-051-11-01 and is not yet cut.

Specs:

Other Comments:

Next Steps:

Proposed Start Date: 04/12/2013

Total Treatment Acreage Proposed: 217.1



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Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
50 61136050-Cut	63.7	42220 - Natural Jack Pine	High Density Pole	58		Harvest	Clearcut with Reserves	42110 - Planted Red Pine	Cmpt. Review Proposal

Prescription Clearcut the northern part of the stand leaving any red or white pine.

Specs:

Other Need to work out access Gillow Rd? or through private off Fletcher.

Comment:

Next Steps: Replant to red pine on the west of the two track and maybe see if on the east side of the two track that we can let the stand regenerate to a mix of white pine (already present) jack and red

Proposed

Start Date: 10/01/2014

Limiting Factor 2B: Unknown if access through adjacent landowner(s) is possible

**Total Treatment
Acreage Proposed: 63.7**

Report 6 – Out of YOE – Treatments
 Prescribed with No Limiting Factor

Year of Entry: 2015



Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
28218	5.9	Unspecified				Harvest	Other - Specify in Comments	Unspecified	Cmpt. Review Proposal
<p><u>Prescription Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u></p> <p><u>Proposed Start Date:</u></p>									
28219	7.2	Unspecified				Harvest	Other - Specify in Comments	Unspecified	Cmpt. Review Proposal - Incomplete
<p><u>Prescription Specs:</u></p> <p><u>Other Comments:</u></p> <p><u>Next Steps:</u></p> <p><u>Proposed Start Date:</u></p>									
61043_OutOfY OE-Cut	2.1					Harvest	Clearcut with Reserves	4131 - Aspen, Oak	Cmpt. Review Proposal - Incomplete
<p><u>Prescription Specs:</u> retain some pine and osk for mast and seed production, Folllow WLD guidance for CWD creation. Harvest all stems that are not retained.</p> <p><u>Other Comments:</u> New stand should have mix of oak, pine, aspen and maple.</p> <p><u>Next Steps:</u></p> <p><u>Proposed Start Date:</u> 09/01/2009</p>									
Total Treatment Acreage Proposed:		15.3							

Report 7 – Site Conditions

Traverse City Mgt. Unit

Steve Crigier : Examiner

Compartment 136

Year of Entry 2015

Availability for Management

Total Acres	Acres		Dominant Site Conditions	No	5C	3J	2H	2B
	Available	Not Available						
70	70		Aspen	70				
508	490	17	Cedar	490		17		0
331	331		Jack Pine	192	53			85
107	91	16	Lowland Conifers	53	15		16	23
63	63		Lowland Deciduous	57				7
75	75		Lowland Spruce/Fir	65				10
138	135	3	Natural Mixed Pines	53			3	83
135	135		Red Pine	104				32
24	24		White Pine	13				11
1,450	1,415	35	Total Forested Acres	1,096	69	17	18	250
	98%	2%	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	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	22	2B: Unknown if access through adjacent landowner(s) is possible			
Comments: This appeared to be mostly younger Jack pine that has naturally filled in. It would be nice to hold to get the stuff to the north to regenerated/ planted first.							
003	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	15	No Limiting Factor			
Comments: Hold until adjacent treatments fully regenerate. Stand also has a small creek running through it but it appears to be operable from either side.							
004	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	32				
Comments:							

Report 7 – Site Conditions

Traverse City Mgt. Unit

Steve Crigier : Examiner

Compartment 136

Year of Entry 2015

005	Available	2B: Unknown if access through adjacent landowner(s) is possible	85		
Comments: I have not yet looked at access of Gillow Rd. (private road) or through private land (seasonal resident) to the south off Fletcher.					
006	Not Available	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	11		
Comments:					
007	Available	2B: Unknown if access through adjacent landowner(s) is possible	16	No Limiting Factor	
Comments: Will also need to cross some low ground to get to stand.					
008	Available	2B: Unknown if access through adjacent landowner(s) is possible	7	No Limiting Factor	
Comments: Will also have to cross some low ground to get to the stand					
009	Available	2B: Unknown if access through adjacent landowner(s) is possible	141	No Limiting Factor	
Comments: I haven't persued the access issues yet because these stand won't be ready for treatment for the next 10-20 years. Little Devil Cr road (private) might be an option. Or there might be a spot to cross stand 8 during the winter.					

Report 7 – Site Conditions

Traverse City Mgt. Unit

Steve Crigier : Examiner

Compartment 136

Year of Entry 2015

010	Available	2B: Unknown if access through adjacent landowner(s) is possible	4
Comments: Access of Little Devil Cr Road would be ideal if we can get permission from all of the landowners.			
011	Not Available	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	3
Comments:			
012	Not Available	2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)	5
Comments:			
013	Not Available	3J: Water quality / BMPs (stream, river, or lake)	17
Comments:			



Report 8 – 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 9 – DEDICATED CONSERVATION AREA DETAILS

* This is a list of Dedicated Biodiversity Areas for this compartment along with a 1/4 mile buffer surrounding the compartment. Refer to Dedicated Conservation Area Map for areas that the below listed Conservation Areas are located.

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 Lake	A coldwater lake has temperature and dissolved oxygen conditions that allow naturally-reproduced or stocked trout populations and those of other coldwater fish species to persist from year to year. Suitable conditions for coldwater fishes may occur in Michigan lakes if they are relatively deep, have substantial groundwater inflows, or are located in colder (northern) areas of the state. Such lakes are established by Director's action and designated as trout resources by Fisheries Order 200.
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	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
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.

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Traverse City Mgt. Unit

Report 10 – Forested Stands

Compartment: 136
Year of Entry: 2015

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4133 - Aspen, Mixed Pine	High Density Pole	6.2	39		Nice looking bigtooth aspen with some mixed pine
3	4133 - Aspen, Mixed Pine	High Density Pole	2.3	39		
4	42210 - Natural Red Pine	High Density Log	27.1	58	111-140	Lots of different sizes classes of redpine with some white pine coming in underneath. The eastern part of the stand has a W6 pocket that can be treated with the rest of the stand. The eastern portion of the stand has larger diameter timber and in spots the stocking is a bit less with more advanced regen.
5	4133 - Aspen, Mixed Pine	High Density Pole	4.4	39		Stand is a mix of quaking and bigtooth. Stand is converting from a sapling to a pole stand.
6	6124 - Lowland Spruce-Fir	Medium Density Pole	3.6	80		
8	6124 - Lowland Spruce-Fir	Low Density Pole	16.1	73		
9	42210 - Natural Red Pine	High Density Log	29.0	58	81-110	Lots of size classes of red pine. Stocking is variable. There are some pockets of high quality red pine log timber. There are scattered oak. Some areas are heavier to aspen. Northeast part of the stand is heavier to white pine (W6). Also there is some jack pine along the east edge. Extra BA 90, 140.
11	42210 - Natural Red Pine	High Density Log	3.8	58	51-80	Stand is on a small slope headed down to the creek that eventually runs into the Big Cannon Cr.
13	42110 - Planted Red Pine	High Density Log	4.5	58	81-110	Stand had the jack pine removed out of it in 2009. Some aspen working its way into the understory.
14	4133 - Aspen, Mixed Pine	High Density Pole	27.6	39		Aspen with a decent amount of pine also. Stand is converting from a sapling to a pole stand.
15	6117 - Lowland Deciduous, Mixed Coniferous	Low Density Pole	4.9	73		
17	42260 - Natural Pine, Mixed Deciduous	Medium Density	37.4	20		Stand is an opening that is filling in.
18	42210 - Natural Red Pine	High Density Log	10.7	68	81-110	The east part of the stand had the jack pine thinned out of it in 2009. Stand is a good quality red pine log stand about 6 sticks tall.
19	42220 - Natural Jack Pine	High Density Pole	21.8	54		Jack pine is 4-5 sticks. Stocking is variable.
20	4130 - Aspen	High Density Pole	4.1	39		Nice quality bigtooth aspen 5 + sticks about 8" in diameter.



Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
21	42290 - Natural Mixed Pine	Medium Density Log	8.0	58	51-80	Stand is a real mixed bag of species and size classes. There is evidence of a fire plow line in stand.
22	6120 - Lowland Cedar	High Density Pole	16.1	80		Cedar looks to be in pretty poor shape, thin canopies, a lot of it on the ground. Quite a bit of balsam and spruce regen in the understory. Cedar isn't providing any habitat value other than CWD. Some scattered log sized white pine. One plot of 10ba of ash, 40ba of ash, 40ba of ash 10 of birch 10 of rm.
23	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	6.4	56		
24	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	6.5	83		New stand added.
28	42210 - Natural Red Pine	High Density Log	3.5	58	111-140	High quality red pine 7 sticks and very clean boles. Stand was thinned in 2003.
29	42290 - Natural Mixed Pine	High Density Log	8.7	60	141-170	Stand is a mix of a red & white pine log stand with pocket of jack pine pole timber. Stand has some B. spruce and cedar in the transition ground. Lots of size classes of timber.
31	42290 - Natural Mixed Pine	High Density Log	19.7	62	111-140	South end of the stand has some large diameter red and white pine that are 7-8 stick +. Lots of different size classes amongst the pine. Some black spruce along the east edge of the stand. North end of the stand is more open grown timber and stocking is more variable, and is really more of an R8.
32	6120 - Lowland Cedar	High Density Pole	3.6	85		Stand is on low ground but not too wet. Scattered large white pine with a good mix of soft maple and birch.
34	6124 - Lowland Spruce-Fir	Low Density Pole	11.1	83		
35	6128 - Lowland Coniferous, Mixed Deciduous	Medium Density Pole	15.7	83		
36	4133 - Aspen, Mixed Pine	High Density Pole	8.5	40		The eastern part of the stand has quite a bit of white pine mixed into the canopy. Stand is a bit immature.
37	6120 - Lowland Cedar	High Density Pole	82.0	83		Stand has a dense canopy, and is used heavily by deer. Quite a bit of withthrown timber also.
38	42200 - Natural White Pine	High Density Pole	9.9	58	111-140	Very dense stocking.
39	42290 - Natural Mixed Pine	High Density Log	9.9	62	81-110	A mix of upland and lowland ground. Lots of white pine in the understory. A good amount of black spruce mixed in. Some 3-4' diameter white pine. There is also some scattered R. oak in the stand.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
40	6122 - Black Spruce	High Density Pole	9.7	68		Lots of pockets of 4-6" timber. South portion of stand has better stocking in the 6-8" size class.
41	6117 - Lowland Deciduous, Mixed Coniferous	High Density Sapling	10.5	25		Parts of this stand looks like it has been cut?? Maybe a wildlife habitat cut. Trees are about 20' tall. Other spots are more of an L0.
42	42290 - Natural Mixed Pine	High Density Pole	38.2	58	81-110	Stand is a mixed pine stand. West part of the stand is heavier to white pine, and is fairly scrubby/poor quality, while the east 1/2 is more of a red pine stand. Could almost split the stand in 2. Some nice advanced regen of red and white pine. Stocking is variable, stand also has some scattered big white pine. Most of the red pine height are around 6 sticks and is ok quality. Extra BA 70.
45	42290 - Natural Mixed Pine	High Density Log	9.9	115	171-200	Big pine, about 14" in dbh and 8 to 9 stick tall. Clean timber. Some small pockets of advance white pine regen.
46	6118 - Lowland Deciduous with Cedar	Medium Density Pole	9.3	80		South portion of stand is on a bit of a knol but the north and east part is on low ground. Timber becomes less dense to north and east. Balsam and spruce in the understory. There is a fair amount of red maple saw logs.
47	6122 - Black Spruce	High Density Pole	3.1	83		Lots of 6 + stick spruce! Some Jack pine along the south end of the stand.
50	42220 - Natural Jack Pine	High Density Pole	85.3	58		Scattered large/old jack pine especially in the north end of the stand. Lots of jack pine already on the ground. The eastern portion of the stand has quite a bit of white pine in the understory. Quality and stocking level are less on the south end of the stand.
51	6120 - Lowland Cedar	High Density Pole	235.1	83		Stand is used heavily by deer.
52	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	7.3	80		Mixed lowland site, mostly conifers but quite a bit of red maple mixed in. Black spruce regen is looking promising. Stocking on the west side of the stand is less dense as the ground transitions down to the creek. Not much deer activity.
54	6122 - Black Spruce	High Density Pole	9.1	80	81-110	Mostly a black spruce stand with some pockets of upland that are a mixed pine type.
56	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	9.4	58		
57	42200 - Natural White Pine	Low Density Log	1.3	80	1-50	Stand has quite a bit of white pine and black spruce in the understory.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
58	6120 - Lowland Cedar	High Density Pole	32.0	75		Eastern portion of stand has very poor quality cedar, with thin tops and lots of if on the ground. Stand has a good mix of BAM and soft maple, and birch. With a decent amount of balsam in the understory. Western portion of stand seems to be healthier cedar and has a more dense canopy. 30 BA removal,
59	42290 - Natural Mixed Pine	Medium Density Log	6.6	71	51-80	Stand contains a few lowland pockets of black spruce but is mostly scattered large diameter pine logs. White pine saplings in the understory.
60	4133 - Aspen, Mixed Pine	High Density Pole	16.7	40		Looks like the pine and the oak where left from the original harvest. Majority of the stand is pole sized aspen with scattered white pine and oak.
61	6124 - Lowland Spruce- Fir	High Density Sapling	10.5	34		
62	42120 - Planted Jack Pine	High Density Sapling	4.5	22		KW that is mostly in the adjacent compartment.
63	42220 - Natural Jack Pine	High Density Pole	37.9	60	51-80	Mostly jack pine but quite a bit of scattered red and white pine also. There are also a couple of pockets of low ground black spruce. Also, a decent amount of black spruce on the transition ground down to the swamp.
65	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	15.2	80		Some scattered large white pine. Stand also has a small creek running through it. Balsam and spruce are mature on the east side of the creek.
66	42200 - Natural White Pine	High Density Log	9.7	70	141-170	Stand was thinned in 1995. Nice quality natural stand that is about 8 sticks tall. Some 40 year old aspen mixed in also. East of the trail road there stocking is less and there is more advanced regeneration.
67	6128 - Lowland Coniferous, Mixed Deciduous	High Density Sapling	10.9	18		Stand was clearcut in 1995. Regen is about 20' -30' tall and is well stocked.
68	42210 - Natural Red Pine	High Density Pole	7.6	70	141-170	Natural red pine stand, was thinned in 1995. Nice quality pine 7-8 sticks tall.
69	42200 - Natural White Pine	High Density Log	3.1	70	141-170	Nice quality natural pine stand thinned in 1995.
70	6120 - Lowland Cedar	Medium Density Pole	122.4	83		
71	42220 - Natural Jack Pine	High Density Pole	35.0	60		Scrubby jack pine about 3-4 stick trees.
74	6113 - Lowland Maple	Medium Density Pole	14.8	67		



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
75	6122 - Black Spruce	Medium Density Pole	28.0	71		Lots of size classes of spruce. The south edge of the stand has jack pine mixed in the overstory. Lots of pockets of sapling sized spruce with scattered pole timber throughout. Center of the stand seems to have better stocked pole timber. Some of the pole sized stuff looks like it is on its last leg in life.
76	42210 - Natural Red Pine	High Density Log	12.0	80	171-200	Stand has a small black spruce pocket in the middle of it. Lots of 8-9 + stick red and white pine. Ground appears to be a big hummicky. Unique natural pine stand. Records show that a portion of this stand was thinned in 95?
77	42220 - Natural Jack Pine	Low Density Pole	32.8	30		Naturally regenerating stand. Stocking is quite variable.
78	42220 - Natural Jack Pine	High Density Sapling	10.1	27		Stand is about ready to convert to a pole stand next inventory cycle. Trees are about 20' tall. Leatherleaf for ground cover.
79	6124 - Lowland Spruce-Fir	High Density Pole	4.6	73		
80	6122 - Black Spruce	High Density Sapling	4.4	35		
81	42220 - Natural Jack Pine	High Density Pole	56.8	50		Stocking is a bit variable. Some areas are ready to harvest but there are still a lot of pockets of 6-8" 3 stick timber. White pine is filling in the understory.
82	42110 - Planted Red Pine	High Density Pole	37.5	50	171-200	Heights are around 4-5 sticks. Not a very uniform plantation. Jack pine has filled in some of the voids.
83	6113 - Lowland Maple	Medium Density Pole	8.0	72	51-80	Mostly red maple stand mix with a bit of balsam and spruce.
84	6124 - Lowland Spruce-Fir	Low Density Pole	6.4	70		New stand added.
85	6122 - Black Spruce	High Density Pole	12.6	72		Nice quality black spruce with a lot of advanced regen. Stocking is kind of variable.
86	42220 - Natural Jack Pine	High Density Sapling	36.4	27		Stand is about to convert to a pole stand. Stand appears to be natural regen. Trees are about 20' tall.
88	6122 - Black Spruce	High Density Pole	7.7	76		Stand has some scattered red pine. Stocking fades abit as ground transitions to the cedar type.
89	42120 - Planted Jack Pine	High Density Sapling	7.9	22		Trees are about 15' tall.
91	6120 - Lowland Cedar	High Density Pole	17.3	80		Lots of blow down along the north and east portion of the stand. Some of the blow down has been salvaged under a small sale receipt 501-13-03. Stand has creek running through it and is mostly dense canopy with little regen in the understory, except for the blowdown areas.

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Traverse City Mgt. Unit

Report 10 – Forested Stands

Compartment: 136
Year of Entry: 2015



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
92	42220 - Natural Jack Pine	High Density Pole	2.7	73		Mature jack pine



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
2	50 - Water	20.3	No	Unspecified	
7	320 - Upland Shrub	34.7	No	Unspecified	
10	622 - Lowland Shrub	5.8	No	Unspecified	New stand added.
12	622 - Lowland Shrub	2.2	No	Unspecified	
16	623 - Emergent Wetland	14.2	No	Unspecified	
25	6225 - Bog	7.5	No	Unspecified	
26	50 - Water	12.3	No	Unspecified	
27	6239 - Mixed Emergent Wetland	29.2	No	Unspecified	
30	3302 - Low Density Conifer Trees	4.6	No	Unspecified	
33	3302 - Low Density Conifer Trees	5.2	No	Unspecified	
43	622 - Lowland Shrub	66.8	No	Unspecified	
44	622 - Lowland Shrub	3.3	No	Unspecified	New stand added.
48	6239 - Mixed Emergent Wetland	13.0	No	Unspecified	
49	622 - Lowland Shrub	8.5	No	Unspecified	
53	622 - Lowland Shrub	11.4	No	Unspecified	New stand added.
55	320 - Upland Shrub	3.3	No	Unspecified	
64	622 - Lowland Shrub	6.6	No	Unspecified	
72	122 - Road/Parking Lot	5.4	No	Unspecified	



Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
73	622 - Lowland Shrub	133.7	No	Unspecified	
87	122 - Road/Parking Lot	2.3	No	Unspecified	
90	3302 - Low Density Conifer Trees	4.0	Natural Regen	Jack Pine	