



**TRAVERSE CITY FOREST MANAGEMENT UNIT
COMPARTMENT REVIEW PRESENTATION**

COMPARTMENT # 135 ENTRY YEAR: 2011

Compartment Acreage: 2254 County: Kalkaska

Stand Examiner: Kelly Standerfer- FMFM ; Stephen Griffith- Wildlife Division

Legal Description: T25N R06W Sections 6-8, 17 & 18

Management Goals: Manage for both vegetative and wildlife diversity however the main theme is Kirtland Warbler (KW) habitat management. Treatments for this year of entry (2011) will focus on regenerating several small aspen stands, 1/3 row thinning of several red pine stands to increase tree growth and health. In addition several Q-type stands will be treated due to the success of trial cuts last year of entry in the south west portion of the compartment. The south east edge of compartment will have some jack pine cut and planted to increase KW potential habitat.

Soil and Topography: This compartment comprises primarily Rubicon Sand with traces of Saugatuck Sand and Newton Loamy Sand. The only significant elevation changes are along the riparian corridors. The western portion has some larger Spruce, Q-Type, and E- Type stands that are relatively wet. The remainder is dry and flat with either planted red pine or jack pine.

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

Private land to the north and west with a subdivision the east. The south edge is state land that is managed out of the Manton office. There are a few small private inholdings.

Unique, Natural Features (include only non-site specific and non-sensitive information):

Kirtland's warbler

Archeological, Historical, and Cultural Features (include only non-site specific and non-sensitive information): None

Special Management Designations or Considerations: KW management area.

Watershed and Fisheries Considerations: The Manistee River, Big Cannon Creek, and several unnamed tributaries flow through Compartment 135. All streams in Compartment 135 are Designated Trout Streams. The Manistee River and Big Cannon Creek are also protected by the Manistee River Natural Rivers Designation. The Manistee River and Big Cannon Creek host naturally reproducing populations of brook, brown, and rainbow trout. For timber operations near the Manistee River and Big Cannon Creek, Natural Rivers buffers should be followed. The SWSW of section 6 is the location of the "West Sharon Access Site" which is primarily for loading and unloading canoes into the Manistee River.

Wildlife Habitat Considerations: This compartment falls within the Sharon Kirtland's Warbler Management Unit. The Kirtland's Warbler Management Plan was recently revised and outlines harvest and planting regimes for KW habitat. However, forest treatments should maintain a variety of successional stages of pine-oak-aspen forest and grass-shrub openings, with some mid to late successional forest in places,

which is typical of a fire driven landscape. Big Cannon Creek and the Manistee River flow through parts of this compartment and several scattered lowland communities are also located here.

Maintaining a component or deciduous browse in and near deer yards is important. Aspen harvests should be designed to mimic wildfires of various intensities. This creates a mosaic of age classes and increases structural diversity within an area. The creation of dead and downed logs should be incorporated into timber prescriptions to provide habitat for various wildlife species. Standing dead timber is usually left during harvest operations unless deemed a safety hazard. Species associated with pine, oak, and aspen mixed upland forests and openland habitats, such as deer, badger, wild turkey, scarlet tanager, hog-nosed snake, ruffed grouse, Cooper's hawk, red-backed salamander, Kirtland's warbler, 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 200 and 400 feet. Beneath the glacial drift is the Mississippian Michigan Formation. The Michigan is quarried for gypsum elsewhere in the State. Pits are located in the area and there may be some potential. The Garfield 15 Field is located two miles to the east. The field produces from the Devonian Richfield and the Ordovician Prairie du Chien. A few of the State's minerals are leased in this Compartment.

Vehicle Access: Good access throughout most of the compartment with either county roads or forest two tracks.

Survey Needs: Existing survey markers should be sufficient for this year of entry treatments.

Recreational Facilities and Opportunities: West Sharon Access Site.

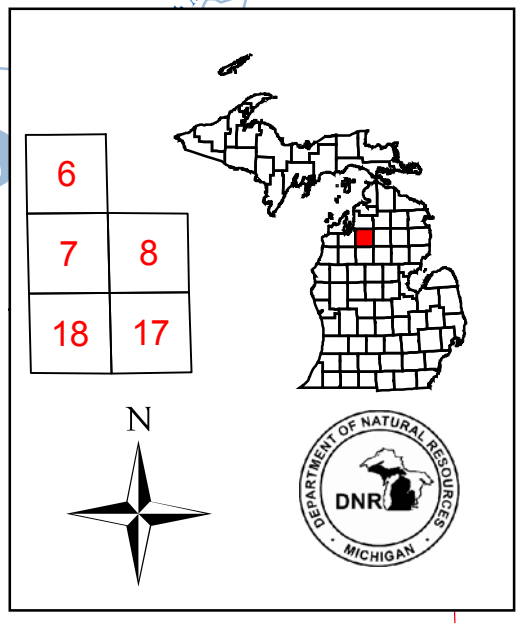
Fire Protection: Fire Protection is from the Kalkaska DNR Field Office. Sections 8 and 18 are within Zone 5 dispatch which means additional units from Manton, Grayling, and Houghton Lake respond on a high fire day or above. VFD Fire Protection is from the Garfield Twp. Fire Department. Urban Innerface can be an issue in sections 6, 7, and 8 with many private parcels and cabins or homes along the river. Access is not a problem in most of this compartment.

Additional Compartment Information:

Cover Type & Treatment Map

Compartment 135
 T25N, R06W, Sec. 6, 7, 8, 17, 18
 County: Kalkaska
 Unit: Traverse City
 YOE: 2011
 Acres: 2,257 GIS Calculated
 Stand Examiner: Kelly Standerfer
 Map Revised: 10/07/2009
 Map Phase: Pre-Review

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



Legend

- Miris Corners
- County Paved Road
- Paved Road
- County Gravel Road
- Gravel Road
- Poor Dirt Road
- Pipelines
- Powerlines
- Intermittent Stream/Drain
- Stream
- Lakes and Rivers

Treatments

- Clearcut (w/Reserves, Patch/Strip)
- Seed Tree (w/Reserves)
- Shelter Wood (w/Reserves)
- Thinning (Crown, Low, Systematic)
- Mowing
- Other Treatment - See Comments

Forest Stands

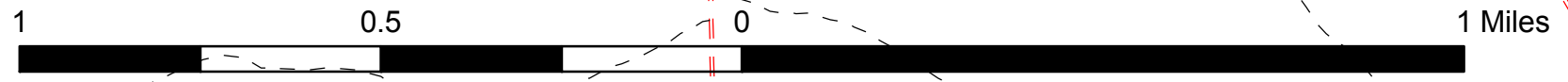
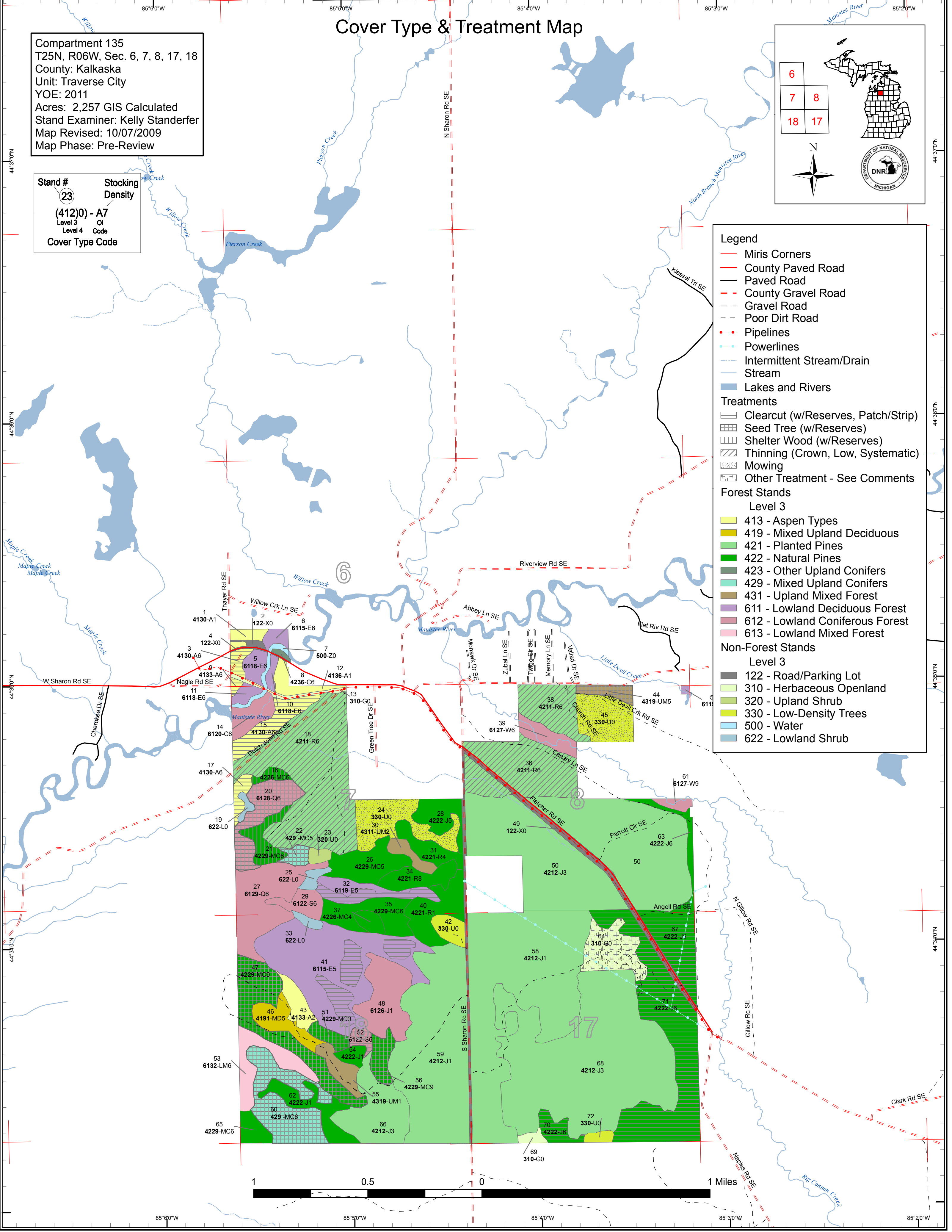
Level 3

- 413 - Aspen Types
- 419 - Mixed Upland Deciduous
- 421 - Planted Pines
- 422 - Natural Pines
- 423 - Other Upland Conifers
- 429 - Mixed Upland Conifers
- 431 - Upland Mixed Forest
- 611 - Lowland Deciduous Forest
- 612 - Lowland Coniferous Forest
- 613 - Lowland Mixed Forest

Non-Forest Stands

Level 3

- 122 - Road/Parking Lot
- 310 - Herbaceous Openland
- 320 - Upland Shrub
- 330 - Low-Density Trees
- 500 - Water
- 622 - Lowland Shrub

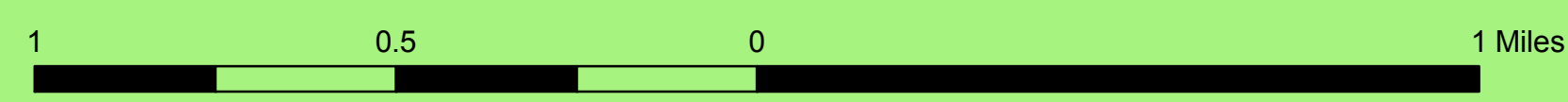
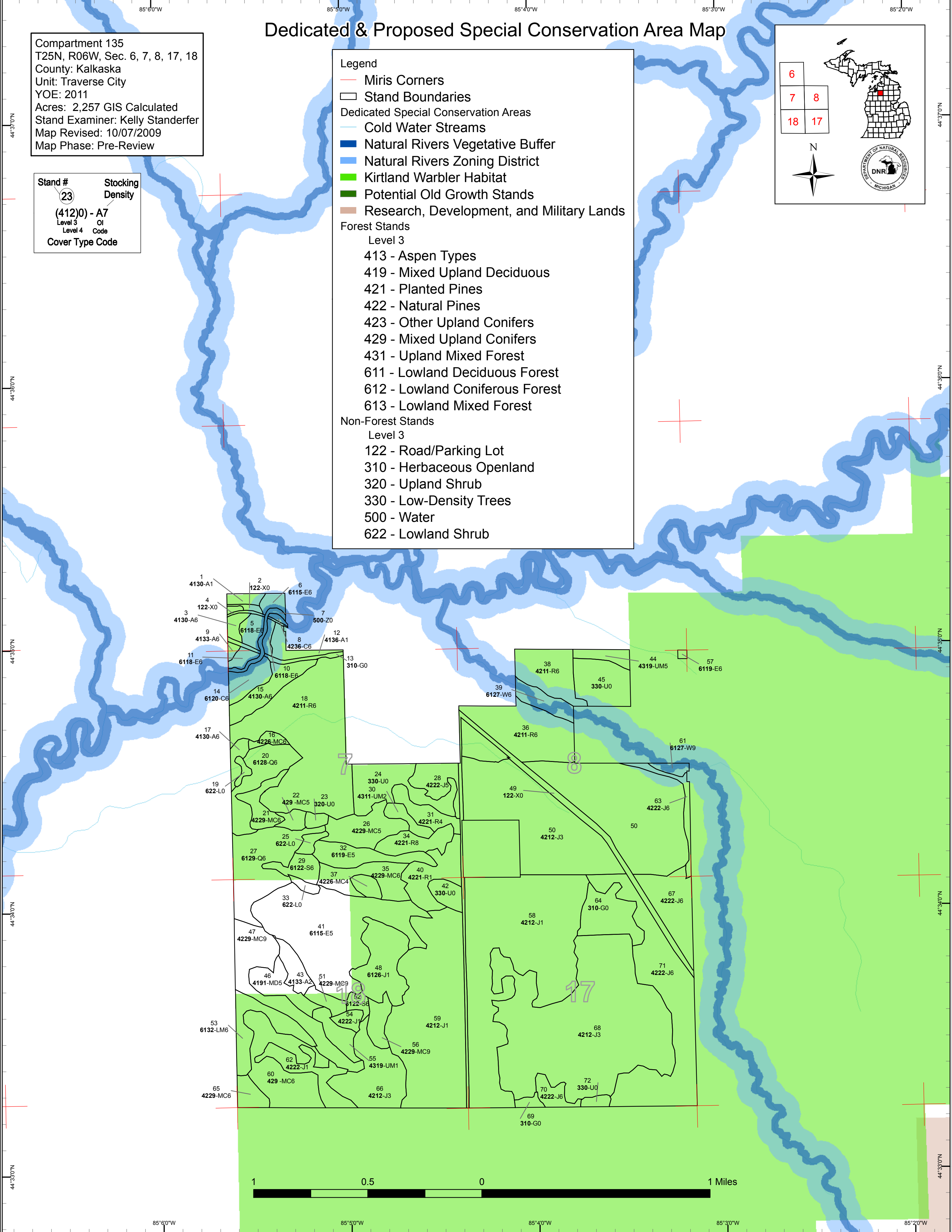
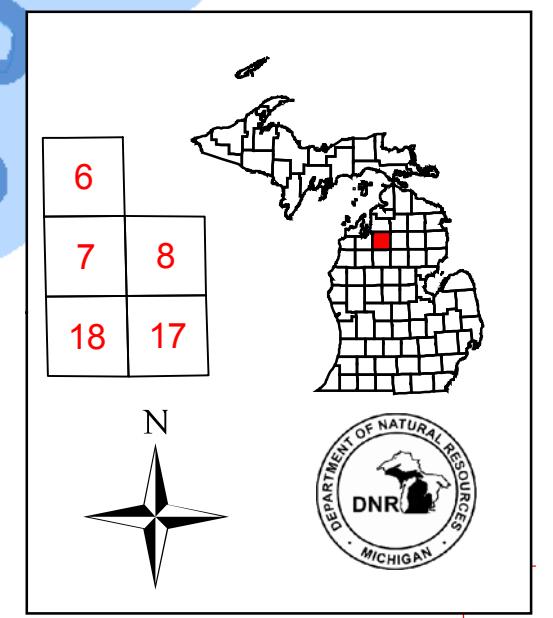


Dedicated & Proposed Special Conservation Area Map

Compartment 135
 T25N, R06W, Sec. 6, 7, 8, 17, 18
 County: Kalkaska
 Unit: Traverse City
 YOE: 2011
 Acres: 2,257 GIS Calculated
 Stand Examiner: Kelly Standerfer
 Map Revised: 10/07/2009
 Map Phase: Pre-Review

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

- Legend**
- Miris Corners
 - Stand Boundaries
 - Dedicated Special Conservation Areas
 - Cold Water Streams
 - Natural Rivers Vegetative Buffer
 - Natural Rivers Zoning District
 - Kirtland Warbler Habitat
 - Potential Old Growth Stands
 - Research, Development, and Military Lands
- Forest Stands**
- Level 3
- 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 423 - Other Upland Conifers
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- Non-Forest Stands**
- Level 3
- 122 - Road/Parking Lot
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Traverse City Mgt. Unit

Coverture, Acres, and Age summary
(Level 3 Cover Type)

Compartment 135 Year of Entry 2011

Report Date: 10/07/2009



	Age Class															Total
	Non-Forested	1-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120 +	Uneven Age	
Aspen Types	0	15	0	12	0	13	21	0	0	0	0	0	0	0	0	61
Herbaceous Openland	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
Low-Density Trees	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80
Lowland Coniferous Forest	0	0	39	0	0	0	30	53	29	5	0	14	0	0	0	171
Lowland Deciduous Forest	0	0	0	0	0	0	121	0	23	0	0	21	0	0	0	165
Lowland Mixed Forest	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	25
Lowland Shrub	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Mixed Upland Conifers	0	0	0	0	0	0	0	0	57	0	0	0	0	0	0	57
Mixed Upland Deciduous	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	18
Natural Pines	0	28	0	0	0	0	175	191	20	0	0	7	0	0	0	421
Other Upland Conifers	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Planted Pines	0	354	0	542	0	237	0	0	0	0	0	0	0	0	0	1133
Road/Parking Lot	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39
Upland Mixed Forest	0	0	8	12	0	0	0	8	0	0	0	0	0	0	0	28
Upland Shrub	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Water	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	176	397	47	566	0	250	366	252	130	5	25	43	0	0	0	2257

**PROPOSED TREATMENTS
NO LIMITING FACTORS**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
3 61135003-Cut	4.7	4130 - Aspen	High Density Pole	44	Harvest	Clearcut with Reserves	Aspen, Mixed Pine

Rev along fletcher rd. high visibility, cut all but pine and oak for visual & retention. no drumming log trees due to size and high visibility. powerline and road
Cmnt: split stand. there is a small wet depression, mark some with green along edge and stay at the top of the ridge on the east side.

Rev Clearcut with reserves of pine and oak...
Spec:

Next
Steps:

9 61135009-Cut	1.8	4133 - Aspen, Mixed Pine	High Density Pole	46	Harvest	Clearcut with Reserves	Aspen, Mixed Pine
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Rev
Cmnt:

Rev pipe line along North Edge, Cut all A and M. mark red pine pretty hard and plan to leave for next rotation of aspen, may want to lmark to leave in clumps
Spec: to minimize blow down potential.

Next
Steps:

15 61135015-Cut	21.1	4130 - Aspen	High Density Pole	55	Harvest	Clearcut with Reserves	Aspen, Mixed Deciduous
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Rev
Cmnt:

Rev cut all but save some scattered oak n pine and save some along slope to the west for retention. save odd species if found, elm etc...
Spec:

Next
Steps:

16 61135016-Cut	4.6	42260 - Natural Pine, Mixed Deciduous	High Density Pole	69	Harvest	Shelter Wood with Reserves	Natural White Pine, Mixed Deciduous
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Rev
Cmnt:

Rev shelterwood/ seed tree harvest leaving a mix bag of species but save mainly bigger white pine. stand could hold 10 years but treating now as it fits in
Spec: with the surrounding stands that are being treated. leave variety of species for seed and shade but likely wont be coming back for the overstory. may be able to do a diamter limit cut to save on time as the timber wont be highly valuable and should regenerate nicely either way.

Next stand should regenerate nicely to a mix of white pine, maple and aspen. likely wont be coming back for residual trees.
Steps:

17 61135017-Cut	6.2	4130 - Aspen	High Density Pole	40	Harvest	Clearcut with Reserves	Aspen, Mixed Conifer
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Rev
Cmnt:

Rev most is upland aspen and fir, fir is in rough shape in a few areas. mixed maple and pine as well. some is a bit wetter with some ash. final harvest, buffer
Spec: wet LO area to east and the small drain coming out of the LO. Save most pine & oak for retention. Stand may dip slightly into adjacent compartment.

Next set back and watch the trees grow...
Steps:

**PROPOSED TREATMENTS
NO LIMITING FACTORS**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
18 61135018-Cut	136.3	42110 - Planted Red Pine	High Density Pole	48	Harvest	Systematic Thinning	Planted Red Pine

Rev
Cmnt:

Rev cut all Jp and 1/3rd row thin. It was thought that Consumers still had timber rights however after talking with Lynn Newal with consumers timber rights were not reserved for these stands.

Next
Steps:

20 61135020-Cut	30.1	6128 - Lowland Coniferous, Mixed Deciduous	High Density Pole	55	Harvest	Seed Tree with Reserves	Lowland Coniferous, Mixed Deciduous
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Rev
Cmnt:

Rev some pockes of cedar, mixed bag stand. spruce and fir areas arent doing to hot. shelterwood/seed tree harvest to regenerate to a mix of Q. save all cedar and a mix bag of seed trees favoring the retention of the big supercanopy white pine and spruce. save clumps of 10-15 trees at approximately 1 clump/acre. buffer small LO @ the west end of the stand.

Next Judging on the trial cuts to the south in this compartment this stand should regenerate nicely to a mix of lowland conifer and deciduous.

Steps:

21 61135021-Cut	13.4	42290 - Natural Mixed Pine	High Density Pole	65	Harvest	Shelterwood	Natural Pine, Mixed Deciduous
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Rev stand may be decreased by an acre or two as the center of the stand has some planted red pine that will go with the consumers red pine. tough to pick out on imagery as its hit n miss rows.

Rev shelterwood with adjacent Q type. leave this a bti thicker than the Q type 30-40 BA. Nicer log area to the south east end can be left thicker 50-90 BA.

Next mixed pine, spruce and hardwood is acceptable regen. possibly come back in 20 years for an overstory removal but

Steps:

22 61135022-Cut	5.6	429 - Mixed Upland Conifers	Medium Density Pole	70	Harvest	Seed Tree with Reserves	Natural Mixed Pine
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Rev
Cmnt:

Rev most is upland, some is lowland more Tam and spruce. Upland portion red pine and jack pine. Seed tree stand while we are here. mark to leave a mix bag of species. Any mix of Q, F or pine regen is OK post harvest. Let fill in naturally stand is open now and will likely fill in sparse again. retention will be residual seed trees.

Next if it comes back poorly stocked then it will be left to fill in naturally as the stand is fairly sparse now

Steps:

32 61135032-Hab Cut	13.3	6119 - Mixed Lowland Deciduous Forest	Medium Density Pole	70	Harvest	Clearcut with Reserves	Lowland Ash
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Rev
Cmnt:

Rev Potential winter habitat cut in part of the stand. Hand fell some of the deciduous component (ash, aspen, maple, tag alder, etc) to produce horizontal cover in the form of coarse woody debris, promote vertical cover and future browse in the form of regenerating deciduous species, and woody browse from downed tree tops that will be available to a variety of herbivores during winter.

Next
Steps:

**PROPOSED TREATMENTS
NO LIMITING FACTORS**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
36 61135036-Cut	68.6	42110 - Planted Red Pine	High Density Pole	44	Harvest	Systematic Thinning	Planted Red Pine

Rev
Cmnt:

Rev cut all Jp and 1/3rd row thin. It was thought that Consumers still had timber rights however after talking with Lynn Newal with consumers timber rights
Spec: were not reserved for these stands.

Next
Steps:

38 61135038-Cut	32.0	42110 - Planted Red Pine	High Density Pole	46	Harvest	Systematic Thinning	Planted Red Pine
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Rev
Cmnt:

Rev cut all Jp and 1/3rd row thin. It was thought that Consumers still had timber rights however after talking with Lynn Newal with consumers timber rights
Spec: were not reserved for these stands.

Next
Steps:

44 61135044-Cut	8.3	4319 - Mixed Upland Forest	Medium Density Pole	65	Harvest	Seed Tree with Reserves	Mixed Upland Deciduous with Conifer
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Rev
Cmnt:

Rev south edge more M5/M6/W1. North east more R6 W6 with some A5/A6 pockets. Aspen is pretty ugly. Cut all but pine and oak or hold 10. OK to mark
Spec: some pine n oak to cut in the thicker areas. any mix of aspen, maple and pine regen is OK post harvest.

Next
Steps:

47 61135047-Cut	47.9	42290 - Natural Mixed Pine	High Density Log	60	Harvest	Seed Tree with Reserves	Natural Pine, Mixed Deciduous
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Rev try to promote scarification through timber sale to stimulate red pine natural regen.
Cmnt:

Rev mixed red pine n white pine with some scattered deciduous & spruce. Shelterwood cut, green tree leave 10 -20 BA of mixed species. looks to be thinned
Spec: ~20 years ago. stand continues to the west, cut this stand as well (stand 24 comp 243) Or could thin again and regeneration cut in 10 years.

Next monitor for red pine and white pine regen, may need to interplant with red pine if it doesnt fill in naturally.
Steps:

51 61135051-Cut	7.2	42290 - Natural Mixed Pine	High Density Log	100	Harvest	Seed Tree with Reserves	Natural Pine, Mixed Deciduous
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Rev
Cmnt:

Rev mixed red pine n white pine with some scattered deciduous & spruce. Shelterwood cut, green tree leave 20-40 BA of mixed species. looks to be thinned
Spec: ~20 years ago. Or could thin again and regeneration cut in 10 years.

Next this chunk will likely push more to white pine with more residual cover being left and the ground seems to want to grow white pine here. scarify or
Steps: interplant if it doesnt fully stock

**PROPOSED TREATMENTS
NO LIMITING FACTORS**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
52 61135052-Cut	5.0	6122 - Black Spruce	High Density Pole	84	Harvest	Seed Tree with Reserves	Lowland Spruce-Fir

Rev
Cmnt:

Rev green tree leave a few clumps (~5) of seed trees with approximately 10-15 trees in each clump for seed and retention. should regenerate nicely to a mix
Spec: of spruce, fir and pine.

Next
Steps:

56 61135056-Cut	11.2	42290 - Natural Mixed Pine	High Density Log	70	Harvest	Seed Tree with Reserves	Natural Pine, Mixed Deciduous
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Rev
Cmnt:

Rev Clearcut but mark a few seed trees in clumps for retention and seed trees of mixed species but favor the retention of white pine and red pine. Let fill in
Spec: naturally, any mix of red pine white pine and jack pine is OK post harvest.

Next
Steps:

60 61135060-Cut	51.6	429 - Mixed Upland Conifers	High Density Pole	75	Harvest	Seed Tree with Reserves	Mixed Upland Forest
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Rev some is wet and some is dry. dry or frozen ground spec should work good.
Cmnt:

Rev cut to the east has regenerated very good. Seed tree stand leaving all cedar, save all pine over 16" dbh, save all hemlock, green tree leave a mix bag of
Spec: additional species in groups for seed and retention.

Next monitor for mixed Q and upland conifer regen. should fill in nicely based on trial cuts last YOE.
Steps:

67 61135067-Cut	35.4	42220 - Natural Jack Pine	High Density Pole	55	Harvest	Clearcut with Reserves	Natural Jack Pine
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Rev cut all trees 4" and up, stand should fill in over time but sparse stockign is Ok post harvest,
Cmnt:

Rev some is older Jack n some is younger, 4" or 3" spec clearcut and let fill in naturally. KW area. some oak n red pine mixed in as well.
Spec:

Next let stand fill in naturally, will function as fire break and barron untill the stادن fills in, will likely be 2" spec cut in 20-30 years and managed in a larger KW
Steps: block.

70 61135070-Cut	9.7	42220 - Natural Jack Pine	High Density Pole	65	Harvest	Clearcut with Reserves	Planted Jack Pine
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Rev
Cmnt:

Rev clearcut with stand to the south. plant back to jack pine for KW habitat.
Spec:

Next
Steps:

**PROPOSED TREATMENTS
NO LIMITING FACTORS**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
71 61135071-Cut	107.4	42220 - Natural Jack Pine	High Density Pole	55	Harvest	Clearcut with Reserves	Natural Jack Pine

Rev Cmnt: cut all trees 4" and up, stand should fill in over time but sparse stockign is Ok post harvest,

Rev Spec: some is older Jack n some is younger, 4" or 3" spec clearcut and let fill in naturally. KW area. some oak n red pine mixed in as well.

Next Steps: let stand fill in naturally, will function as fire break and barron until the stادن fills in, will likely be 2" spec cut in 20-30 years and managed in a larger KW block.

41 9734_island	9.8	6115 - Lowland Ash	Medium Density Pole	55	Harvest	Clearcut with Reserves	Mixed Lowland Forest
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Rev Cmnt:

Rev Spec: Potential winter habitat cut in part of the stand. Hand fell some of the deciduous component (ash, aspen, maple, tag alder, etc) to produce horizontal cover in the form of coarse woody debris, promote vertical cover and future browse in the form of regenerating deciduous species, and woody browse from downed tree tops that will be available to a variety of herbivores during winter.

Next Steps:

41 9734_island_1	6.2	6115 - Lowland Ash	Medium Density Pole	55	Harvest	Clearcut with Reserves	Mixed Lowland Forest
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Rev Cmnt:

Rev Spec: Potential winter habitat cut in part of the stand. Hand fell some of the deciduous component (ash, aspen, maple, tag alder, etc) to produce horizontal cover in the form of coarse woody debris, promote vertical cover and future browse in the form of regenerating deciduous species, and woody browse from downed tree tops that will be available to a variety of herbivores during winter.

Next Steps:

41 9734_island_2	10.5	6115 - Lowland Ash	Medium Density Pole	55	Harvest	Clearcut with Reserves	Mixed Lowland Forest
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Rev Cmnt:

Rev Spec: Potential winter habitat cut in part of the stand. Hand fell some of the deciduous component (ash, aspen, maple, tag alder, etc) to produce horizontal cover in the form of coarse woody debris, promote vertical cover and future browse in the form of regenerating deciduous species, and woody browse from downed tree tops that will be available to a variety of herbivores during winter.

Next Steps:

24 NF_61135024-BH	36.8	Unspecified		0	Non-Forest Management	Mowing	Mixed Upland Shrub
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Rev Cmnt:

Rev Spec: Brush hog (or hand fell) around select leave trees and/or patches . Leave scattered mast producing trees and shrubs and/or conifers for wildlife food and cover.

Next Steps: Consider seeding in some native grasses/forbs, as well. Burn this stand at least once per entry period in order to set back woody encroachment, increase species diversity, stimulate native herbaceous vegetation, promote berry production, and recycle nutrients.



Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective
45 NF_61135045- BH	29.8	Unspecified		0	Non-Forest Management	Mowing	Mixed Upland Shrub

Rev
Cmnt:

Rev Brush hog (or hand fell) around select leave trees and/or patches . Leave scattered mast producing trees and shrubs and/or conifers for wildlife food
Spec: and cover.

Next Consider seeding in some native grasses/forbs, as well. Burn this stand at least once per entry period in order to set back woody encroachment,
Steps: increase species diversity, stimulate native herbaceous vegetation, promote berry production, and recycle nutrients.

64 NF_61135064- WSG	30.0	Unspecified		0	Non-Forest Management	Other - Specify	Warm Season Grass
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Rev
Cmnt:

Rev Seed in native grasses/forbs. Could try creating seed source plots on SW part of stand using plugs of native plants. Or from seed if logistics require it.
Spec:

Next Burn this stand at least once per entry period in order to set back woody encroachment, increase species diversity, stimulate native herbaceous
Steps: vegetation, promote berry production, and recycle nutrients.

**Total Treatment
Acreage Proposed: 744.6**

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Traverse City Mgt. Unit
Inventory Method: IFMAP

PROPOSED TREATMENTS WITH LIMITING FACTORS

Compartment: 135 Entry Yr: 2011
Date 10/07/2009



Treatment Name	Acres	Stage1 Cover Type	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Page 1 of 1
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Limiting Factor
and Comment:

Rev
Cmnt:

Rev
Spec:

Next
Steps:

No Treatment
Reason

**Total Treatment
Acreage Proposed: 0**



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.

Inventory Method: IFMAP

Stand	SCA Name	Acres	Comments



DEDICATED CONSERVATION AREA DETAILS

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

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

Conservation Area	Type	Description
HCVA	Designated Critical Habitat	Critical habitat areas are established via a consultative and cooperative process between the DNR and the U.S. Fish and Wildlife service for the recovery of threatened and endangered species, as governed by Part 365, Endangered Species Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, and the Federal Endangered Species Act of 1973. This is an active program, with proposed species plans in various stages of review. As of now only two exist, Kirtland Warbler Habitat and Piping Plover Habitat.
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spatial buffers set from an established and approved distance from the river centerlines. The Natural Rivers Zoning District is a 400 foot buffer for most Natural Rivers. The Vegetative Buffer ranges from 25 to 100 feet. To view specific Zoning Districts and Vegetative Buffers for each Natural River see the table located on the I:\Documentation\GDSE data folder.
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.