Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 57
Entry Year 2016
Acreage: 3,397
County Grand Traverse
Management Area: Manistee River Valley

Revision Date: 04/01/2014

Stand Examiner: Patrick Cotant

Legal Description:

T25N-R09W-Sections 27, 28, 29, 32, 33 & 34

Identified Planning Goals:

This compartment is designated as mixed use in the Regional State Forest Management Plan and more specifically the Manistee River Valley Management Area guidance. This designation places equal importance on the production of wood fiber, wildlife habitat, recreation and scenic and aesthetic values.

Soil and topography:

Rubicon and Grayling sands make up the majority of soils in this region. Lowland areas within the compartment consist of a combination of mucks and peats. Topography within compartment is flat to gently rolling with isolated slopes that are somewhat steep.

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

Scattered private parcels exist along the US131 and M113 corridor. There is a mixture of state and private ownership adjacent to this compartment - private consists mostly of residential. Very light residential development is occurring adjacent to state ownership within this compartment and adjacent to surrounding state owned lands. Pugsley Correctional Facility is located just north of compartment, north of Walton rd and west of M113.

Unique Natural Features:

Trred bogs and small pot hole lakes are present within compartment and are identified on compartment map if they meet IFMAP mapping standards.

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:

Numerous recreational trails traverse this compartment including the North Country Trail, the MCCCT cycle trail and the South Spur of the Boardman Valley Snowmobile Trail. Management activities should take into consideration aesthetic values along these trail corridors and protection should be addressed using VMS specs during timber sale operations.

Watershed and Fisheries Considerations:

Jennie Lake is a small kettle lake located in the western portion of the compartment. The surrounding stand has been site conditioned to protect the integrity of the lake and avoid erosion issues from increased access and timber sale operations. Walton Creek and Walton Marsh are located in the south central portion of the compartment. Walton Creek contains self sustaining populations of brook and brown trout - management activities in this vicinity should be done in such a way that the integrity of the stream is not copromised.

Wildlife Habitat Considerations:

This compartment falls entirely on a flat, excessively well drained outwash plain (LTA 5111), which was historically prone to frequent burning and harbored mixed pine forests, barrens, and some components of oak, aspen, and hardwoods. This landscape should continue to be managed for a variety of successional stages of pine-oak-aspen forest and grass-shrub openings, with some mid to late successional forest in places. Several stands could be allowed to gradually succeed to mixed pine forest, while others should be set back through timber harvesting. Such harvesting should incorporate residual live trees (including mast producing species), snags, and some down logs to replicate within-stand habitat structure left after wildfires. Oak is a very important component of forests here and should be maintained or regenerated as much as possible. Pine plantations should incorporate tree species and structural diversity as much as possible.

Aspen communities are an important component of this fire prone early successional landscape. Currently, aspen stands are of limited representation within compartment 57. However, aspen can be found as a component of the mixed pine-

deciduous stands here. Opportunities to maintain and expand the presence of aspen communities should be included in future mangement plans. These plans should take into account age class diversity in conjuction with location of aspen stands. One such treatment is scheduled for this entry period.

Prescribed burning will be used as a tool to restore and maintain some grasslands/savana habitat in one area of this compartment. Other opening maintenance projects include planting of herbaceous vegetation and selective hand felling of encroachment.

Species associated with pine, oak and aspen mixed upland forests and openland habitats, such as badger, deer, wild turkey, scarlet tanager, hog-nosed snake, ruffed grouse, Cooper's hawk, red-backed salamander, and gray squirrel will benefit from management here.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. The glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift are Mississippian Coldwater Shale and Marshall Sandstone. The Marshall was used previously as a building stone. A gravel pit is located in Section 33 and should continue to have potential. The compartment is located south of the prolific Niagaran reef trend. There are no leases in the compartment currently. The Antrim shale has not been developedin this area and may be too deep.

Vehicle Access:

No new access needed and no closures recommended at this time. Landings and skid trails from any timber sale operations should be closed appropriately on a case by case basis.

Survey Needs:

None at this time.

Recreational Facilities and Opportunities:

The South Sput of the Boardman Valley Snowmobile Trail runs north/south through the compartment, closely following the railroad north of Walton Pond. The north Country Trail also runs north/south throught the compartment using a combination of fire lane roads, 2-track trails and single track trails for its course. The ORV/MCCCT trail runs through the compartment using a combination of two tracks and singe track trails for its course. Appropriate trail protection specifications should be added to the timber sale to reduce potential impacts to these recreation facilities. Small game hunting, deer hunting, bird watching and berry picking make up the majority of other recreational uses within the compartment. (T.M.N. 4/14/14)

Fire Protection:

The majority of this compartment is within Zone 6 dispatch. Initial attack is Grand Traverse County Rural Fire Department Batallion 6-Fife Lake. Because of the distance from the Traverse City Field Office, the Manton DNR office handles initial attack for DNR suppression. Traverse City units will take over operations if/when they arrive on scene.

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: 057
T25N R09W
Sections: 27, 28, 29, 32, 33, 34
County: Grand Traverse
Unit: Traverse City
Management Area: Manistee River Valley
YOE: 2016
Acres: 3,397 GIS Calculated
Examiner: Patrick Cotant
Map Revised: 06/18/2014
Map Phase: Web Post

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

29 28 27
32 33 34
N

Legend

- Miris Corners
- Remonumented Section Corners
- Culverts
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Railroads
- Motorcycle Trails (SOS License)
- Motorcycle Trails (DNR License)
- Hiking Trails
- Horse Trails
- MCCCT Trails
- Motorcycle Trails
- ORV Routes
- Snowmobile Trails
- Horse Trail
- Hiking Trail
- Motorcycle (DNR Sticker)
- Motorcycle (SOS License)
- ORV Route
- Snowmobile Trail
- MCCCT Trail
- Stream
- Intermittent Stream
- Lakes and Rivers

Planned Regeneration
- Natural
- Planted

Treatments
- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Shelter Wood (w/Reserves)
- Opening Maintenance
- Other Treatment - See Comments
- Treatments w/ Site Condition

Forest Stands
- 412 - Oak Types
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 431 - Upland Mixed Forest

Non-Forest Stands
- 110 - Low Intensity Urban
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- 623 - Emergent Wetland
- 790 - Other Bare/Sparsely Vegetated
- State Forest Land

1 0.5 0 1 Miles

85°27'0"W 85°26'0"W 85°25'0"W 85°24'0"W 85°23'0"W 85°22'0"W 85°21'0"W
44°33'0"N 44°32'0"N 44°31'0"N 44°30'0"N

Stand Boundary Map

Compartment: 057
T25N R09W
Sections: 27, 28, 29, 32, 33, 34
County: Grand Traverse
Unit: Traverse City
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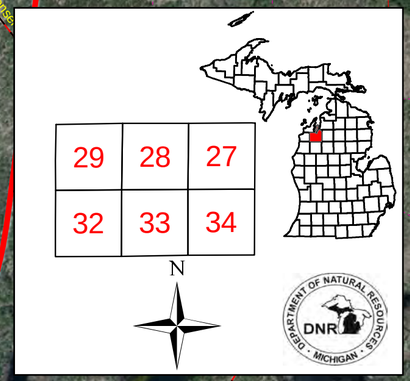
Examiner: Patrick Cotant
Map Revised: 06/18/2014
Map Phase: Web Post

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



Legend
- Miris Corners
- Remonumented Section Corners
- Culverts
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
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- Railroads
- Stream
- Intermittent Stream
- Motorcycle Trails (SOS License)
- Motorcycle Trails (DNR License)
- Hiking Trails
- Horse Trails
- MCCCT Trails
- Motorcycle Trails
- ORV Trails
- Snowmobile Trails
- Horse Trail
- Hiking Trail
- Motorcycle (DNR Sticker)
- Motorcycle (SOS License)
- ORV Route
- Snowmobile Trail
- MCCCT Trail
- Stand Boundaries

0 0.5 1 Miles

Special Conservation Areas & Site Conditions Map

Compartment: 057
T25N R09W
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County: Grand Traverse
Unit: Traverse City
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YOE: 2016
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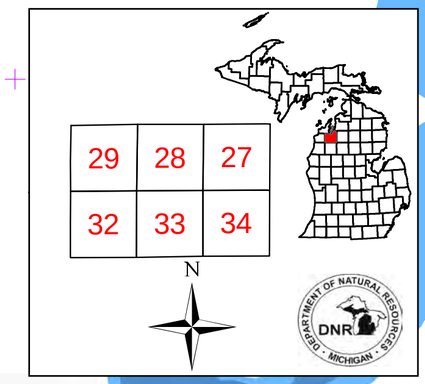
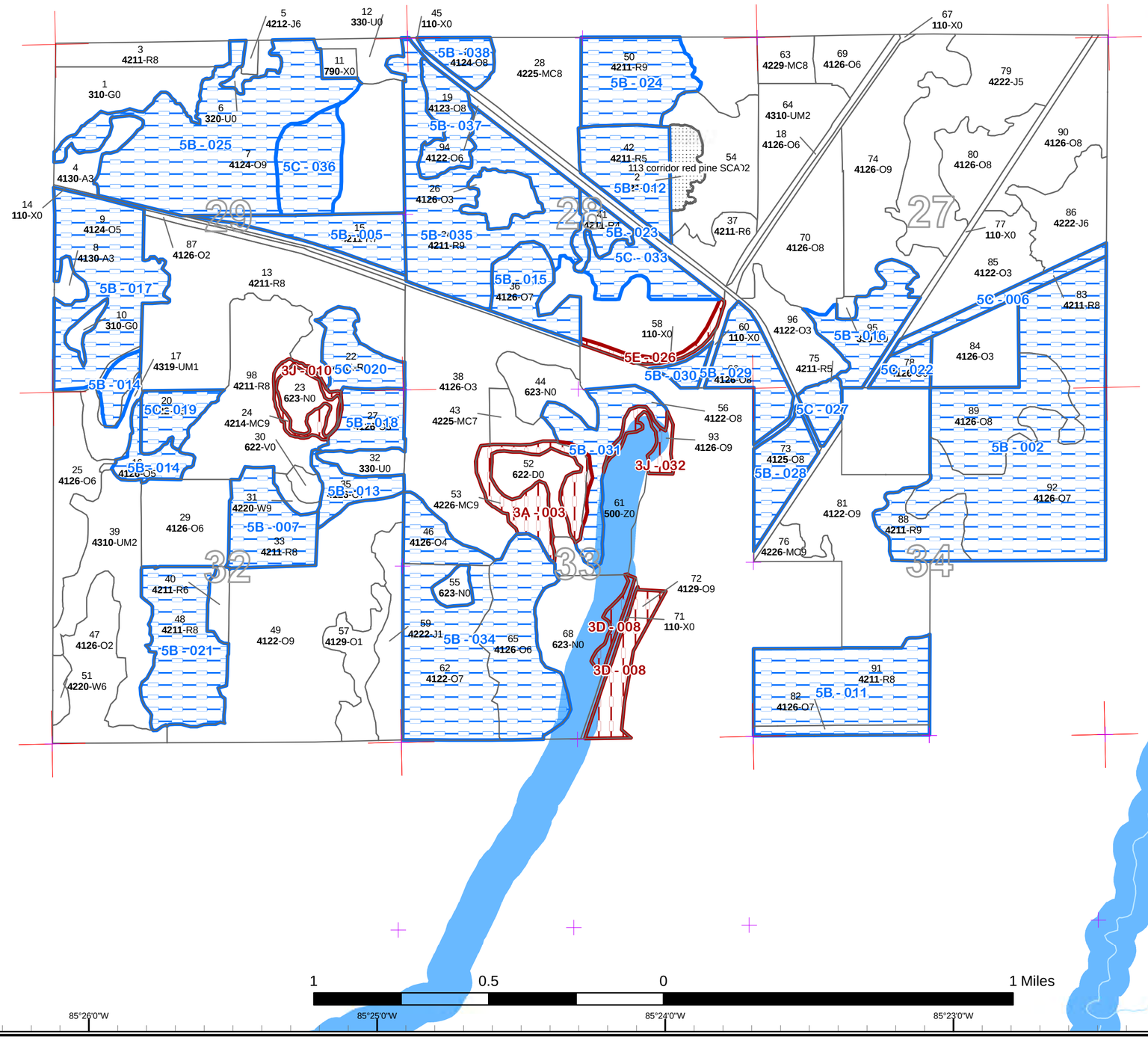
Stand # 23 — Stocking Density
(412)0) - A7
Level 3 Level 4 — OI Code
Cover Type Code





Legend
- Stand Boundaries
- 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
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer
- Wildlife Management Areas

1 0.5 0 1 Miles

85°27'0"W · 85°26'0"W · 85°25'0"W · 85°24'0"W · 85°23'0"W · 85°22'0"W · 85°21'0"W
44°33'0"N · 44°32'0"N · 44°31'0"N · 44°30'0"N

Report 1 – Total Acres by Cover Type and Age Class

Traverse City Mgt. Unit **Compartment 057 Year of Entry 2016**

David Johnson : 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	0	0	19	0	0	0	0	0	0	0	0	0	0	0	**19**
Bare/Sparsely Vegetated	5	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
Bog	5	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
Herbaceous Openland	42	0	0	0	0	0	0	0	0	0	0	0	0	0	**42**
Jack Pine	0	28	0	3	124	0	0	0	0	0	0	0	0	0	**154**
Low-Density Trees	24	0	0	0	0	0	0	0	0	0	0	0	0	0	**24**
Marsh	85	0	0	0	0	0	0	0	0	0	0	0	0	0	**85**
Natural Mixed Pines	0	0	0	0	0	0	0	47	0	14	12	36	0	0	**109**
Oak	0	217	142	17	0	0	0	0	404	177	507	405	0	0	**1869**
Planted Mixed Pines	0	0	0	0	0	0	0	8	0	0	0	0	0	0	**8**
Red Pine	0	0	0	0	0	0	17	342	452	0	25	0	0	0	**835**
Treed Bog	19	0	0	0	0	0	0	0	0	0	0	0	0	0	**19**
Upland Mixed Forest	0	0	114	0	0	0	0	0	0	0	0	0	0	0	**114**
Upland Shrub	5	0	0	0	0	0	0	0	0	0	0	0	0	0	**5**
Urban	61	0	0	0	0	0	0	0	0	0	0	0	0	0	**61**
Water	33	0	0	0	0	0	0	0	0	0	0	0	0	0	**33**
White Pine	0	0	0	0	0	0	5	0	0	4	0	0	0	0	**9**
Total	**280**	**245**	**275**	**19**	**124**	**0**	**22**	**397**	**855**	**195**	**544**	**440**	**0**	**0**	**3397**

Report 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2016

Compartment 057
Total Compartment Acres: 3,397

Acres by Treatment Type

Commercial Harvest - 667	Tree Planting - 48	Other - 55
Habitat Cut - 0	Opening Maintenance - 52	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Oak Types	165	0	365	44	0	0	**574**
Planted Pines	46	0	23	24	0	0	**93**
Total	**211**	**0**	**388**	**68**	**0**	**0**	**667**

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
7	61057007-Cut_small	42.6	4124 - Red with White Oak	High Density Log	101	51-80	Harvest	Seed Tree	412 - Oak	Cmpt. Review Proposal

Prescription Specs: Mark to leave oak in treatment area as a seed source - approximately 10BA to mimis oak/pine barrens type. In addition, leave scattered red and white pine that are present in order to maintain stand diversity. Focus on leaving white oak and harvesting majority of red oak species. This treatment area should mesh with and end up being an extension of the more open portion of stand 7 lying adjacent to treatment area directly to the west. In northern portion of stand, retention can be focused on 1-2 small islands in an attempt to capture original stand composition and to provide some overall structural diversity in harvest area. This treatment will be aimed at steering stand towards an oak/pine barrens with timber management supplemented by periodic prescribed burning to set back regen, most likely of oak and red maple with some white and jack pine regen expected following harvest as well.

Other Comments:

Next Steps: WLD - would like to conduct a periodic RX burn through treatment area, in conjunction with burn to the west, that will set back oak, RM and coniferous regen in order to steer stand/treatment area towards an oak/pine barrens management area.

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	61057018-Cut	9.3	4126 - White, Black, N. Pin Oak	High Density Pole	88	81-110	Harvest	Shelter Wood with Reserves	4310 - Pine, Oak Mix	Cmpt. Review Proposal

Prescription Specs: Recommend treating stand by removing all jack pine and pin/red oak regardless of merchantibility. Protect oak regeneration where possible. Leave all white oak, red pine and white pine throughout stand, all of which are growing well and will continue to provide good aesthetic qualities along snomobile trail corridor. Consider treating with stand 37, this will allow for more landing opportunities for harvest due to this stands narrow nature and proximity to snow trail.

Other Comments: Snomobile trail runs adjacent to stand and will most likely be used for haul route. Use appropriate VMS specs for trail protection.

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
25	61057025-Cut	35.2	4126 - White, Black, N. Pin Oak	High Density Pole	100	111-140	Harvest	Shelter Wood with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Conduct heavy shelterwood harvest to release white pine and oak regen, expect red maple to fill in as well along with scattered pockets of aspen regeneration - all red maple and aspen should be harvested. Focus on retaining larger diameter pine (white/red) and well formed white oak while keeping some shade on denser pockets of white pine regeneration. Harvest most red and all northern pin oak. Could mark to leave scattered true red oak throughout stand for mast production. Leave tops unchipped as much as possible to provide horizontal habitat component for wildlife. 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: MCCCT trail borders northern end of stand, use appropriate VMS specs for trail protection during harvest. Red oak species declining in places - some dieback in crowns.

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
29	61057029-Cut	40.1	4126 - White, Black, N. Pin Oak	High Density Pole	88	51-80	Harvest	Seed Tree with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Treat stand using a comination of seed tree/shelterwood harvests. Near pockets of advanced oak regen maintain appropriate overstory stocking. In areas of stand where little understory exists, leave less BA in an attempt to get higher density stump sprouting. Use leave trees to delineate open/barrens like area through center of stand. Focus on leaving white oak as leave trees, remove majority, if not all pin oak. Leave majority of white pine and any red pine within stand. All jack pine should be designated for removal. Leave tops unchipped as much as possible to provide horizontal habitat component for wildlife. 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: North Country Trail travels along east edge of stand, use appropriate VMS specs for trail protection during harvest operations.

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	61057034-Cut_small	46.0	42110 - Planted Red Pine	High Density Log	84	51-80	Harvest	Clearcut	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Final harvest treatment area and replant to red pine. Mark to leave some red pine along snowmobile trail as well as in the northeast corner of treatment area to address aesthetics near snowmobile trail and M-113 intersection.

Other Comments: Use appropriate VMS specs to protect snowmobile trail and MCCCT trail along western edge of treatment area.

Next Steps: Replant all or most of area to red pine depending on remaining density of oak regen - highest density of oak most notable in western lobe of treatment area.

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
37	61057037-Cut	16.6	42110 - Planted Red Pine	High Density Pole	68	111-140	Harvest	Shelterwood	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Recommend thinning stand heavily - more of a shelterwood harvest - leaving 50-60 BA on average of red pine and some white pine. Focus leaving larger, higher quality red and white pine, essentially steering this stand towards larger tree management to serve aesthetic purposes along snowmobile trail and M-113. This treatment will also allow existing oak regeneration to advance further.

Other Comments: Use appropriate VMS specs to protect Snomobile trail during harvest operations.

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	61057040-Cut1	7.4	42110 - Planted Red Pine	High Density Pole	84	111-140	Harvest	Shelterwood	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Recommend marking to leave red pine with green paint and reducing BA by 1/2 or more in order to release understory oak and steer towards a more natural looking stand considering it's proximity to the North Country Trail. Treatment will be more of a heavy shelterwood harvest. Focus on leaving high quality, well formed individuals throughout.

Other Comments: Stand was marked for thinning last YOE with orange paint but stand was not harvested - sale was returned and treatment was removed. In addition, the NCT runs along eastern edge of stand - use appropriate VMS specs for trail protection during harvest operations.

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
49	61057049-Cut1	142.9	4122 - Oak, Pine	High Density Log	110	81-110	Harvest	Seed Tree with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Remove all red/pin/black oak and jack pine due to age criteria and some decline along with all red maple and aspen, regardless of size. Leave red and white pine and white oak along with a few better quality red oak for mast source and retention. Some damage to existing regen should be expected. Expect jack pine, white pine, red maple and oak regeneration along with scattered red pine regen. Leave tops unchipped as much as possible to provide horizontal habitat component for wildlife. 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. Leave tops unchipped as much as possible to provide horizontal habitat component for wildlife. Please leave tops in scattered piles for wildlife habitat as much as possible.

Other Comments: Stand was set up for harvest in previous YOE but never sold and treatement was removed. NCT runs along/near western edge of stand, use appropriate VMS specs for trail protection during harvest operations. Some damage to existing regen should be expected. Expect jack pine, white pine, red maple and oak regeneration along with scattered red pine regen.

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
50	61057050-Cut_small	23.0	42110 - Planted Red Pine	High Density Log	85	111-140	Harvest	Seed Tree	4310 - Pine, Oak Mix	Cmpt. Review Proposal

Prescription Specs: Mark to leave 10-20 BA of red pine and occasional white oak throughout treatment area. Leave trees should be good quality, a mix of log and pole sized trees where possible. Focus a slightly higher level of BA/leave trees along MCCCT/ORV trail corridor to maintain integrity of trail while also addressing aesthetic concerns of harvest during sale operations. Regeneration of oak, white pine, red pine and jack pine is expected following harvest. If regeneration is deemed insufficient replant more open portions to red pine.

Other Comments: Use appropriate VMS specs to protect trail within treatment area during harvest operations.

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
70	61057070-Cut	50.4	4126 - White, Black, N. Pin Oak	Medium Density Log	89	51-80	Harvest	Clearcut with Reserves	412 - Oak	Cmpt. Review Proposal

Prescription Specs: Recommend removing overstory while it is still viable in terms of health. This will further release existing advanced oak regen. Leave red pine throughout stand along with some scattered, large crowned white oak in order to maintain a mast source within stand. Harvest area should include portion of stand north of 2-track, leaving lowly stocked area in the northern portion of this area. In addition, harvest a small area around opening in central portion of stand - NF stand 95. Leave tops unchipped as much as possible to provide horizontal habitat component for wildlife. 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: Oak regeneration is very dense in places and is of descent quality. Height is in the 5-10' range. Red/pin/black oak trees are beginning to decline throughout with some mortaility.

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
74	61057074-Cut	85.4	4126 - White, Black, N. Pin Oak	High Density Log	105	51-80	Harvest	Clearcut with Reserves	4121 - Oak, Aspen	Cmpt. Review Proposal

Prescription Specs: Consider treating stand to release smaller diameter oak sap/poles along with sapling size regeneration. Consider implementing a final harvest w/reserves. The idea for harvest would be to cut all trees greater than 4-6" DBH while also delineating a few islands scattered throughout stand. In addition, some larger white oak could be marked to leave in between islands. Mark to leave higher density of overstory near/adjacent to 131 corridor or consider for possible retention island. Leave tops unchipped as much as possible to provide horizontal habitat component for wildlife. 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: Trees designated for harvest are variable in terms of stocking in certain portions of stand due to past harvest - these lower stocked areas might be good candidate locations for reserve islands within harvest area.

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	61057080-Cut	29.1	4126 - White, Black, N. Pin Oak	Medium Density Log	105	51-80	Harvest	Clearcut with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Consider treating stand by final harvesting with reserves, removing all jack pine greater than 4.5" dbh and all oak species greater than 6" DBH. Mark to leave some large/healthy white oak, concentrated near 131 for aesthetic purposes along with a few scattered white oak marked to leave throughout remainder of stand for mast. Leave tops unchipped as much as possible to provide horizontal habitat component for wildlife. 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: Basically this treatment is aimed at removing majority of overstory in order to release established understory. Should expect some damage to be done to established regen due to high understory density in places. Similar treatment to occur in oak stand on east side of 131.

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
81	61057081-Cut	82.7	4122 - Oak, Pine	High Density Log	114	51-80	Harvest	Seed Tree with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Treat stand using the seedtree with reserves method. North of Elliot Rd, leave all red and white pine and mark to leave white oak. In addition, leave all white oak <5" DBH. South of Elliot Rd, Mark to leave red and white pine and white oak. Release advanced oak regen where possible. Mark to leave more residual in NW corner of stand along 131 for aesthtics. Overall residual BA throughout stand should be approximately 20-40BA with some pockets higher near private residences and some areas lower where oak regeneration is more dense. Consider weaving some red pine throughout treatment area depending on how open some of the areas end up being.

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
90	61057090-Cut	43.4	4126 - White, Black, N. Pin Oak	Medium Density Log	105	51-80	Harvest	Seed Tree with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Consider treating stand by final harvesting with reserves, removing all jack pine greater than 4.5" dbh and all oak species greater than 6" DBH. Mark to leave some large/healthy white oak, concentrated near 131 for aesthetic purposes along with a few scattered white oak marked to leave throughout remainder of stand. Leave tops unchipped as much as possible to provide horizontal habitat component for wildlife. 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: Horse trail runs along very north edge of treatment area. Use appropriate VMS specs to protect trail as landing area/haul route will most likely be in this vicinity of treatment. Basically this treatment is aimed at removing majority of overstory in order to release established understory. Should expect some damage to be done to established regen due to density in places. Similar treatment to occur in oak stand on west side of 131.

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
94	61057094-Cut	12.9	4122 - Oak, Pine	High Density Pole	92	81-110	Harvest	Seed Tree with Reserves	4122 - Oak, Pine	Cmpt. Review Proposal

Prescription Specs: Treat stand by removing all pin, red and black oak along with all jack pine. Mark to leave scattered white oak. In addition, retain all red pine and white pine.

Other Comments: Some oak decline present within stand, determine with forest health folks if oak wilt spec should be applied to contract. Special care should be taken when felling trees along M-113 corridor as well as along powerline ROW. North Country trail crosses central portion of stand and should be protected by use of appropriate VMS 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
95	NF_61057095-Plant	2.2	3303 - Mixed Low Density Trees				Tree Planting	Hand Plant	320 - Upland Shrub	Cmpt. Review Proposal

Prescription Specs: Could plant site appropriate native shrubs and/or mast producing trees 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
1	NF_61057001-Burn1	37.5	3105 - Mixed Upland Herbaceous				Prescribed Burn	Unspecified	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: This stand has been identified as a Pine Barrens by MNFI. The timing and frequency of the burns will be based on currents needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods.

Other Comments:

Next Steps: Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, 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
6	NF_61057006-Burn	5.2	3205 - Mixed Upland Shrub				Prescribed Burn	Unspecified	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: Burn the southern portion of this stand with stand 1 to the west. Reuse previous burn lines. The timing and frequency of the burns will be based on currents needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods.

Other Comments:

Next Steps: Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, 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
12	NF_61057012-Burn	11.4	3303 - Mixed Low Density Trees				Prescribed Burn	Unspecified	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: Could possible harvest some white pine prior to burning. The timing and frequency of the burns will be based on currents needs of restoration such as reducing woody encroachment or promoting grasses versus forbs. Remove exotics as needed by herbiciding or other methods.

Other Comments:

Next Steps: Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, 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
39	61057039-NF_small-NonFor1	3.4	4310 - Pine, Oak Mix	Medium Density Sapling	25	1-50	Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: This is a small natural forest opening that needs some saw work to set back encroachemnt. Could burn this opening and/or seed in a native grass spp to increase herbaceous diversity. NF IFMAP data has been collected for this AOI.

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
10	NF_61057010-NonFor1	4.5	3105 - Mixed Upland Herbaceous				Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: Stand is in a shallow ravine. Encroachment from surrounding forest types & resent selection cut. Set back encroachment- burn would be ideal yet fuels are sparse. Use brush hog & some saw work. Extend delineation of opening to include NE & NW fingers.

Other Comments:

Next Steps: Include a seeding of warm or cool season native vegetation.

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	NF_61057068_Edt-NonFor	44.4	6233 - Wet Meadow				Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: Stand is in a shallow ravine. Encroachment from surrounding forest types & resent selection cut. Set back encroachment- burn would be ideal yet fuels are sparse. Use brush hog & some saw work. Extend delineation of opening to include NE & NW fingers. Include a seeding of warm or cool season native vegetation.

Other Comments:

Next Steps:

Proposed Start Date: 10/01/2015

Total Treatment Acreage Proposed: 775.4

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
9	61057009-NF-Burn	1.0	4124 - Red with White Oak	Medium Density Pole	98	51-80	Prescribed Burn	Unspecified	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: This is a small natural forest opening that needs some saw work to set back encroachemnt. Could burn this opening and/or seed in a native grass spp to increase herbaceous diversity. NF IFMAP data has been collected for this AOI.

Other Comment:

Next Steps:

Proposed Start Date: 10/01/2015

Limiting Factor: 5B: Maintain for regeneration purposes

Total Treatment Acreage Proposed: 1.0

Report 5 – Site Conditions

Traverse City Mgt. Unit | **Compartment 057**

Patrick Cotant : Examiner | **Year of Entry 2016**

Availability for Management

Total Acres	Acres Available	Acres Not Available	Dominant Site Conditions	No	5E	5C	5B	3J	3D	3A
19	19		**Aspen**	19						
154	154		**Jack Pine**	154						
109	82	27	**Natural Mixed Pines**	82						27
1869	1834	35	**Oak**	954		60	820	9	25	2
8		8	**Planted Mixed Pines**					8		
835	829	6	**Red Pine**	331	6	71	428			
114	114		**Upland Mixed Forest**	113			1			
9	9		**White Pine**	9						
3,117	3,041	76	Total Forested Acres	1,662	6	131	1,248	16	25	29
	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**	**5B: Maintain for regeneration purposes**	226				
	Comments:							
003		**Not Available**	**3A: Potential old growth / biodiversity**	29				
	Comments: Possible Old Growth stand							
005		**Available**	**5B: Maintain for regeneration purposes**	30				
	Comments:							

006	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	14		

Comments:

007	**Available**	**5B: Maintain for regeneration purposes**	36		

Comments:

008	**Not Available**	**3D: Recreational / Scenic values**	25		

Comments:

010	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	8	3D: Recreational / Scenic values	

Comments:

011	**Available**	**5B: Maintain for regeneration purposes**	81		

Comments:

012	**Available**	**5B: Maintain for regeneration purposes**	39		

Comments:

Low stocking in the overstory and dense regen of variable species composition throughout stand.

013	**Available**	**5B: Maintain for regeneration purposes**	15

Comments:

014	**Available**	**5B: Maintain for regeneration purposes**	24

Comments:

015	**Available**	**5B: Maintain for regeneration purposes**	26

Comments:

016	**Available**	**5B: Maintain for regeneration purposes**	32

Comments:

017	**Available**	**5B: Maintain for regeneration purposes**	78

Comments:

018	**Available**	**5B: Maintain for regeneration purposes**	22

Comments:

019	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	18		
Comments:					
020	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	22	5B: Maintain for regeneration purposes	
Comments:					
021	**Available**	**5B: Maintain for regeneration purposes**	59		
Comments:					
022	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	11		
Comments:					
023	**Available**	**5B: Maintain for regeneration purposes**	12		
Comments:					
024	**Available**	**5B: Maintain for regeneration purposes**	47		
Comments:					

025	**Available**	**5B: Maintain for regeneration purposes**	134	5C: Delay treatment for age/size class diversity or exceptional site quality

Comments:

Portions of stand with site condition placed on it were prescribed burned following last inventory cycle. In addition, areas were treated with timber harvests. Current treatment is aimed at rcontinuing to diversity size and spcies composition in understory while also enhancing and improving open areas throughout the treatment area.

026	**Not Available**	**5E: Long Term Retention**	6

Comments:

This stand, while part of the adjacent red pine plantation is more of a mixture of pine species and oak. Good candidate for long term retention adjacent to snow trail and PVT property to the south.

027	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	10

Comments:

028	**Available**	**5B: Maintain for regeneration purposes**	24

Comments:

029	**Available**	**5B: Maintain for regeneration purposes**	30

Comments:

030	**Available**	**5B: Maintain for regeneration purposes**	6

Comments:

031	**Available**	**5B: Maintain for regeneration purposes**	32		

Comments:

032	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	9		

Comments:

Small stand adjacent to Walton Pond that was prescribed but not treated due to it's close proximity to water and the sloping nature of the ground towards the lake itself.

033	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	25		

Comments:

Delayed specifically for age/size class diversity.

034	**Available**	**5B: Maintain for regeneration purposes**	153		

Comments:

035	**Available**	**5B: Maintain for regeneration purposes**	108	5C: Delay treatment for age/size class diversity or exceptional site quality	

Comments:

Overstory red pine providing good shade component for understory oak regeneration. In addition, maintaining age/size class diversity will also help with aesthetics near 113 and final harvest/replant portion of stand.

036	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	31		

Comments:

037	**Available**	**5B: Maintain for regeneration purposes**	22

Comments:

038	**Available**	**5B: Maintain for regeneration purposes**	13

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
113 corridor red pine SCA	Habitat Areas or Corridors	Other Habitat Area	**SCA**	

Comments

Stand provides habitat niche created by old age red pine in combination with younger age red pine. Stand contains excellent structural diversity with large cavity trees present along with a great deal of coarse woody debris.

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	Habitat Area	An area that provide some specific need for the life cycle of wildlife species, including State Wildlife Areas and Waterfowl Production Areas, deer wintering complexes in lowland conifer communities, grassland openings and savannas. Habitat areas are distinct from critical habitat designated for recovery of endangered or threatened species (such as Kirtland's warbler or piping plover areas) in that they are more general in nature, are not primarily associated with threatened or endangered species, and are not covered by species recovery plans that are developed in cooperation with Federal agencies.
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.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
2	42210 - Natural Red Pine	High Density Log	12.0	72	141-170	This was originally part of stand 50 however this new stand contains 2 age classes of red pine and appears to be of natural origin. There is a significant amount of large red pine along with a variable size class ranging from small poles to logs in the 12" DBH range. Cored both size classes and found the super canopy red pine to be ~150 years old and the smaller diameter trees to be ~50-70 years old. Scattered white pine also present. Some old fire scarred snags are present throughout stand as well. Minimal understory, some oak regen along with scattered red maple.
3	42110 - Planted Red Pine	Medium Density Log	22.4	73	81-110	Small bark beetle pocket forming along southern stand edge. Overall, stand is responding well to thinning, understory oaks becoming more of a stand component. (old comment) small patch of aspen in NW corner
4	4130 - Aspen	High Density Sapling	13.5	26		Scattered white oak in oversotyr along with occasional white pine - very few. Aspen growing well.
5	42120 - Planted Jack Pine	High Density Pole	2.6	36	51-80	
7	4124 - Red with White Oak	High Density Log	208.3	101	51-80	Variability in terms of stocking throughout stand, some open areas along with some more dense oak pockets. Pine component within stand exists mainly in north central portion of stand as well as along western edge and near RR ROW. East 1/2 of stand a bit more open grown.
8	4130 - Aspen	High Density Sapling	5.2	26		Small aspen pocket with red maple and oak saplings present throughout. Oak seedlings present in descent numbers as well.
9	4124 - Red with White Oak	Medium Density Pole	76.9	98	51-80	Stand is a mix of variable regen with oak, white pine and red pine in overstory with white/red oak being the dominant canopy species - all as a result of harvest conducted previous entry period. Regen is quite thick in places, while other areas of stand contain small frost pockets. Scattered jack pine saplings present along with occasional pockets of pure red maple and aspen w/ no overstory BA.
13	42110 - Planted Red Pine	Medium Density Log	129.0	75	81-110	Variable density stand dominated by red pine with scattered oak present as well as white pine. Regeneration is dense in places with oak, white pine, red maple and occasional pockets of jack pine present. Canopy closure is variable but overall seems to fall in the upper end of 50-75% stocked, sometimes higher. (old comment) Scattered pockets of lighter BA and heavier regen. Narrow strip along north edge of stand along railroad approx. 40 feet wide is oak - aspen regen.
15	42110 - Planted Red Pine	Low Density Log	29.9	84	1-50	Red pine stand that was treated heavily with seed tree/shelterwood harvest. Scattered overstory oaks present as well. Oak, red maple and jack pine regen throughout with some white pine regenerating as well.
16	4126 - White, Black, N. Pin Oak	Medium Density Pole	24.6	109	1-50	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
17	4319 - Mixed Upland Forest	Low Density Sapling	13.8	24		
18	4126 - White, Black, N. Pin Oak	High Density Pole	9.3	88	81-110	Variable stand dominated by white oak, pin oak and jack pine with occasional red and white pine scattered throughout. Jack pine and pin oak are declining and beginning to break up and experience some mortality. This stand constitutes the ground between the snowmobile trail and RR grade that has been left out of previous treatments of adjacent stands.
19	4123 - Red Oak	Medium Density Log	21.8	105	51-80	
20	4122 - Oak, Pine	Medium Density Pole	17.6	88	1-50	
21	4124 - Red with White Oak	Medium Density Log	13.2	105	51-80	
22	42111 - Planted Red Pine, Mixed Deciduous	Medium Density Log	22.3	88	1-50	Mixed stand with red pine dominant, scattered red and white oak throughout. Dense regeneration of oak, red maple and scattered aspen. Variable density throughout stand, some very open areas with seed tree clumps present, other small areas with low to moderate stocking of red pine.
24	42140 - Planted Mixed Pine	High Density Log	7.8	75	81-110	Stand surrounding Jennie Lake - mostly on slope.
25	4126 - White, Black, N. Pin Oak	High Density Pole	35.2	100	111-140	Oak/pine stand with red maple throughout in fair numbers. Transitioned to log sized stand since last YOE. RR grade transects stand E/W. Stand is more open in west/SW portion, in places. Overall seems to be converting to white pine with oak regen in places, albeit stagnant with canopy closure where it is now.
26	4126 - White, Black, N. Pin Oak	High Density Sapling	15.7	16	1-50	Featured understory of oak - scattered rp and oak logs exist throughout stand and are close to being 25% of canopy however oak understory/sapling layer is overall high density.
27	4126 - White, Black, N. Pin Oak	Medium Density Log	22.1	102	1-50	Overstory of white and northern pin oak throughout with scattered red pine present as well. Dense understory of jack pine and mixed oak regeneration. Some mortality in overstory pin oak.
28	42250 - Pine, Oak	Medium Density Log	47.4	76	51-80	Good oak regen along with some aspen and scattered red maple clump regen throughout stand. Stand density lies at the upper end of the 50-75 canopy closure.
29	4126 - White, Black, N. Pin Oak	High Density Pole	40.1	88	51-80	Oak/pine stand with white oak in the pole/log class being dominant overall. White pine and jack pine make up the conifer component of the stand which is concentrated in the south and west portions of the stand. Open areas exist within the stand extending from the SW corner in a northeasterly direction. Consider maintaining/enhancing these should a treatment occur within this standSW corner has higher ba of jp

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
31	42200 - Natural White Pine	High Density Log	3.9	90	51-80	Stand on slope around small pocket lake
33	42111 - Planted Red Pine, Mixed Deciduous	Medium Density Log	35.7	77	51-80	Mixed stand of red pine and oak with variable density and some variability in terms of diameter distribution. Dense understory of oaks and red maple. Density and DBH variability similar to stand 48 to the SW.
34	42110 - Planted Red Pine	High Density Log	185.6	84	51-80	Red pine stand with quite dense understory regen of oak and red maple. Scattered white pine, white oak and red oak present as well. Scattered jack pine concentrated in NW corner of stand. White pine regen present in descent numbers as well. Stands delineated out of larger area consist of seed tree areas where red pine and overstory oak are present in low numbers. Stand density/canopy closure is in the lower range of the 75-100% and has areas that are quite variable ranging from R7 to R9 with BA ranging from 30 to 120 with the average in the 70-90 range.
35	4126 - White, Black, N. Pin Oak	Low Density Log	15.0	105	1-50	Excellent mixed regen from past harvest
36	4126 - White, Black, N. Pin Oak	Low Density Log	26.4	94	1-50	Good oak regen.
37	42110 - Planted Red Pine	High Density Pole	16.6	68	111-140	Stand is adjacent to snow trail and 113. BA ranges from 70-160 with some open pockets of oak regen scattered throughout. Oak regen throughout understory is relatively well developed.
38	4126 - White, Black, N. Pin Oak	High Density Sapling	119.2	17	1-50	Mixed stand of oak and pine - featured regen but some oak overstory exists along with scattered overstory white pine. Portions of stand could be typed as 07/8 but since this stand consisted of a single treatment decided to lump it together and as mentioned, featured regen in the sap/pole class. (old comment) jp regen. in old skid trails
39	4310 - Pine, Oak Mix	Medium Density	61.4	25	1-50	Scattered residual red pine and mixed oak over excellent oak and jack pine saplings
40	42110 - Planted Red Pine	High Density Pole	7.4	84	111-140	Small pocket/stand of red pine with higher density that surrounding stands dominated by red pine. Oak regen in understory is dense in places - in the 10-15' range.
41	42110 - Planted Red Pine	Low Density Pole	11.9	84	1-50	Stand is an area that was treated 10 years ago, regenerating to oak with jack pine scattered throughout as well - some dense pockets. Red pine remains as the dominant overstory species and is featured as such in the canopy species. Overall canopy is lowly stocked ~25% canopy closure but should still be featured.
42	42110 - Planted Red Pine	Medium Density Pole	38.5	85	1-50	Stand was treated 10 years ago by removing all jack pine, pin oak and black oak. Resulting stand is a mixture of red pine overstory - variable in terms of stocking - with scattered white oak. Dense regen of oaks with scattered pockets of jack pine regen present. BA averages ~50 sq ft/ac however pockets of no overstory are present along with areas where BA is in the low 100's.
43	42250 - Pine, Oak	Low Density Log	11.7	100	1-50	

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
46	4126 - White, Black, N. Pin Oak	Low Density Pole	17.8	88	1-50	
47	4126 - White, Black, N. Pin Oak	Medium Density	43.8	25	1-50	Scattered oak and pine residual over sapling oak
48	42110 - Planted Red Pine	Medium Density Log	58.8	76	51-80	Stand is variable in terms of pole - log sized trees. Determined stand to be log sized at this point in time. Very good mixed oak regen in understory. Density is variable as well with some portions in the lowly stocked range of R6/9 but for the most part is lower stocked in the 50-75% canopy closure range.
49	4122 - Oak, Pine	High Density Log	142.9	110	81-110	Mixed stand of oak and jack pine with red and white pine scattered throughout. Pin oak are declining, white oak holding up fairly well. Some large white pine in pockets, also some pockets of red maple regen and scattered red maple and aspen in overstory as well.
50	42110 - Planted Red Pine	High Density Log	70.2	85	111-140	Somewhat variable red pine stand in terms of stocking. Some open areas filling in with mixed regen are present, along with pockets of dense red pine with little understory, most notably in the northeast portion of the stand.
51	42201 - Natural White Pine, Mixed Deciduous	High Density Pole	5.3	63	51-80	
53	42260 - Natural Pine, Mixed Deciduous	High Density Log	27.3	113	81-110	Stand surrounds a treed bog and the back waters of Walton Pond. Special Conservation Area - old growth
54	4129 - Mixed Oak	Medium Density	45.2	25	1-50	
56	4122 - Oak, Pine	Medium Density Log	33.6	111	1-50	
57	4129 - Mixed Oak	Low Density Sapling	23.0	17		Scattered Oak and Red Pine residual over natural Oak and Jack Pine regen.
59	42220 - Natural Jack Pine	Low Density Sapling	27.7	17		Small pocket of White Pine poles in center of stand with some White Pine scatterd regen.
62	4122 - Oak, Pine	Low Density Log	74.0	88	1-50	Check for adequate regenration.
63	42290 - Natural Mixed Pine	Medium Density Log	13.9	95	51-80	Stand was harvested in summer of 2012 under tsale contract 033-08-01. -PC
64	4310 - Pine, Oak Mix	Medium Density	38.8	25	1-50	Mixed stand, oak pine regen from previous treatment with scattered pine and oak in overstory - resulting from seed tree harvest. Regen is in good shape. Stocking is on the upper end of the 50-75% canopy closure range. (old comment) Very good mixed regen. oak - pine

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
65	4126 - White, Black, N. Pin Oak	High Density Pole	61.1	98	1-50	
66	4126 - White, Black, N. Pin Oak	Medium Density Log	35.8	114	1-50	
69	4126 - White, Black, N. Pin Oak	High Density Pole	16.8	31	51-80	Variable stand, overstory is log sized trees - mainly oak - with some pine species in canopy and pole sized oak species as intermediate canopy component along with some white pine, red pine and jack pine. Scattered red maple and occasional pockets of aspen. Portion of stand between snow trail and rr grade is more uniformly larger diameter trees. Cored smaller DBH oak and came up with an age in the lower 30's. Good advanced oak regen. sap - poles. With oak taken in to account as understory species, canopy closure is approximately 75%.
70	4126 - White, Black, N. Pin Oak	Medium Density Log	85.2	89	51-80	Variable stand with oak, red pine and scattered red maple present. Stand results from shelterwood harvest which took place in late 90's. Overstory stocking is variable with some pockets in the 50-70BA range, mostly in southern portions of stand while the majority of the northern tip of the stand is in the 10-40BA range - canopy closure falls in mid range of 50-75% range. Small pocket of red pine is included in stand in western corner. (Old comment) Good mixed oak regen with a scattering of light jp regen
72	4129 - Mixed Oak	High Density Log	25.1	111	81-110	Stand borders Walton Pond and the settlement of Walton.
73	4125 - Black, N. Pin Oak	Medium Density Log	23.8	114	1-50	
74	4126 - White, Black, N. Pin Oak	High Density Log	85.4	105	51-80	Mixed stand with dense regeneration in places, along with pockets of higher density overstory stocking. scattered aspen in small pole size class. Occasional red maple pockets present as well along with scattered jack pine, most notably along border with stand 79.
75	42111 - Planted Red Pine, Mixed Deciduous	Medium Density Pole	10.0	78	51-80	
76	42260 - Natural Pine, Mixed Deciduous	High Density Log	8.6	118	51-80	Remnant red pine with mixed jack pine and oak along hwy and borders small cemetary along Elliott Rd.
78	4126 - White, Black, N. Pin Oak	High Density Log	10.7	89	51-80	
79	42220 - Natural Jack Pine	Medium Density Pole	88.5	44	51-80	Natural jack pine stand, growing fairly well although not great height/diameter considering it's age. Stocking throughout stand is variable with some open areas present. Large white and pin oak scattered throughout stand providing mast and structural diversity. Not much mortality in oak or jack pine.
80	4126 - White, Black, N. Pin Oak	Medium Density Log	29.1	105	51-80	Mixed stand of pin and white oak with established jack pine and oak regen in the sapling-small pole size class. Pockets of dense regen with minimal overstory present. Good oak regen.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
81	4122 - Oak, Pine	High Density Log	82.7	114	51-80	Mixed oak/pine stand with pin oak, white oak and jack pine being the most dominant species. Red and white pine also present in fair numbers, mainly in pockets along east edge of stand. White oak is in fairly good shape however pin oak is declining with some mortality present, some trees have fallen recently. Stocking is variable in places, overall stand lies in the lower end of the 75-100% range. Regeneration density is also variable in places - some portions quite dense while others are wide open.
82	4126 - White, Black, N. Pin Oak	Low Density Log	9.1	105	1-50	This stand was originally part of three stands to the north but was separated because of the lack of red pine in the canopy. Oak occupies the canopy of this lightly stocked stand, with variable stocking that averages around 30BA. Oak regeneration of low density throughout understory.
83	42110 - Planted Red Pine	Medium Density Log	13.5	85	1-50	
84	4126 - White, Black, N. Pin Oak	High Density Sapling	32.3	17		Scattered rp and mixed oak saw - good mixed regen.
85	4122 - Oak, Pine	High Density Sapling	40.3	22	1-50	Mixed stand consisting of dense oak and jack pine regeneration throughout, more oak concentrated in eastern postion of stand. Majority of overstory which is low density where present is located along southern and eastern edge of stand. jack pine is variable in size and may be two aged with some small poles present along with sapling size trees common as well.
86	42220 - Natural Jack Pine	High Density Pole	35.5	47	51-80	Jack pine stand with scattered oak and a small amount of red pine in pockets. Some variability in stocking and size class exists - some open areas present. Jack pine are slow growing in this area, overall poor quality.
87	4126 - White, Black, N. Pin Oak	Medium Density	13.2	22	1-50	Mixed stand of regen in the sapling/small pole size class. Majority of stocking is oak and red maple with some jack pine present along with cherry, red pine and scattered aspen pockets. Scattered larger oaks present along with occasional overstory red pine.
88	42110 - Planted Red Pine	High Density Log	25.1	103	81-110	Expanded stand boundary to include pockets of larger white pine/red pine with dense white pine understory - this area lies in the western lobe of the stand. Red pine are large in diameter and height, stand provides a nice visual buffer adjacent to isolated area of private ownership.
89	4126 - White, Black, N. Pin Oak	Medium Density Log	52.0	111	1-50	2006 comments: Good oak regen after harvest 9 years ago
90	4126 - White, Black, N. Pin Oak	Medium Density Log	43.4	105	51-80	Very similar to stand on west side of 131. Slightly more jack pine in the sapling/small pole size class. Dense areas of jack pine/oak regen in areas of stand.
91	42110 - Planted Red Pine	Medium Density Log	72.4	86	51-80	Variable density red pine stand with some pockets more open while others remain in the upper end of the 50-75% canopy closure. oak regen present from stump sprouts, white oak and N pin oak scattered throughout the canopy.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
92	4126 - White, Black, N. Pin Oak	Low Density Log	149.2	81	1-50	
93	4126 - White, Black, N. Pin Oak	High Density Log	8.6	111	81-110	
94	4122 - Oak, Pine	High Density Pole	12.9	92	81-110	Stand was originally part of stand 34. Consists of a narrow strip between M-113 and powerline ROW. Variable stocking and species somposition throughout however majority of stand is an oak/pine mix with jack pine present. Overall stand is dominated by white oak with occasional red pine pockets towards the east end. Mortality in black and pin oak is becoming more widespread - decline, possibly some oak wilt.
96	4122 - Oak, Pine	High Density Sapling	26.8	14	1-50	Variable stand with oak, red pine and scattered red maple present. Stand results from shelterwood harvest which took place in late 90's, this portion of the original stand to the north was treated more heavily and was separated due to differences in stocking. Overstory stocking is variable, mainly falls in 10-40BA range. Featured both oak/jp regen and overstory oak and red pine in canopy. (Old comment) Good mixed oak regen with a scattering of light jp regen
98	42111 - Planted Red Pine, Mixed Deciduous	Medium Density Log	74.3	75	51-80	Red pine/oak stand with variable density stocking throughout. Some open areas with dense regeneration - other areas with higher BA of red pine and log sized oak species. Treated in late 90's, stand line follows treatment boundary for the most part however areas of higher density red pine have been merged with stand to the north. Scattered pockets of lighter BA and heavier regen. Narrow strip along north edge of stand along railroad approx. 40 feet wide is oak - aspen regen.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
1	3105 - Mixed Upland Herbaceous	37.5	No	High	Some ORV damage in the E. end, old cycle trail. Burn would need a good N wind to carry fire across areas of sparse fuels. Several old tires. Species also present are: Hawkweed/ rubus/ sheep sorrel/ Blueberry in pockets/cladonia/ st johns wort/ pussy toes/ 2 clumps of jack pine/ pockets of sedge/ spotted knap weed a @ West edge Forbs/ some quaking aspen encroachment in the SE/ Hill's thistle. E end is a bowl depression.
6	3205 - Mixed Upland Shrub	5.2	No	High	Scattered rubus/ hawkweed/ cladonia/ moss/ St.johns wort/ Big tooth aspen saplings/ some cool season grasses. Need to extend delineation to include depression south of stand 5.
10	3105 - Mixed Upland Herbaceous	4.5	No	High	Stand is in a shallow ravine. Encroachment from surrounding forest types & resent selection cut. Set back encroachment- burn would be ideal yet fuels are sparse. Use brush hog & some saw work Extend delineation of opening to include NE & NW fingers. Include a seeding? Other species include: Little bluestem/ st. johns wort/ rubus/ sheep sorrel.June berry seedlings/ oak seedlings/ cool season grasses. Raptor!
11	790 - Other Bare/Sparsely Vegetate	5.4	Natural Regen	Upland Mixed Forest	
12	3303 - Mixed Low Density Trees	11.4	No	Medium	Islands of white pine/ black cherry/ oak w/ sap- logs. makes nice cover islands escecially from Walton Rd. Other species: golden rod/ rubus/ seedlings/ forb/ hawthorn/ moss/ witch hazel/ yarrow/ harebell/ horsemint/ goatsbeard/ st johns wort.
14	11 - Low Intensity Urban	9.4	No	Low	RR Tracks
23	6233 - Wet Meadow	12.9	No	Low	
30	6225 - Bog	4.8	No	Low	Jack pine snags along edges.
32	3303 - Mixed Low Density Trees	9.9	Natural Regen	Mixed Upland Deciduous	
44	6233 - Wet Meadow	22.0	No	Low	Wet meadow with significant component of woody veg. Scattered standing dead timber. Other species: Dogwood/ ferns/ iris/ hawkweed/ forbs/ bergamont.
45	11 - Low Intensity Urban	18.0	No	Low	M-113
52	6224 - Treed Bog	19.5	No	Low	This should be a T3 stand
55	6233 - Wet Meadow	6.1	No	Low	Dead standing timber along edges. Rushes & forbs.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
58	11 - Low Intensity Urban	1.9	No	Low	RR Grade
60	11 - Low Intensity Urban	3.7	No	Low	RR Grade
61	50 - Water	33.0	No	Low	Walton Pond
67	11 - Low Intensity Urban	6.5	No	Low	RR Grade
68	6233 - Wet Meadow	44.4	No	High	Series of old dikes from cranberry farm. Waterfowl management opportunities, wild rice, nesting mounds/ boxes, potholes?
71	11 - Low Intensity Urban	4.0	No	Low	RR Grade
77	11 - Low Intensity Urban	17.4	No	Low	US-131
95	3303 - Mixed Low Density Trees	2.2			Variable stand with oak, red pine and scattered red maple present. Stand results from shelterwood harvest which took place in late 90's. Overstory stocking is variable with some pockets in the 50-70BA range, mostly in southern portions of stand while the majority is in the 10-40BA range - canopy closure falls in low end of 50-75% range. Small pocket of red pine is included in stand in western corner. (Old comment) Good mixed oak regen with a scattering of light jp regen