



Compartment Review Presentation

Traverse City Forest Management Unit

Compartment 61148

Entry Year 2018

Acreage: 1,823

County Kalkaska

Management Area: Kirtland's Warbler

Revision Date: 2016-06-10

Stand Examiner: Steve Crigier

Legal Description:

T25N-R05W- Sections 25, 26 & 27

Identified Planning Goals:

The Kirtland's Warbler management area (MA) consists of fifteen units of land that are managed for the federally endangered Kirtland's warbler. Kirtland's warbler management is guided by two documents: Kirtland's Warbler Breeding Range Conservation Plan and Operational Plan for Kirtland's Warbler Habitat Management on Michigan State Forests. Of the 148,017 acres of state forest land that make up the Kirtland's Warbler management area, approximately 90,000 acres, most of the jack pine in the management area, have been identified as essential habitat where management is done in accordance with the Kirtland's Warbler Conservation Plan and Operational Plan. Management on the portion that is not classified as essential habitat will emphasize balancing the age classes of aspen and red pine and regenerating the aging oak resource. Management activities may be constrained or modified based on management recommendations described in the Conservation Strategy. Expected trends within this 10-year planning period are introduced pests and diseases and assuring jack pine regeneration on Kirtland's warbler sites.

Soil and topography:

Grayling Sand, Rubicon and Saugatuck Sand

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

Almost complete and solid state ownership within and around the Compartment. Small 78 ac. private ownership in the Southwest corner of Section 26, multiple parcels. Land uses consist of forestry, oil and gas and recreation.

Unique Natural Features:

There is Hills Thistle in the compartment.

Archeological, Historical, and Cultural Features:

There is an old foundation found in section 27.

Special Management Designations or Considerations:

Kirtland Warbler Habitat

Watershed and Fisheries Considerations:

There is no water in this compartment

Wildlife Habitat Considerations:

Compartment 148 is part of a broad, flat outwash plain, comprised mainly of excessively drained soils. Grayling sand predominates, creating a flat, drought-prone landscape adapted to frequent wildfires. The Fletcher Road Area Kirtland's Warbler (KW) Management Unit includes nearly all of Compartment 148, making habitat management for KW's a priority in this compartment. Management is guided by the Kirtland's Warbler Recovery Plan.

Jack pine stands are regenerated naturally by wildfires which were common on the sandy outwash plains. However modern fire prevention and suppression techniques, inhibit natural regeneration of jack pine after a wildfire. Breeding habitat for the KW is provided by logging and replanting in a distinctive converging wave pattern on a rotational basis to provide approximately 38,000 acres of productive nesting habitat at all times. Carrying these stands to a 50 year rotational age permits nesting habitat to be maintained for the warblers with little loss of jack pine from the commercial harvest. These jack pine stands also provide habitat for the upland sandpiper, Eastern bluebird, white tailed deer, black bear snowshoe hare, and for several protected prairie plants, including the Allegheny plum, Hill's thistle, and rough fescue.

The west 1/2 of section 27 of this compartment (W 1/2 Sec. 27 T25N R05W) was purchased with Game Funds in 1938. Future management of these 320 acres should incorporate adjacent management plans in compartment 150 to the west

as well as KW habitat considerations. Compartment 150 management goals are to maintain a nearly contiguous large grassland and savanna community. The west half of section 27 is currently dominated by a stand of moderately stocked jack pine and a mature red pine stand that is nursing a healthy understory of oak-cherry with plentiful shrubs. Deer are using this area for bedding and turkeys are finding ample roosting habitat here year round.

The south 1/3 of section 25 has several moderately sized upland brush stands that are actively used by wildlife. These upland brush/grass communities should be maintained by burning, selective felling of woody encroachment and possibly the addition of native grasses, forbs, shrubs for biological diversity. This pattern of scattered brushy openings is appropriate and was commonly found on this fire driven outwash plain.

Mineral Resource and Development Concerns and/or Restrictions

Surface sediments consist of ice-contact and 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 Michigan Formation. The Michigan is quarried for gypsum elsewhere in the State. A gravel pit is located two miles to the north, but potential is good. This area is located two miles southwest of the Beaver Creek Field. Beaver Creek produces from the Devonian Richfield and Detroit River Formations and the Ordovician PdC. There are no leases currently in the Compartment, but leases are located to the north and west.

Vehicle Access:

Road system is made up of mostly seasonal county roads and poor dirt state forest roads. Roads are narrow and sandy.

Survey Needs:

Some survey work will be needed in the SW1/4 of section 26 for adjacent treatments.

Recreational Facilities and Opportunities:

The Kalkaska ORV Route, and Snowmobile Trail #76 are located on Four Point Rd in the Southwest corner of this compartment--then both head N/S along Maple Rd on the western edge of the compartment. While these recreational amenities are located on county roads, trail protection specifications should be considered if there are potential impacts to the trail systems. (T.N. 1/26/16)

Fire Protection:

Michigan DNR and Garfield Township fire Department have fire protection responsibilities in this area.

Additional Compartment Information:

The following reports from the Inventory are attached:

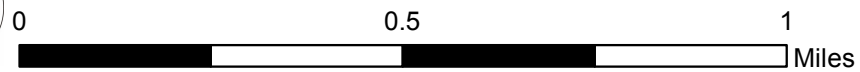
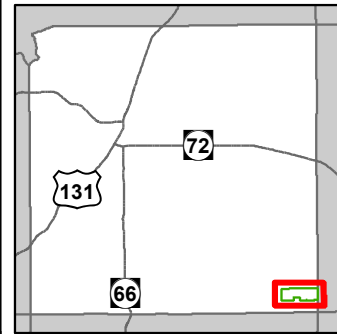
- Total Acres by Cover Type and Age Class**
- Cover Type by Harvest Method**
- Proposed Treatments – No Limiting Factors**
- Proposed Treatments – With Limiting Factors**
- Stand Details (Forested and Nonforested)**
- Dedicated and Proposed Special Conservation Areas**
- Site Condition Details**

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

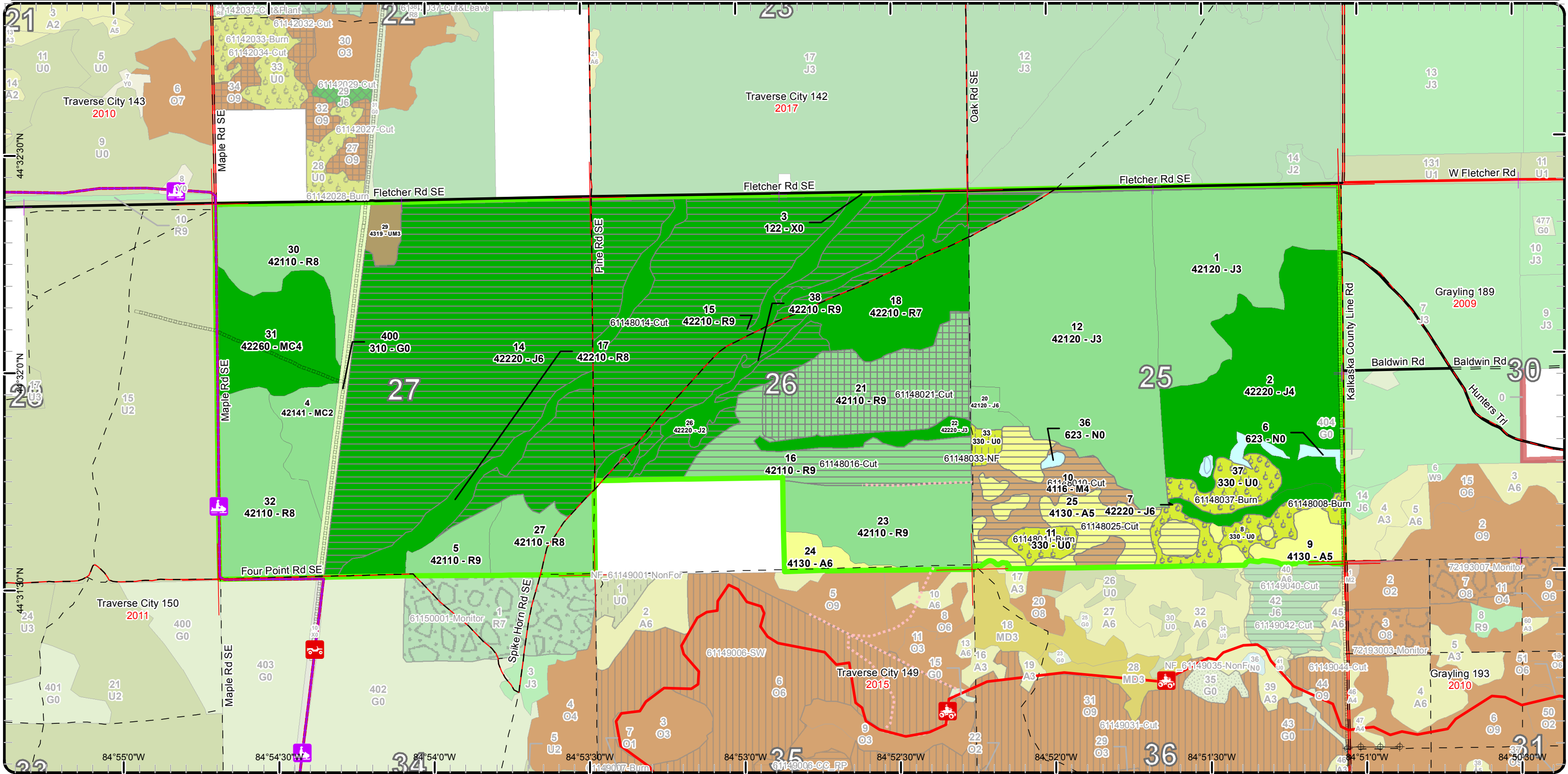
- Base feature information, stand boundaries, cover types, and numbers**
- Proposed treatments**
- Site condition boundaries**
- Details on the road access system**

Cover Type & Treatments Map

Compartment: 148
 T25N R05W Sec. 25-27
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: Kirtland's Warbler
 YOE: 2018
 Acres: 1823 GIS Calculated
 Examiner: Steve Crigier
 Map Revised: 6/1/2016
 Map Phase: Web - Post

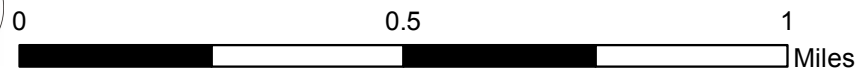
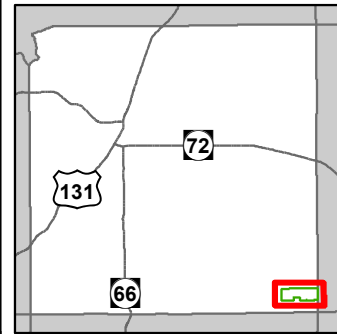


- Miris Corners
- + Remonumented Section Corners
- ORV Trails
- ORV Routes
- Snowmobile Trails
- Designated ATV Trails
- Designated ORV Route
- Designated Snowmobile Trails
- County Paved Roads
- Paved Roads
- County Gravel Roads
- Gravel Roads
- Poor Dirt Roads
- County Poor Dirt Roads
- Closed Roads
- Rivers
- Pipeline
- Compartment Boundary
- Clearcut (w/Reserves)
- Prescribed Burn
- Opening Maintenance
- Seed Tree (w/Reserves)
- 411 - Northern Hardwood
- 413 - Aspen Types
- 421 - Planted Pines
- 422 - Natural Pines
- 430 - Upland Mixed Fores
- 122 - Roads/Parking Lot
- 310 - Herbaceous Openland
- 330 - Low Density Trees
- 623 - Emergent Wetland
- Lakes

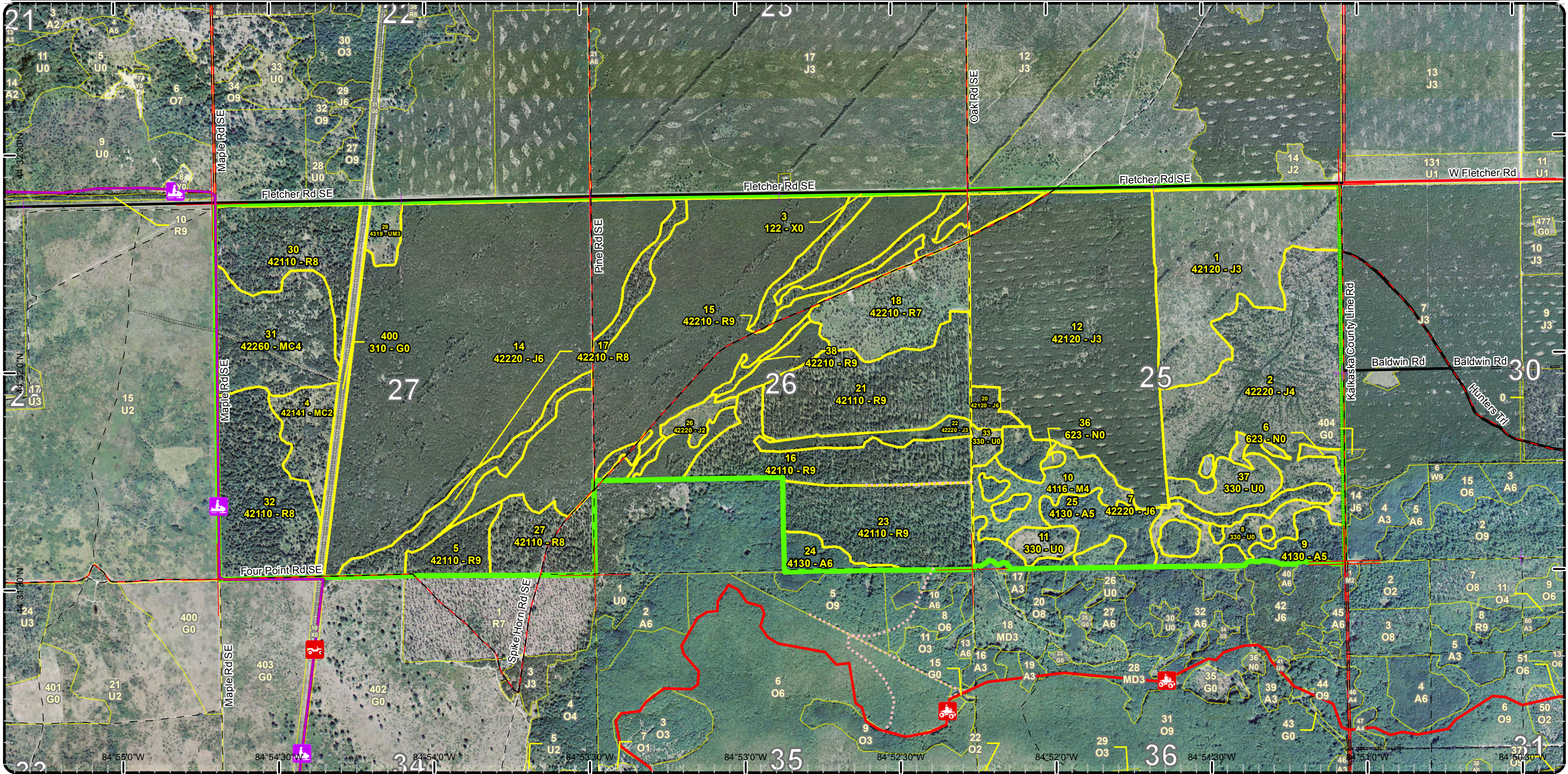


Stand Boundary Map

Compartment: 148
 T25N R05W Sec. 25-27
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: Kirtland's Warbler
 YOE: 2018
 Acres: 1823 GIS Calculated
 Examiner: Steve Crigier
 Map Revised: 6/1/2016
 Map Phase: Web - Post

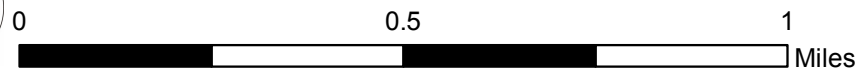
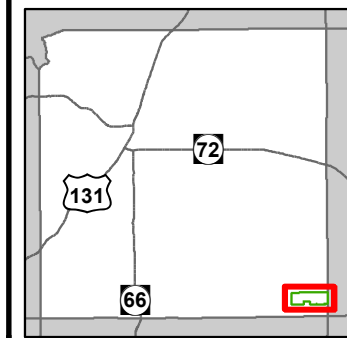


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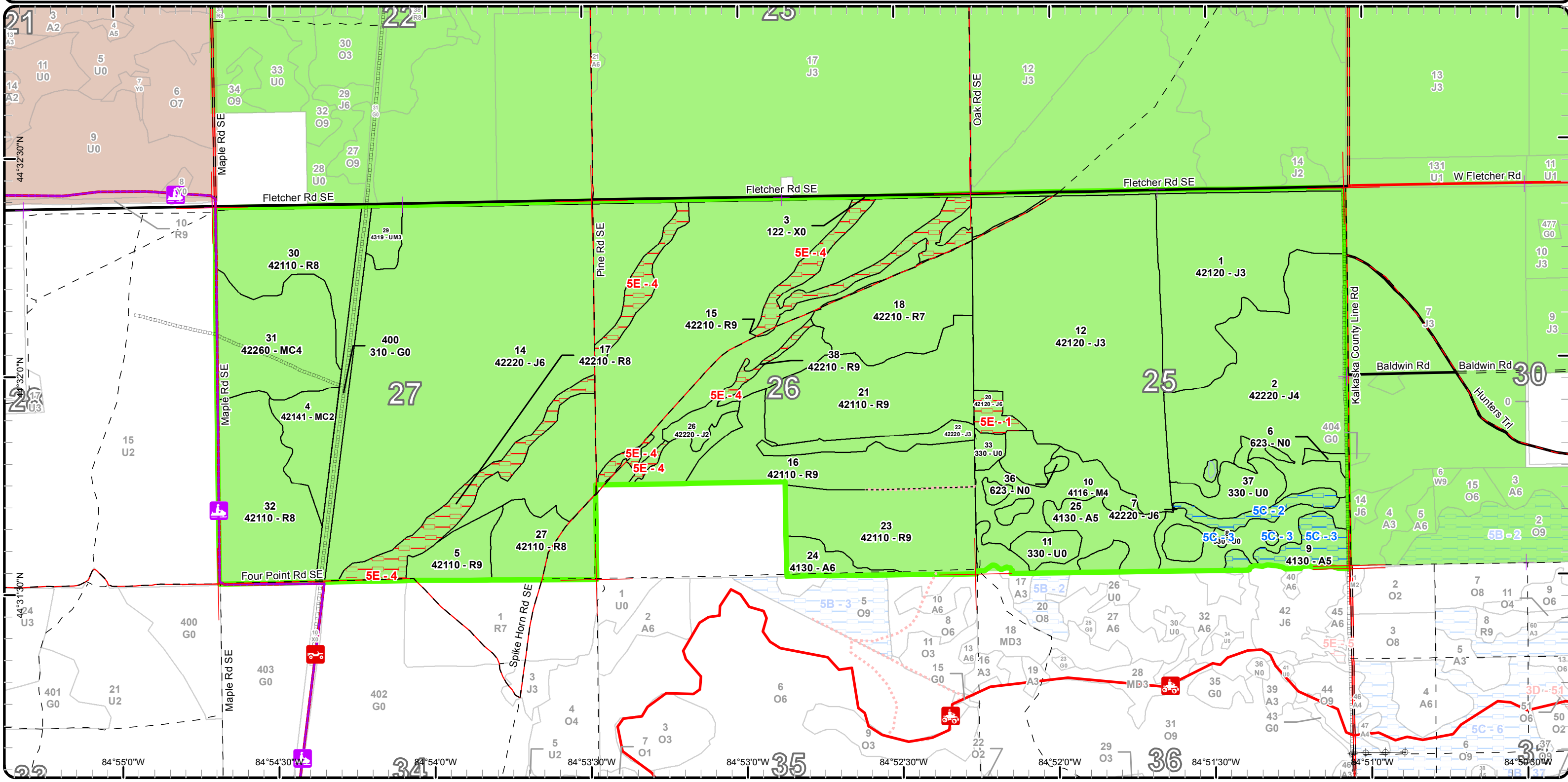


Special Conservation Areas & Site Conditions Map

Compartment: 148
 T25N R05W Sec. 25-27
 County: Kalkaska
 Unit: Traverse City
 Mgmt Area: Kirtland's Warbler
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 Acres: 1823 GIS Calculated
 Examiner: Steve Crigier
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- Gravel Roads
- - - Poor Dirt Roads
- County Poor Dirt Roads
- - - Closed Roads
- Rivers
- - - Pipeline
- Compartment Boundary
- Available w/ Constraints
- Unavailable
- 5C: Delay treatment for age/size class diversity or exceptional site quality
- 5E: Long-Term Retention
- Stand Boundaries
- Special Conservation Areas
- Kirtland Warbler Habitat
- Research, Development, and Military Lands



Report 1 – Total Acres by Cover Type and Age Class



Age Class

	Non-Forest	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	120-129	130-139	140-149	150+	Uneven-Aged	Total
Aspen	0	0	0	0	11	69	0	0	0	0	0	0	0	0	0	0	0	0	80
Herbaceous Openland	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Jack Pine	0	0	125	209	126	571	0	0	16	0	0	0	0	0	0	0	0	0	1047
Low-Density Trees	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53
Marsh	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Natural Mixed Pines	0	0	0	0	58	0	0	0	0	0	0	0	0	0	0	0	0	0	58
Northern Hardwood	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	33
Planted Mixed Pines	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
Red Pine	0	0	0	0	0	0	0	485	0	0	0	0	0	0	0	0	0	0	485
Upland Mixed Forest	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Urban	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Total	91	8	148	209	195	673	0	0	501	0	0	0	0	0	0	0	0	0	1825



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
8	61148008-Burn	21.3	330 - Low-Density Trees	Nonstocked	36	1-50	Burn	Opening	3204 - Mast Producing Shrub		Proposal

Habitat Cut: No

Site Condition:

Prescription This stand is within the Fletcher Road Area Kirtland Warbler Management Unit. Thick little bluestem, poverty grass, sedge, rice grass, sweetfern, scattered cherry saps and poles. Occasional jack pine, junberry, willow, blueberry. Ideally this grass stand should be burnt at least once per entry period in order to set back woody encroachment, stimulate native herbaceous vegetation and/or berry production, and recycle nutrients. Prior to burning 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.

Next Step NonForestMgt, Herbaceous/Crop/Grass Planting

Treatments:

Acceptable

Regen:

Other Comment: Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Fertilize plantings and protect with wire cages or tubex.

Proposed Start Date: 10/01/2017

10	61148010-Cut	32.8	4116 - Mixed N. Hardwood - Aspen	Poletimber Poor	42	1-50	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription Clear cut stand with st10 in hopes that the aspen clones will expand. Mark a few cherry or white pine to leave.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable aspen, cherry.

Regen:

Other Comment: Old RR grade through stand.

Proposed Start Date: 10/01/2017

11	61148011-Burn	8.9	330 - Low-Density Trees	Nonstocked	36	1-50	Burn	Opening	31022 - Warm Season Grass		Proposal
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Habitat Cut: No

Site Condition:

Prescription This stand is within the Fletcher Road Area Kirtland Warbler Management Unit. Thick little bluestem, poverty grass, sedge, rice grass, sweetfern, scattered cherry saps and poles. Occasional jack pine, junberry, willow, blueberry. Ideally this grass stand should be burnt at least once per entry period in order to set back woody encroachment, stimulate native herbaceous vegetation and/or berry production, and recycle nutrients. Prior to burning 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.

Next Step ; ; ; NonForestMgt, Herbaceous/Crop/Grass Planting

Treatments:

Acceptable

Regen:

Other Comment: Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Fertilize plantings and protect with wire cages or tubex.

Proposed Start Date: 10/01/2017

14	61148014-Cut	570.9	42220 - Natural Jack Pine	Poletimber Well	48	51-80	Harvest	Clearcut with Retention	4222 - Natural Jack Pine	Even-Aged	Proposal
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Habitat Cut: No

Site Condition:

Prescription Wildlife would like this stand cut for KW habitat (natural regen). Clear cut and chip harvest and have them limb the trees down to 4" to leave as many cones as possible out in the woods for regen. Also encourage whole tree skidding to scarify the seed bed. If we don't get enough TPA then trench and plant jack pine in a weave pattern. Leave the red pine strips (St 17,15 and 38) as long term retention.

Next Step SitePrep, Trenching; Planting, Initial Plant; Monitoring, Artificial Regen(1yr); Monitoring, Artificial Regen(3yr); Monitoring, Natural Regen

Treatments: (Intermediate)

Acceptable jack pine

Regen:

Other Comment: Would probably want to make it a summer harvest and would want them to finish the KW cut once it is started. Also include stands 21 and 16 with the sale. It might be a good idea to have landings be spread out to scattered the seed better.

Proposed Start Date: 10/01/2017



S t a n d	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
16	61148016-Cut	54.4	42110 - Planted Red Pine	Sawtimber Well	76	81-110	Harvest	Clearcut	4211 - Planted Red Pine	Even-Aged	Proposal

Habitat Cut: No Site Condition:

Prescription Clearcut, trench and replant stand. It will likely need a herbicide site prep or release for hardwood competition. Have stand chip harvested and have them cut as much of the 2" hardwood as they can. Also have to stumps cut as low as possible.
Specs:

Next Step SitePrep, Trenching; SitePrep, Roller Chopping; Planting, Initial Plant; Pesticide, Aerial; Monitoring, Artificial Regen(1yr)
Treatments:

Acceptable red pine
Regen:

Other
Comment:

Proposed Start Date: 10/01/2017

21	61148021-Cut	74.6	42110 - Planted Red Pine	Sawtimber Well	76	111-140	Harvest	Seed Tree	429 - Mixed Upland Conifers	Two-Aged	Proposal
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Habitat Cut: No Site Condition:

Prescription Mark to leave no more than 10sqft/ac of red pine. Try to protect the advanced regen of jack pine and red pine. Encourage whole tree skidding and chipping to prep the seed bed. Also have them limb the tree down to 4" to leave cones out in the woods for seed.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable red pine, jack pine and white pine.
Regen:

Other Sell with stand 14 and 16 to make a more marketable sale.
Comment:

Proposed Start Date: 10/01/2017

25	61148025-Cut	50.5	4130 - Aspen	Poetimber Medium	42	51-80	Harvest	Clearcut with Retention	413 - Aspen	Even-Aged	Proposal
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Habitat Cut: No Site Condition:

Prescription Clearcut stand, maybe mark a few cherry trees or white pine to leave. Hopefully this will expand the aspen pockets into the st10 and make a more contiguous stand.
Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)
Treatments:

Acceptable aspen, cherry.
Regen:

Other Pockets of aspen scattered among cherry brush. Poor quality aspen, mostly 3 stick trees occasionally some 4 stick timber. Old RR grade through stand.
Comment:

Proposed Start Date: 10/01/2017

33	61148033-NF	4.6	330 - Low-Density Trees	Nonstocked	31	Immature	NonForestMgt	Brush Cutting	3204 - Mast Producing Shrub		Proposal
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Habitat Cut: No Site Condition:

Prescription 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.
Specs: Maintain as needed with mowing, seeding of native grasses and forbs, fertilizing, burning, or removal of woody encroachment.

Next Step
Treatments:

Acceptable
Regen:

Other Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Fertilize plantings and protect with wire cages or tubex.
Comment:

Proposed Start Date: 10/01/2017



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	Treatment Name	Acres	Stand CoverType	Size Density	Stand Age	BA Range	Treatment Type	Treatment Method	Cover Type Objective	Age Structure	Approval Status
37	61148037-Burn	18.1	330 - Low-Density Trees	Nonstocked	0	Unspecified	Burn	Opening	31022 - Warm Season Grass		Proposal

Habitat Cut: No

Site Condition:

Prescription This stand is within the Fletcher Road Area Kirtland Warbler Management Unit. Thick little bluestem, poverty grass, sedge, rice grass, sweetfern, scattered cherry saps and poles. Occasional jack pine, junberry, willow, blueberry. Ideally this grass stand should be burnt at least once per entry period in order to set back woody encroachment, stimulate native herbaceous vegetation and/or berry production, and recycle nutrients. Prior to burning 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.

Next Step NonForestMgt, Herbaceous/Crop/Grass Planting

Treatments:

Acceptable

Regen:

Other Could plant site appropriate native shrubs and/or mast producing trees for wildlife food and cover. Fertilize plantings and protect with wire cages or tubex.
Comment: If FRD is agreeable, this treatment should continue east just south of stands 6 to the county line.

Proposed Start Date: 10/01/2017

Total Treatment Acreage Proposed: 836.1

**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
1	Unavailable	5E: Long-Term Retention	7	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
2	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	9	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
3	Available	5C: Delay treatment for age/size class diversity or exceptional site quality	19	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							
4	Unavailable	5E: Long-Term Retention	71	Unspecified	Unspecified	Unspecified	Unspecified
Comments:							

Mgt. Unit

Compartment: #Type!

Year of Entry:



Report 5 – 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
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Comments



Report 6 – 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	Research and Military Areas	These areas provide facilities and lands specifically dedicated for research, or other purposes. They include the 5,847 acre Forest Fire Experiment Station, the 12,000 acre Houghton Lake Wildlife Research Area, the Beaver Islands Archipelago Wildlife Research Area (that includes most of Garden Island, all of High and Hog Islands, all state owned land on Beaver, South Fox and North Fox Islands), the Cusino Wildlife Research Area, the 3,000 acre Hunt Creek Fisheries Research Station, the 125 acre Wyman Nursery, and over 144,000 acres of Military Lands.
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.
ERA	Ecological Reference Areas	Ecological Reference Areas (ERAs) are high quality examples of natural communities that have been identified as Element Occurrences (EOs) by the Michigan Natural Features Inventory (MNFI) within the context of their natural community classification system. Element Occurrences with viability ranks of A (Excellent) or B (Good) and a Global (G) or State (S) element (rarity) ranking of endangered (1), threatened (2), or rare (3) serve as an initial base of ERAs. They may be located upon any ownership in the State. The system is comprised of individual or associations of natural community types that are managed for restoration and maintenance of natural ecological processes and values. The public may submit recommendations for lands as ERAs using the DNR Conservation Area Recommendation Form.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	42120 - Planted Jack Pine	Sapling Well	105.2	14	Immature	OPIC - FMD: Kirtlands Warbler planting Trees are ~ 8' tall. There are a few strips of mature jack pine within the stand that was left for retention.
2	42220 - Natural Jack Pine	Poletimber Poor	125.6	31	Immature	Pockets of pole sized timber but a good amount of saplings. Stand is in the process of converting to a pole sized stand. Variable tree sizes, stocking is highly variable. Dense J3 pockets around the vernal ponds in the south part of the stand.
4	42141 - Planted Mixed Pine, Mixed Deciduous	Sapling Medium	22.5	18	1-50	This had the jack pine removed in 2001. Still has a good amount of red pine pole/log timber but is coming back to jack pine, with a bit of aspen and cherry. Trees are about 10' tall and stocking of the regeneration is patchy.
5	42110 - Planted Red Pine	Sawtimber Well	17.6	76	141-170	OPIC - FMD: Sale #154-98. Complete in 8/01. Nice quality red pine, lots of 6 + stick trees. Good diameter growth, some pole timber but mostly logs. Canopy is pretty much closed up.
7	42220 - Natural Jack Pine	Poletimber Well	9.3	76	81-110	Trees are ~ 4 sticks tall. A few pockets of aspen. JP saplings along the edges of the stand. Stand was left for retention a while back.
9	4130 - Aspen	Poletimber Medium	18.5	49	51-80	Stocking is variable, some pockets of U0 types throughout. Some jack pine scattered along the north edge. Also some A3 pockets mixed in. Mostly 4-5 stick aspen.
10	4116 - Mixed N. Hardwood - Aspen	Poletimber Poor	32.8	42	1-50	Stand is mostly cherry brush with some pockets of aspen. Very poor quality stand. Opening that is filling in
12	42120 - Planted Jack Pine	Sapling Well	208.9	28	Immature	OPIC - FMD: Warbler Planting Lots of TPA, 2-3 stick trees, stand is starting to covert to a pole sized stand.
14	42220 - Natural Jack Pine	Poletimber Well	570.6	48	51-80	OPIC - FMD: Part of old Fletcher burn Dense stocking but very small diameters for the age. Mostly 1-3 stick trees. There are some veins of red pine that survived the fire. Some portions of this stand are still in the sapling size class.
15	42210 - Natural Red Pine	Sawtimber Well	25.5	76	51-80	Nice quality red pine with a mix of jack pine.
16	42110 - Planted Red Pine	Sawtimber Well	54.4	76	81-110	OPIC - FMD: Sale #154-98. Complete in 8/01. Heavy hardwood understory in the west 1/2, moderate in the E1/2. Good size diameters, stocking is a bit variable.
17	42210 - Natural Red Pine	Sawtimber Medium	36.8	76	51-80	This stand survived the Fletcher Burn in 1968. Nice quality red pine with a mix of mature jack pine. Stocking is a bit variable. Some of the jack pine is falling out.



	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
18	42210 - Natural Red Pine	Sawtimber Poor	50.3	76	1-50	OPIC - FMD: 2010 DAH Comments: Stand cut in 2009. Sale #008-08. Scattered red pine pole/log timber over top a J3 that is seeding in from cut in 2010. Red pine is 4-5 sticks tall and the jack pine seedlings are a bit patchy.
20	42120 - Planted Jack Pine	Poletimber Well	6.5	76	51-80	Stand is a small patch of retention. 3-4 stick jack pine. Poor to medium quality.
21	42110 - Planted Red Pine	Sawtimber Well	74.6	76	111-140	OPIC - FMD: Sale #154-98. Complete in 8/01. Nice red pine, mostly 6 stick trees and almost all logs. Fairly clean understory with some jack pine scattered, and some J3 pockets here and there. Most of the canopy is open and trees have room to grow. BAs 130, 110, 170, 120.
22	42220 - Natural Jack Pine	Sapling Well	12.7	16	Immature	OPIC - FMD: old landing from past harvest - now regenerating to jp. dkj 2005 Some scattered red pine on the edges. Most of the jack pine is ~ 15' tall, and lots of TPA.
23	42110 - Planted Red Pine	Sawtimber Well	62.5	76	51-80	OPIC - FMD: Worn-out Red Sale #041-08. DAH Nice quality red pine, with a heavy red maple understory. Some scattered younger oak.
24	4130 - Aspen	Poletimber Well	10.7	37	51-80	Nice quality bigtooth with a mix of oak and red maple. Stand is a bit immature, mostly 4 stick trees.
25	4130 - Aspen	Poletimber Medium	50.5	42	51-80	Pockets of aspen scattered among cherry brush. Poor quality aspen, mostly 3 stick trees occasionally some 4 stick timber. Old RR grade through stand.
26	42220 - Natural Jack Pine	Sapling Medium	7.4	13	Immature	Jack pine is ~ 8' tall with a mix of cherry.
27	42110 - Planted Red Pine	Sawtimber Medium	32.6	76	81-110	OPIC - FMD: Sale #154-98. Complete in 8/01. Decent Red pine, a bit on the short side (4-5) sticks, getting a decent amount of jack pine in the understory.
29	4319 - Mixed Upland Forest	Sapling Well	8.4	7	Immature	OPIC - FMD: 2010 DAH comments: Stand cut in 2009. Some residual red pine left. Sale #008-08. Leave scattered RP & WP sawtimber for visual mgt. Dkj 2005. A mix of species are filling in the stand.
30	42110 - Planted Red Pine	Sawtimber Medium	52.4	76	1-50	OPIC - FMD: Sale #154-98. Complete in 8/01. Scattered regen pockets of Aspen, Red Maple, oak and Jack Pine. Good quality red pine. BAs are all over the place. A couple of clones of aspen in the northern part of the stand.

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Traverse City Mgt. Unit

Report 7 – Forested Stands

Compartment: 148
Year of Entry: 2018

	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
31	42260 - Natural Pine, Mixed Deciduous	Poletimber Poor	58.3	32	1-50	Very mixed stand, of species and of size classes. Mostly jack pine of various size and density with some pockets of aspen and cherry brush in between.
32	42110 - Planted Red Pine	Sawtimber Medium	69.0	76	51-80	OPIC - FMD: Sale #154-98. Complete 8/01. Just removed the jack pine. Decent quality red pine. It looks to be open grown timber, lots of live crown. Stocking is variable. Understory is pretty dense with oak, jack pine, aspen and cherry.
38	42210 - Natural Red Pine	Sawtimber Well	8.8	76	51-80	Nice red pine with a mix of jack. 5-6 stick trees.



Stand	Cover Type	Acres	Managed Site	General Comments:
3	122 - Road/Parking Lot	14.5	No	
6	623 - Emergent Wetland	6.2	No	Vernal ponds
8	330 - Low-Density Trees	21.3	Yes	scattered aspen and jack pine
11	330 - Low-Density Trees	8.9	Yes	Scattered cherry and aspen.
33	330 - Low-Density Trees	4.6	Yes	Scattered Aspen, Black Cherry and Jack Pine
36	623 - Emergent Wetland	1.3	No	vernal pond
37	330 - Low-Density Trees	18.1	No	
400	310 - Herbaceous Openland	15.9	No	OPIC - FMD: Gas Pipeline