Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 155
Entry Year 2016
Acreage: 2,413
County Kalkaska
Management Area: Boardman Plains

Revision Date: 04/04/2014

Stand Examiner: Katie Armstrong

Legal Description:

T26N R8W Sections 7, 8, 9, and 10

Identified Planning Goals:

Vegetation management in the Boardman Plains management area will provide forest products; maintain or enhance wildlife habitat; protect areas of unique character including the Boardman River (a designated natural river) and threatened, endangered and special concern species; and provide for forest-based recreational uses. Timber management objectives for this 10-year planning period include improving the age-class structure of aspen; increasing regeneration of oak; working toward balancing the red pine age-class structure; wildlife values; and continued production of wood products. Wildlife habitat management objectives include perpetuating early-successional communities for species adapted to young forests for hunting and other wildlife-related recreation opportunity. Expected trends within this 10-year planning period are: increased recreational pressure; increased oil and gas development; an increased wildland/urban interface; a need to restore oak/pine barrens communities; invasive plant control; and the conversion of poor oaks sites to mixed pine/oak sites.

Soil and topography:

Much of the compartment sits on Rubicon or Croswell sands with Tawas-Lupton, Ausable-Bowstring, or Kinross mucks in the stream corridors and low-lying areas. Most of the compartment is relatively flat.

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

Most of the compartment is surrounded by State land except for the east side of Section 10 and parts of the south sides of Sections 8 and 9. The village of South Boardman is less than one mile south. SBA Communications has leased part of Section 10 SWSW for a communications tower. A relatively large underground pipeline and aboveground powerline traverse the compartment.

Unique Natural Features:

No Unique Natural Features known.

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:

The South Branch of the Boardman River and Taylor Creek are Designated Natural Rivers. These shall be protected by a 100' vegetated buffer per the Boardman River Natural River Plan. The South Branch Barrens SCA is just to the west in Grand Traverse County. Two stands in this compartment are proposed for restoration and inclusion in the the SCA.

Watershed and Fisheries Considerations:

This compartment contains portions of the South Branch of the Boardman River and Taylor Creek. Both are Designated Natural Rivers and Designated Trout Streams. These streams support self-sustaining populations of brown, brook, and rainbow trout. Suitable buffers (as outlined in Water Quality Management Practices on Forest Land) should be applied to treatment areas adjacent to both of these waterbodies.

Wildlife Habitat Considerations:

The featured wildlife species for this management area include: black bear, pileated woodpecker, ruffed grouse, wild turkey, and white-tailed deer. Some of the most significant wildlife management issues will be the maintenance of young forest and large open grassland complexes, the retention of large, over-mature trees and snags and the maintenance and expansion of hard mast and mesic conifer components. [To be edited by WLD.]

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 is the Mississippian Coldwater Shale. The Coldwater has no economic use. Gravel pits are located in Section 16 and potential is considered good. The compartment is south of the prolific Niagaran reef trend. Several dry hole wells were drilled in the compartment. All state minerals are currently leased. There may be Antrim Shale gas potential.

Vehicle Access:

There is sufficient vehicle access throughout the compartment, other than the wetland stream corridors. A short stretch of US-131 crosses the compartment in Section 10. Boardman River Road, a good gravel county road, bisects the compartment.

Survey Needs:

There are no survey needs at this time.

Recreational Facilities and Opportunities:

The Grand Traverse to Leetsville MCCCT runs through Section 8. Snowmobile Trail #55 runs through Sections 7 and 8 on the path of an underground pipeline. Appropriate trail protection specifications should be added to timber sale contracts to reduce potential impacts to these trails where treatments are prescribed. Other recreational opportunities include hunting and fishing. (T.M.N. 5/15/14)

Fire Protection:

The dry pine stands in the southwest part of this compartment present the greatest potential for wildfire. Risk is low in the vast swamps along the South Branch of the Boardman River and Taylor Creek. Fire protection would be provided by the Kalkaska FRD office and the Fife Lake Fire Department. This compartment is within Zone 6 North zone dispatch area, meaning additional units would be dispatched from the Traverse City and Manton offices depending on fire danger rating.

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: 155
T26N R08W
Sections: 7, 8, 9, 10
County: Kalkaska
Unit: Traverse City
Management Area: Boardman Plains
YOE: 2016
Acres: 2,413 GIS Calculated
Examiner: Katie Armstrong
Map Revised: 06/16/2014
Map Phase: Web Post

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

7 | 8 | 9 | 10

N

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Legend

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

Planned Regeneration
- Natural
- Planted

Treatments
- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Prescribed Burn
- Treatments w/ Site Condition

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

Non-Forest Stands
- 122 - Road/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub
- State Forest Land

1 0.5 0 Miles

85°20'0"W · 85°19'0"W · 85°18'0"W · 85°17'0"W · 85°16'0"W · 85°15'0"W
44°41'0"N · 44°40'0"N · 44°39'0"N · 44°38'0"N

Stand Boundary Map

Compartment: 155
T26N R08W
Sections: 7, 8, 9, 10
County: Kalkaska
Unit: Traverse City
Management Area: Boardman Plains
YOE: 2016
Acres: 2,413 GIS Calculated
Examiner: Katie Armstrong
Map Revised: 06/16/2014
Map Phase: Web Post

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

7 | 8 | 9 | 10

N

DEPARTMENT OF NATURAL RESOURCES - MICHIGAN - DNR

Legend

- Miris Corners
- Remonumented Section Corners
- County
- Bridges
- Culverts
- Highway
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Trail (Non-Recreation)
- Railroads
- Pipeline
- Powerline
- Stream
- Intermittent Stream
- MCCCT Trails
- Snowmobile Trails
- Motorcycle (DNR Sticker)
- Motorcycle (SOS License)
- Snowmobile Trail
- MCCCT Trail
- Stand Boundaries

1 0.5 0 1 Miles

Special Conservation Areas & Site Conditions Map

Compartment: 155
T26N R08W
Sections: 7, 8, 9, 10
County: Kalkaska
Unit: Traverse City
Management Area: Boardman Plains
YOE: 2016
Acres: 2,413 GIS Calculated
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Map Revised: 06/16/2014
Map Phase: Web Post

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

7 | 8 | 9 | 10

N

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5C - 011
3J - 007
2G - 010
5C - 012
3J - 008
2H - 004
2G - 003
2G - 005
2G - 006
2G - 009
2A - 002

South Branch Barrens

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
- Natural Rivers Vegetative Buffer
- Natural Rivers Zoning District
- Cold Water Streams
- Cold Water Lakes
- High Priority Trout Stream Buffer

1 0.5 0 1 Miles

85°20'0"W 85°19'0"W 85°18'0"W 85°17'0"W 85°16'0"W 85°15'0"W
44°41'0"N 44°40'0"N 44°39'0"N 44°38'0"N

Report 1 – Total Acres by Cover Type and Age Class

Traverse City Mgt. Unit **Compartment 155 Year of Entry 2016**

Steven Crigier : Examiner

Age Class

	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +	Uneven Age	Total
Aspen	55	104	78	61	126	0	0	0	0	0	0	0	0	0	**423**
Cedar	0	0	0	0	0	0	0	0	8	0	0	0	0	0	**8**
Herbaceous Openland	36	0	0	0	0	0	0	0	0	0	0	0	0	0	**36**
Jack Pine	100	16	0	49	27	45	0	0	0	0	0	0	0	0	**236**
Low-Density Trees	37	0	0	0	0	0	0	0	0	0	0	0	0	0	**37**
Lowland Conifers	0	0	0	0	0	0	0	0	52	9	0	0	0	0	**61**
Lowland Deciduous	0	0	0	0	9	34	7	23	0	0	0	0	0	0	**73**
Lowland Mixed Forest	0	0	0	0	0	0	0	0	190	0	0	0	0	0	**190**
Lowland Shrub	262	0	0	0	0	0	0	0	0	0	0	0	0	0	**262**
Mixed Upland Deciduous	44	0	0	0	0	52	22	0	4	0	0	0	0	0	**122**
Natural Mixed Pines	0	0	0	0	20	5	72	470	0	0	0	0	0	0	**567**
Northern Hardwood	0	6	0	0	6	0	0	0	0	0	0	0	0	0	**12**
Oak	0	0	0	0	0	0	0	0	0	21	0	0	0	0	**21**
Red Pine	0	0	99	0	0	41	37	0	0	0	0	0	0	0	**177**
Tamarack	0	0	0	0	0	0	0	0	17	0	0	0	0	0	**17**
Upland Mixed Forest	0	0	23	0	0	0	0	0	0	0	0	0	0	0	**23**
Urban	4	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**
Water	4	0	0	0	0	0	0	0	0	0	0	0	0	0	**4**
White Pine	0	0	0	0	25	17	10	80	9	0	0	0	0	0	**142**
Total	**541**	**125**	**199**	**110**	**212**	**194**	**148**	**573**	**281**	**30**	**0**	**0**	**0**	**0**	**2413**

Report 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2016

Compartment 155
Total Compartment Acres: 2,413

Acres by Treatment Type

Commercial Harvest - 366	Tree Planting - 62	Other - 13
Habitat Cut - 0	Opening Maintenance - 27	

Cover Type by Harvest Method

	Clearcut	Selection	Seed Tree	Shelterwood	Thinning	Other - Specify	Total Acres
Aspen Types	6	0	0	0	0	0	**6**
Mixed Upland Deciduous	0	0	50	0	0	0	**50**
Natural Pines	42	0	0	0	228	0	**270**
Oak Types	0	0	19	0	0	0	**19**
Upland Mixed Forest	20	0	0	0	0	0	**20**
Total	**68**	**0**	**70**	**0**	**228**	**0**	**366**

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
10	61155010-Cut	19.2	4123 - Red Oak	High Density Log	91	81-110	Harvest	Seed Tree	4310 - Pine, Oak Mix	Cmpt. Review Proposal

Prescription Specs: Clearcut leaving 1-2 oak/acre, especially large-crowned mast producers. Protect advanced oak regeneration. Possibly encourage chipping of sale to help get rid of larger red maple regen and deal with slash in preparation for planting. Please include CWD (drumming log spec) in sale. 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: Buffer for South Branch of the Boardman River has already been removed from treatment and can be considered retention. Protect snowmobile trail and pipeline with sale specs.

Next Steps: Mechanically or chemically treat, if necessary, then trench and plant red pine in a weave pattern. Hopefully next stand will include some oak.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
13	61155013-Cut	2.0	42220 - Natural Jack Pine	High Density Pole	53		Harvest	Clearcut	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Clearcut. Stand is too small for retention.

Other Comments:

Next Steps: Mechanically or chemically treat, if necessary, then trench and plant red pine.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
16	61155016-Cut	20.3	4311 - Pine, Aspen Mix	Low Density Pole	28		Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Treatment has excluded areas that remain open. Clearcut and chip the woody areas in preparation for planting. Please include CWD (drumming log spec) in sale. Leave some tops unchipped and in piles at edges of sale near openings (northeast corner and west side) to provide horizontal habitat component for wildlife.

Other Comments: Treatment is only commercial when combined with Stands 13 and 25.

Next Steps: Mechanically or chemically treat, if necessary, then trench and plant red pine.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
25	61155025-Cut	39.9	42220 - Natural Jack Pine	High Density Pole	53		Harvest	Clearcut with Reserves	4211 - Planted Red Pine	Cmpt. Review Proposal

Prescription Specs: Clearcut leaving retention as scattered jack pine island(s) and a few scattered overstory red pine.

Other Comments: Chipping may be preferable in some areas.

Next Steps: Mechanically or chemically treat, if necessary, then trench and plant red pine.

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
34	61155034-Cut	11.1	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	54	51-80	Harvest	Seed Tree	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal

Prescription Specs: Seedtree harvest leaving scattered pine and 1-2 oak/acre. Please include CWD (drumming log spec) in sale. Leave tops unchipped and in scattered piles as much as possible to provide horizontal habitat component for wildlife. 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: Treat with out-of-YOE treatment on 61156034.

Next Steps: Regeneration survey at TCR date + 4 years.

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
36	61155036-Cut	31.5	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	54	51-80	Harvest	Seed Tree	4191 - Mixed Upland Deciduous with Conifer	Cmpt. Review Proposal

Prescription Specs: Seedtree harvest. Cut all aspen. Mark to leave scattered trees of other species, maintaining diversity. Residual BA will be variable but average 10-20 sf/acre. Please include CWD (drumming log spec) in sale. Please leave tops in scattered piles for wildlife habitat as much as possible. Wildlife considerations regarding oak types include retaining mature mast-producing trees, protection of den/nest trees, regenerating oak in mature stands, maintaining the diversity of tree species within the stand.

Other Comments: Protect snowmobile trail and pipeline with sale specs.

Next Steps: Regeneration survey at next inventory.

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
64	61155064-Cut	152.8	42290 - Natural Mixed Pine	High Density Log	75	141-170	Harvest	Crown Thinning	42290 - Natural Mixed Pine	Cmpt. Review Proposal

Prescription Specs: Mark to cut red and white pine, leaving approximately 100 sf/acre. Also cut all jack pine and aspen. Consider leaving small (2-5 acre) islands that are left relatively un-thinned within mature stands to provide winter roosting cover for turkeys. Deciduous species should be encouraged for diversity.

Other Comments: Protect snowmobile trail, motorcycle trail (on county road), and pipeline with sale 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
73	61155073-Cut	26.1	42290 - Natural Mixed Pine	High Density Log	67	111-140	Harvest	Crown Thinning	42290 - Natural Mixed Pine	Cmpt. Review Proposal

Prescription Specs: Thin red and white pine to residual BA of approximately 100 sf/acre. Also cut all aspen and jack pine. Open scattered canopy gaps. Consider incorporating small (2-5 acre) islands that are left relatively un-thinned within mature stands to provide winter roosting cover for turkeys. Deciduous species should be encouraged for diversity.

Other Comments: Jack pine is mostly in north end of stand.

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
78	61155078-Cut	9.3	42200 - Natural White Pine	High Density Log	89	141-170	Harvest	Crown Thinning	4220 - Natural White Pine	Cmpt. Review Proposal

Prescription Specs: Remove all aspen and mark white and red pine to cut. Residual BA should be approximately 100-120 sf/acre. Management of this stand should encourage growth of larger pines and development of vertical structure and species diversity. Create some larger canopy gaps for regeneration. Consider leaving a small portion unthinned to provide winter roosting cover for turkeys. Deciduous species should be encouraged for diversity.

Other Comments: Treat with Stand 80. Buffer on intermittent stream has been removed from treatment but should be field-verified.

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	61155080-Cut	7.8	4199 - Other Mixed Upland Deciduous	High Density Log	63	81-110	Harvest	Seed Tree	4310 - Pine, Oak Mix	Cmpt. Review Proposal

Prescription Specs: Seedtree harvest leaving 20 sf/acre or less of mixed oak and pine. Cut all aspen and red maple. Be sure to cut a few smaller oaks to improve likelihood of sprouting. Please include CWD (drumming log spec) in sale. Leave tops unchipped and in scattered piles as much as possible to provide horizontal habitat component for wildlife. 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: Treat with Stand 78.

Next Steps: Regeneration survey at next inventory.

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	61155090-Cut	40.2	42290 - Natural Mixed Pine	High Density Log	70	81-110	Harvest	Crown Thinning	42290 - Natural Mixed Pine	Cmpt. Review Proposal

Prescription Specs: Lightly thin white and red pine to approximate residual BA of approximately 100 sf/acre in areas of good stocking. Also cut all aspen and red maple. Open up sizeable canopy gaps in areas of low stocking and/or above areas of advanced oak or pine regeneration.

Other Comments:

Next Steps: Regeneration survey at TCR date + 4 years. Consider underplanting red pine if necessary.

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
4	61155004-Burn	10.3	4112 - Maple, Beech, Cherry Association	Medium Density Pole	41	1-50	Prescribed Burn	Unspecified	3303 - Mixed Low Density Trees	Cmpt. Review Proposal

Prescription Specs: Periodically burn stands with low to moderate intensity fire to control brush and promote a barrens community. Try not to kill mature trees. Northern part may need some sort of physical treatment prior to burning.

Other Comments: Goal of treatment is to restore and maintain an oak-pine barrens ecosystem. The timing and frequency of prescribed burns should be based on current restoration needs such as reducing woody encroachment or promoting grasses over forbs. Remove nonnative species as needed through herbicide or other methods. Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning and/or removal of woody encroachment.

Next Steps: Monitor success and continue to burn periodically at 3 to 13 year intervals.

Proposed Start Date: Unspecified

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
2	NF_61155002-NonFor	2.3	310 - Herbaceous Openland				Non-Forest Management	Other - Specify	310 - Herbaceous Openland	Cmpt. Review Proposal

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

Other Comments:

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

Proposed Start Date: 10/01/2015

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
3	NF_61155003-NonFor	1.1	310 - Herbaceous Openland				Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Work around some of the existing beneficial vegetation to create a wildlife food plot of appropriate herbaceous species suited to site and soil conditions, with fertilization.

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_61155012-NonFor	2.3	310 - Herbaceous Openland				Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: Selectively hand fell woody encroachment to maintain upland brush/grassland community. Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover. Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Work around some of the existing beneficial vegetation to create a wildlife food plot of appropriate herbaceous species suited to site and soil conditions, with fertilization.

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
70	NF_61155070-NonFor	1.2	330 - Low-Density Trees				Non-Forest Management	Other - Specify	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: Remove exotics as needed by herbiciding, or other methods. Seed in forage crop appropriate for site location and seasonal (i.e. summer vs. winter forage) wildlife uses. May want/need to work around existing beneficial vegetation (i.e. blackberry).

Other 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
67	NF_61155067-Other	2.4	330 - Low-Density Trees				Other	Unspecified	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: Remove exotics as needed by herbiciding, or other methods. Seed in forage crop appropriate for site location and seasonal (i.e. summer vs. winter forage) wildlife uses. May want/need to work around existing beneficial vegetation (i.e. blackberry).

Other 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

Total Treatment Acreage Proposed: 379.8

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
101	61155101-Cut	5.6	4130 - Aspen	High Density Pole	41		Harvest	Clearcut with Reserves	413 - Aspen	Cmpt. Review Proposal

Prescription Specs: Clearcut leaving scattered red and white pine. Stand is too small for aspen retention.

Other Comment: Stand is being prescribed early with an "unavailable" site condition in order have treatment approved in case any adjacent private property is cut. If not, consider treating next YOE. May need survey work.

Next Steps:

Proposed Start Date: 10/01/2015

Limiting Factor: 2A: Adjacent landowner denied access

Stand	Treatment Name	Acres	CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
28	NF_61155028-NonFor	20.6	330 - Low-Density Trees				Non-Forest Management	Brush Cutting	310 - Herbaceous Openland	Cmpt. Review Proposal

Prescription Specs: Selectively remove woody vegetation to barrens equivalent. Important trees to retain would be mature "wolf" trees of oak, pine or cherry, fruiting shrubs, and a scattering of other trees and shrubs. Should eventually burn to stimulate any existing seed bank and encourage existing native vegetation. Augment with additional native seeds/seedling as needed to diversify site for wildlife forage and cover.

Other Comment:

Next Steps: Eventually burn rotationally to maintain barrens dynamic. Remove invasive species mechanically or with herbicide treatment.

Proposed Start Date: 10/01/2015

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

Total Treatment Acreage Proposed: 26.1

Report 5 – Site Conditions

Traverse City Mgt. Unit | **Compartment 155**

Katie Armstrong : Examiner | **Year of Entry 2016**

Availability for Management

Total Acres	Acres Available	Acres Not Available		Dominant Site Conditions No	5C	3J	2H	2G	2A
423	411	12	**Aspen**	411		3	4		6
8	8		**Cedar**	8					
236	236		**Jack Pine**	236					
61	19	42	**Lowland Conifers**		19			42	
73	44	28	**Lowland Deciduous**	44		24		5	
190		190	**Lowland Mixed Forest**			25		165	
122	121	0	**Mixed Upland Deciduous**	121		0			
567	558	9	**Natural Mixed Pines**	558		9			
11	11		**Northern Hardwood**	11					
21	20	1	**Oak**	20		1			
177	177	0	**Red Pine**	177		0			
17		17	**Tamarack**					17	
23	23		**Upland Mixed Forest**	23					
141	141	0	**White Pine**	141		0			
2,069	1,770	299	Total Forested Acres	1,751	19	62	4	228	6
	86%	14%	Relative Percent						

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

Site No.	Dominant Site Cond Availability	Dominant Site Condition	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
002	**Not Available**	**2A: Adjacent landowner denied access**	6				
	Comments:						
003	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	17				
	Comments:						

004	**Not Available**	**2H: Blocked by physical obstacle (e.g. upland stand in a lowland area)**	4		

Comments:

005	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	93	5D: Unproductive Forest Land	

Comments:

006	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	42	5D: Unproductive Forest Land	

Comments:

007	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	92	3D: Recreational / Scenic values	

Comments:
Natural Rivers buffer

008	**Not Available**	**3J: Water quality / BMPs (stream, river, or lake)**	56	3D: Recreational / Scenic values	

Comments:
Natural Rivers buffer.

009	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	5		

Comments:
Excluded from sale because it was too wet to cut.

Report 5 – Site Conditions

Traverse City Mgt. Unit | **Compartment 155**

Katie Armstrong : Examiner | **Year of Entry 2016**

010	**Not Available**	**2G: Too wet (sensitive soils, does not include access issues)**	72	4A: No merchantable products (see product standards)

Comments:

011	**Available**	**5C: Delay treatment for age/size class diversity or exceptional site quality**	9

Comments:

Treat in 10 years with adjacent aspen.

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

Comments:

Treat in 10 years with adjacent aspen stand.

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
South Branch Barrens	Habitat Areas or Corridors	Other Habitat Area	**SCA**	

Comments

Added to existing SCA in adjacent comp 61046

Report 7 – EXISTING SPECIAL CONSERVATION AREA DETAILS

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

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

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

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	6129 - Mixed Coniferous Lowland Forest	High Density Pole	9.0	95	111-140	Spruce is mature with mixed red and white pine logs. More spruce on the south half. Transition ground. BA by species: total 90: 20 RP, 10 RM, 60 BSp; total 140: 90 RP, 20 BSp, 30 WP; total 120: 10 RM, 90 BSp, 10 WP, 10 QA.
4	4112 - Maple, Beech, Cherry Association	Medium Density Pole	5.8	41	1-50	Clumpy red maple with scattered oak. Young red maple, barely pole-sized. Oak in understory is about 2-3' tall. More oak to the north.
5	4133 - Aspen, Mixed Pine	Medium Density Pole	40.7	29		Pockets of W5 and J5. East end has more pine. Stocking is variable with U0 pockets. Poor quality pine and aspen.
6	4130 - Aspen	High Density Pole	37.6	39		Stand has a small ridge running through it. About 4 stick trees. Good quality and stocking.
7	6132 - Mixed Lowland Forest with Cedar	High Density Pole	91.9	81		Lots of red maple in understory and pockets of E3. Pockets of cedar. Second spot was red maple (E6). Some pockets have a heavier conifer component. Large white pine along the edge of South Branch. West finger has a small drain running through it. The west finger has more of an aspen component. There are small pockets of S6 scattered through the stand.
9	42200 - Natural White Pine	High Density Log	14.9	55	81-110	Part of South Branch Jack sale, 61-079-06-01, completed 8/2007. Was clearcut except for red pine, white pine and oak; little volume cut. Currently mediocre quality, 5-6 sticks, limby. Stand has a good hill in the center of it. BA by species: total 110: 70 WP, 20 RP, 10 WO, 10 RM.
10	4123 - Red Oak	High Density Log	20.9	91	81-110	Sale 61-052-96-01, completed 2/1997. Oak shelterwood, removed white pine, jack pine, red maple, quaking and bigtooth aspen. OI recommended future removal of overstory. Oak logs are decent, 3-4 logs. Stocking is variable, less dense in the south (O8). Additional BA 80.
11	42121 - Planted Jack Pine, Mixed Deciduous	High Density Sapling	19.3	3		Part of South Branch Jack sale, 61-079-06-01, completed 8/2007. Clearcut except all oak was left in part south of road. FTP C62-757, completed 5/2011. Jack pine is about 3' tall. Quite a bit of red maple and cherry competition especially along east edge.
13	42220 - Natural Jack Pine	High Density Pole	2.0	53		4-stick trees. Originally part of preinventory stand 26. Rest (mostly Comp 156) was cut with Re-Ad South Branch Jack Pine.
14	42200 - Natural White Pine	High Density Log	22.7	72	81-110	Transition ground next to creek and drainage. Nice red pine in the north. Medium quality white pine (pretty limby). Some scattered big white pine. Additional BAs: 80, 100, 120.
15	42220 - Natural Jack Pine	High Density Sapling	5.8	17		Thick natural regeneration, 10-20' tall. Some quaking aspen and red maple mixed in.
16	4311 - Pine, Aspen Mix	Low Density Pole	22.6	28		FTPW62-765 for opening maintenance. Opening is filling in. Pockets of A4, J5, W5 and cherry.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
18	42221 - Natural Jack Pine, Mixed Deciduous	High Density Sapling	9.9	17		Sale 61-052-96-01, completed 2/1997. Jack pine is about 10' tall. Stocking is variable. Red maple and cherry have filled in. Mostly cherry/U0 on west end.
19	42120 - Planted Jack Pine	High Density Sapling	2.8	9		Trenched and planted jack pine, 5/2007. (FTP C62-726, filed with Comp 156.) Trees are about 10' tall. Stand continues in Comp 156 to the north.
20	4130 - Aspen	High Density Sapling	5.0	17		Sale 61-052-096-01, completed February 1997. Quaking aspen is about 15' tall and fairly thick. Some scattered oak logs and white pine poles. More jack pine in the southwest.
22	6127 - Lowland Pine	High Density Log	10.0	89	81-110	Transition ground. More pine on north side and spruce on the south side. Red pine is 5-6 sticks, large diameters. MC9 with black spruce (S6). Clone of 40-year-old aspen. Quality of pine is better in the east, 6-7 sticks. Pine lots cleaner.
24	4113 - R.Maple, Conifer	High Density Sapling	5.8	17		Was part of U-type (OI stand 78). Some scattered pole timber.
25	42220 - Natural Jack Pine	High Density Pole	39.9	53		Jack pine looks mature, 4-5 sticks. Some dead jack pine. Scattered red pine. Some J4-J5 (bushy trees) in the northwest. Variable stocking. Some parts are immature. Others are falling over.
26	42210 - Natural Red Pine	High Density Pole	8.9	53	51-80	Natural red pine. Lots of size classes. Some large logs. Quaking aspen looks young, 20-30. More jack pine at the north.
27	42110 - Planted Red Pine	High Density Sapling	54.4	24		FTP C62-401, 50 acres planted 5/1989 and 5/1990. Trees are about 15' tall with scattered jack pine volunteers. Stocking is less dense in the southeast part.
29	42200 - Natural White Pine	High Density Log	10.2	67	81-110	Lots of size classes. Ok quality. Stocking is less dense in the south. Additional BA 110.
30	4130 - Aspen	High Density Pole	8.4	39		Some scattered oak and white pine. Stocking is dense and good quality aspen.
31	42260 - Natural Pine, Mixed Deciduous	Medium Density Pole	5.0	54	1-50	Poor quality wood. Stocking is variable. Almost like an old opening filling.
33	42121 - Planted Jack Pine, Mixed Deciduous	High Density Sapling	75.8	6		Some cherry and red maple competition, mostly in west end. Does not need spraying. Jack pine about 3-5' tall. Pockets of A4 and J4-5 scattered, mostly in north end.
34	4191 - Mixed Upland Deciduous with Conifer	Medium Density Log	11.1	54	51-80	Small clones of mature aspen. A few J5/J6 pockets. Understory filling in with white pine and jack pine. Scattered oak logs. Stocking is patchy.
35	42221 - Natural Jack Pine, Mixed Deciduous	Low Density Pole	49.0	39		Pockets of pole and pockets of saplings. Very patchy stand. Poor quality jack pine (2-3 sticks) and aspen (1 stick). Some aspen is already dying.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
36	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	31.5	54	51-80	Aspen clones with scattered oak logs. Aspen is mature. Heavier to white pine in the northwest. Stand has a few openings in it. Stocking is patchy. Parts are MD5/4. Species percents vary depending on where you are.
37	42110 - Planted Red Pine	High Density Sapling	44.3	24		FTP C62-401, planted 5/1989 and 5/1990. Almost a pole stand. Trees are about 20' tall.
38	42120 - Planted Jack Pine	High Density Sapling	1.7	9		Jack pine is thick and about 5-8' tall. Manage with stand 61156037.
41	4133 - Aspen, Mixed Pine	Low Density Pole	17.6	25		Opening that is filling in. Poor quality.
42	4133 - Aspen, Mixed Pine	High Density Sapling	11.6	29		Stand is converting from sapling to pole.
43	42290 - Natural Mixed Pine	High Density Log	6.1	75	81-110	A few camp sites along the Boardman River. Nice big pine and oak in the north. More aspen and jack pine in the south. Riparian buffer/transitional stand.
44	42210 - Natural Red Pine	Low Density Pole	32.3	50	1-50	SW corner cut as South Branch Red-Jack, 61-028-06-01, completed 7/2007. Remved all jack pine, red maple and aspen trees and all red pine trees > 16" dbh. Some J3 and A3 pockets. Pockets of R5 and R6. Stocking is variable.
45	42220 - Natural Jack Pine	High Density Pole	26.7	44		Small diameters and very limby. 2-3 stick trees. Very poor quality aspen. Might be plantation with volunteers mixed in.
46	4199 - Other Mixed Upland Deciduous	High Density Sapling	43.6	6		South Branch Mix sale, 61-080-06-01, completed 7/2008. Clearcut except scattered oak (1-2/acre). Scattered red oak logs. More aspen in the west half. More of a mix in the east half.
47	4132 - Aspen, Jack Pine	Medium Density Pole	15.4	31		Poor quality aspen. Stand is converting from sapling to pole.
49	4191 - Mixed Upland Deciduous with Conifer	Medium Density Pole	9.2	56	1-50	Aspen is mature. Stocking is variable. Red pine is scattered. East half is less dense (barely forested).
50	42220 - Natural Jack Pine	High Density Pole	3.0	57		Older patch of jack pine next to pipeline. Falling over. 4-5 sticks.
51	42290 - Natural Mixed Pine	High Density Log	7.9	72	111-140	Jack pine and quaking aspen are mature. Natural mixed pine stand. Stand wants to grow white pine. Decent quality pine. BA by species: total 110: 60 WP, 10 RP, 10 QA, 30 WO; total 110: 60 WP, 30 RP, 10 QA, 10 JP; total 180: 90 WP, 90 RP.
52	4132 - Aspen, Jack Pine	High Density Sapling	47.3	16		Section 8 Sale, 61-040-96-01, final harvest completed summer 1998. Aspen is about 16' tall. More jack pine on the east and more oak in the west. Better stocked in the west.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
53	42260 - Natural Pine, Mixed Deciduous	High Density Pole	19.7	48	51-80	Aspen mixed in with red pine and jack pine. Lots of size classes in red pine. Aspen looks ready to cut. Additional BA 110.
54	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	4.4	80	51-80	Scattered oak logs. Aspen is mature. South end has more oak logs. BA by species: total 50: 20 WO, 20 WP, 10 RM; total 60: 20 WO, 10 WP, 10 QA, 20 RO; total 90: 20 WO, 10 WP, 10 RM, 20 QA, 30 RO.
55	6118 - Lowland Deciduous with Cedar	Low Density Pole	3.2	79		Taylor Creek runs through stand.
57	42290 - Natural Mixed Pine	High Density Log	205.2	75	111-140	Natural mixed pine. Many age and size classes. Small pocket of large red pine, some isolated mortality. Aspen is in rough shape. Pockets of A5 and J6. White pine quality varies from poor to ok. BA by species: [east of S. Branch Rd] total 140: 70 RP, 50 WP, 10, RM, 10 JP; total 140: 20 RP, 60 WP, 10 RO, 20 RM, 20 QA, 10 JP; total 120: 100 RP, 10 RO, 10 JP; 100 total: 10 RP, 20 WP, 50 QA, 20 JP; [west of S. Branch Rd] total 90: 30 RP, 60 WP; total 110: 70 RP, 30 JP, 10 WO; total 150: 90 RP, 30 RO, 30 JP.
58	42200 - Natural White Pine	Medium Density Log	3.1	72	1-50	Aspen has been removed from stand. Regeneration is thick.
60	42110 - Planted Red Pine	High Density Pole	37.1	65	141-170	Decent quality, 4-5 stick trees. Some scattered oak. Most of the defect has been thinned out. Most tops still have room to expand. Thinned red pine as part of 61-061-96-01.
61	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	34.1	55		
62	4132 - Aspen, Jack Pine	High Density Sapling	12.6	15		Taylor Creek Aspen sale, 61-151-96-01, completed 1998. Regeneration is 15-20' tall. Lots of jack pine mixed in on edge of stand. Some scattered oak logs.
63	42290 - Natural Mixed Pine	High Density Log	44.2	75	81-110	Looks like aspen and red maple were removed 20-30 years ago. Thick understory of white pine, red maple and aspen. Good quality pine. Some aspen in understory is almost pole-sized. Southeast is lower stocking but has more aspen and red maple regen. More red pine in northern half of stand. Scattered oak. BA by species: total 80: 40 WP, 30 RP, 10 RO; total 120: 100 WP, 10 RP, 10 RO; total 110: 60 WP, 40 RP, 10 RO; total 80: 30 WP, 30 RP, 20 RO
64	42290 - Natural Mixed Pine	High Density Log	158.0	75	141-170	Lots of size classes, white pine coming in underneath. Some red pine is reaching maturity. Poor quality aspen is dying out. Jack pine is dying out. Stocking is variable, pockets of A4 and J5. Oak is scattered and in pockets (southeast part). More jack pine component in the north. BA by species: total 160: 100 RP, 30 WP, 20 JP, 10 QA; total 110: 30 RP, 10 WP, 10 QA, 50 RO, 10 RM; total 130: 100 RP, 20 QA, 10 RM; total 80: 50 RP, 10 WP, 20 QA; total 160: 60 RP, 30 WP, 70 JP; total 100: 70 RP, 20 WP, 10 RO

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
65	42200 - Natural White Pine	High Density Log	44.9	75	81-110	Boardman River Mix, 61-081-06-01, completed March 2010. Removed all maple, aspen and jack pine. WP9/R9 over A3/M2. Stocking is variable. Decent quality white pine (lots of 6 stick trees). More red pine in the north end. BA by species: total 130: all WP; total 50: all WP; total 110: 80 WP, 30 RP; total 100: 50 WP, 40 RP, 10 RO.
66	42290 - Natural Mixed Pine	Medium Density Pole	11.6	62	51-80	Poor quality. A mix of pole and log trees. Stocking is variable. Aspen looks 30, very poor quality. Scattered red and white log but mostly jack pine poles. Some of jack pine is older within pockets of younger pole timber.
68	4130 - Aspen	High Density Sapling	7.8	21		Aspen is pole-sized, 30-40' tall. Lots of TPA, still converting. Pocket of A3/A4. South end of stand is on lower ground with more birch and red maple.
69	6118 - Lowland Deciduous with Cedar	Medium Density Pole	14.7	74		Stand has a drain running through it. Ash has EAB. Quaking aspen on stand edges.
71	6119 - Mixed Lowland Deciduous Forest	High Density Pole	9.1	40		Lots of TPA. Stand is still converting to a pole stand. Small diameters. South end is heavier to aspen (A5). Scattered white pine logs on west end. Transition ground.
72	4130 - Aspen	High Density Sapling	19.4	5		Part of Crofton Aspen, 61-097-06-01, completed April 2009. Regeneration is about 10' tall and dense. Scattered oak and white pine logs.
73	42290 - Natural Mixed Pine	High Density Log	26.1	67	111-140	Good quality, lots of 6-stick trees. Some jack pine in the north end of stand. Additional BA 120.
75	4130 - Aspen	High Density Pole	64.2	40		4-6 stick trees. Dense timber. Some white pine. Good quality. Pockets of bigtooth aspen. Some parts of stand are still converting from saplings to poles. Pockets of small diameter trees.
76	4130 - Aspen	High Density Sapling	20.1	16		Taylor Creek Aspen sale, 61-151-96-01, completed 1998. 20-30' tall, thick regeneration.
77	6120 - Lowland Cedar	High Density Pole	8.3	87		Windthrow. Heavy deer use.
78	42200 - Natural White Pine	High Density Log	9.3	89	141-170	Big pine (8 sticks), several size classes. Nice quality white pine, clean. More red pine in the north. Not much advanced regeneration. BA by species: total 160: WP 130, RM 20, QA 10; total 180: WP 130, RP 50; total 110: WP 50, RP 60.
79	4130 - Aspen	High Density Sapling	18.8	16		Taylor Creek Aspen sale, 61-151-96-01, completed 1998. Scattered oak. Regeneration is 20' tall. A few pockets of hypoxylon. Wet pocket or drain in the northeast by the pipeline.
80	4199 - Other Mixed Upland Deciduous	High Density Log	7.8	63	81-110	Hilly terrain. Nice aspen, 6 sticks. Ok quality oak, 3-4 logs. Some pole-sized oak. White pine coming in underneath.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
82	42200 - Natural White Pine	High Density Log	9.3	75	81-110	Limby white pine, pockets of nicer logs. Red maple understory looks to be same age 20-30ish. Maybe had red maple removed around same time as stand to the northeast was cut. Good diameters. Quality and height ok. Additional BA 120.
83	4130 - Aspen	High Density Pole	8.7	42		Nice quality aspen. Stand is on a ridge. Diameters still a bit small. 4 stick trees.
84	42260 - Natural Pine, Mixed Deciduous	High Density Pole	34.3	62	81-110	Aspen is mature. White pine is mostly poles. Scattered oak logs. Lots of charred stumps. Some pockets of younger aspen (40?). Some log size pockets at the north end of stand.
85	4191 - Mixed Upland Deciduous with Conifer	High Density Pole	14.2	62		Stand is on a slope, 40' ridge. Aspen is mature. Mix of hardwood species and aspen with pine. Scattered oak logs and pine logs.
86	42260 - Natural Pine, Mixed Deciduous	High Density Log	8.8	71	111-140	Large white pine, scattered. Aspen is mature and dying. Log-sized red maple.
87	4130 - Aspen	High Density Sapling	9.7	5		Part of Crofton Aspen, 61-097-06-01, completed April 2009. Regeneration is about 10' tall and is dense. A few scattered oak logs. Some soft ground.
88	6118 - Lowland Deciduous with Cedar	High Density Pole	4.7	71		Maple and aspen over cedar. Aspen is maxed out. Some balsam fir is dying, north end is heavier to balsam. Stand was removed from Crofton Aspen Sale because there is a small drain running through it.
89	4133 - Aspen, Mixed Pine	High Density Pole	43.5	42		Rolling terrain, ridge runs through stand. Some pockets are more pine/hardwood (west). Aspen in the northeast appears to be older. Stand is converting from sap to pole. Mixed oak and pine logs throughout.
90	42290 - Natural Mixed Pine	High Density Log	40.2	70	81-110	Eastern part is low BA with limbier wood. Central part has more red pine with nice logs. Lots of size classes. Looks like 30-40 year old aspen was harvested. Two-aged: MC9 over A4/A5. Pine stocking is variable. Some red pine is getting topped out. Additional BAs: 130, 110.
92	4133 - Aspen, Mixed Pine	High Density Pole	3.7	40		Stand is on a knoll in the middle of a swamp. Scattered pine and fir on the edge of the stand.
93	6132 - Mixed Lowland Forest with Cedar	Medium Density Pole	98.1	89		Some pockets of nonforested L0. Some areas of P2, B2, S2.
94	6121 - Tamarack	Medium Density Pole	16.9	89		4-6 stick tamarack. Wet ground! Stocking varies from good to ok. Site condition too wet.
96	6113 - Lowland Maple	High Density Pole	6.9	67		Decent red maple, 5 sticks. Clone of bigtooth aspen by 131.
97	6129 - Mixed Coniferous Lowland Forest	Medium Density Pole	41.9	89		Stocking decreases towards the east.

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
98	4130 - Aspen	High Density Sapling	24.0	5		Part of Crofton Aspen, 61-097-06-01, completed April 2009. Dense regeneration about 10' tall. Scattered oak.
99	42200 - Natural White Pine	Medium Density Log	2.2	56	1-50	Stand had aspen removed 5 years ago. Thick aspen regeneration.
101	4130 - Aspen	High Density Pole	5.6	41		Not quite mature. Ok quality. 4-stick timber.
102	42200 - Natural White Pine	Medium Density Log	24.8	46	51-80	Aspen removed as part of Crofton Aspen, 61-097-06-01, completed April 2009. Some pockets of A3. Balsam fir regenerating along swamp (south). Stocking is less dense in the northeast, as well as understory regeneration.
103	4130 - Aspen	High Density Sapling	1.8	5		

Report 9 – Nonforested Stands

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
2	310 - Herbaceous Openland	2.3	No	Unspecified	Stand continues into compartment to the north.
3	310 - Herbaceous Openland	1.1	No	Unspecified	Very small opening.
8	330 - Low-Density Trees	6.3	Yes	Medium	
12	310 - Herbaceous Openland	2.3	No	Unspecified	Well site.
17	310 - Herbaceous Openland	4.5	No	Unspecified	Pipeline corridor, snowmobile trail.
21	310 - Herbaceous Openland	1.1	No	Unspecified	Wellsite.
23	330 - Low-Density Trees	3.7	Natural Regen	Red Pine	Part of stands in Compartment 46 to the west.
28	330 - Low-Density Trees	20.6	No	Unspecified	
32	3302 - Low Density Conifer Trees	2.4	Plantation	White Pine	Abandoned well site. Planted with white pine, April 2014.
39	310 - Herbaceous Openland	1.2	No	Unspecified	Wellsite.
40	622 - Lowland Shrub	48.8	No	Unspecified	
48	310 - Herbaceous Openland	8.4	No	Unspecified	Pipeline corridor, snowmobile trail.
56	622 - Lowland Shrub	0.8	No	Unspecified	
59	50 - Water	3.7	No	Unspecified	
67	330 - Low-Density Trees	2.4	No	Unspecified	
70	330 - Low-Density Trees	1.2	No	Unspecified	
74	622 - Lowland Shrub	182.4	No	Unspecified	
81	310 - Herbaceous Openland	15.3	No	Unspecified	Above-ground powerline corridor.

Stand	Cover Type	Acres	Managed Site	Management Priority (Objective)	General Comments:
91	622 - Lowland Shrub	20.0	No	Unspecified	
95	622 - Lowland Shrub	10.1	No	Unspecified	
100	122 - Road/Parking Lot	4.0	No	Unspecified	US-131 corridor.