

# **Compartment Review Presentation**

**Gaylord Forest Management Unit** 

Compartment 52006 Entry Year 2018 Acreage: 488

County Otsego

Management Area: AuSable Outwash

Revision Date: 2016-05-31

Stand Examiner: Hilary Wells

**Legal Description:** 

T29N R01W Section 23

# **Identified Planning Goals:**

To provide for the protection, integrated management, and responsible use of a healthy, productive and undiminished forest resource base for the social, recreational, environmental and economic, benefit of the State of Michigan.

# Soil and topography:

Grayling, Rubicon, and Graycalm sands on the upland, with Dawson-Loxley peats and Tawas-Lupton mucks on the lowlands. General topography is level with gentle slopes, however, there are steep slopes in some locations adjacent to Big Creek. There are also a few scattered bogs.

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

The southeast corner of the compartment is bounded by 7th Spectacle Lake and Caulkins Lake is along the north western boundary. Both have seasonal and year round residents. Hunting, fishing, and berry picking are the primary land uses.

# **Unique Natural Features:**

The West Branch of Big Creek.

## Archeological, Historical, and Cultural Features:

None known.

# **Special Management Designations or Considerations:**

The West Branch of Big Creek, which is part of the Au Sable River Natural River Designation, flows along the western boundary of the compartment.

### **Watershed and Fisheries Considerations:**

W Br Big Creek is a marginal trout stream at this point due to the lake outlets and beaver activity. From a fisheries perspective, it is acceptable in this instance to final harvest near the river as prescribed. This is an opportunity to manage for diverse wildlife communities with minimal impact on the fishery. W Br. Big Creek is a designated natural river, so there may be some buffer zone limitations associated with that designation.

#### Wildlife Habitat Considerations:

This compartment is adjacent to a Kirtland Warbler management unit. The west branch of Big Creek runs through the western part of the compartment. There are beaver present on this stream which provide habitat for otter, amphibians, and waterfowl. It is primarily upland and most stands are a mixture of oak, aspen, jack pine, and red pine. Treatments in this compartment will maintain age class diversity in aspen and oak while creating early successional habitat benefiting deer, grouse, wild turkey and woodcock. Oak clumps and/or large crowned oak will be left where appropriate for hard mast within these early successional habitat types.

### 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 600 and 800 feet. The Mississippian Coldwater Shale subcrops below the glacial drift. The Coldwater does not have an economic use. Sand and gravel pits are not located in the area, but potential appears to be good on the uplands. The compartment is within the Antrim Shale gas play and is located south of the Niagaran reef trend. All state land within the compartment is currently leased and held by production within the Caulkins Lake Unitized Area. There is potential for additional wells within the compartment.

# **Vehicle Access:**

There is legal access on the east from the end of Nuenfelt Road or by way of the Enbridge Pipeline which crosses State land. To access the stands on the west side of Big Creek there is a seasonal road and two tracks on State land through

compartment 5.

# **Survey Needs:**

None needed at this time.

# **Recreational Facilities and Opportunities:**

The north section of the Michigan Shore to Shore Riding and Hiking trail runs through the east of the compartment.

#### **Fire Protection:**

The Caulkins Lake Fire burned most of the compartment on May 5, 1980, and The Big Creek fire burned the southwest quarter of the compartment on May 20, 1981. It has completely recovered from both. In dry conditions, most of the compartment falls under "very high" fire risk with some areas of "extreme" in the southeast.

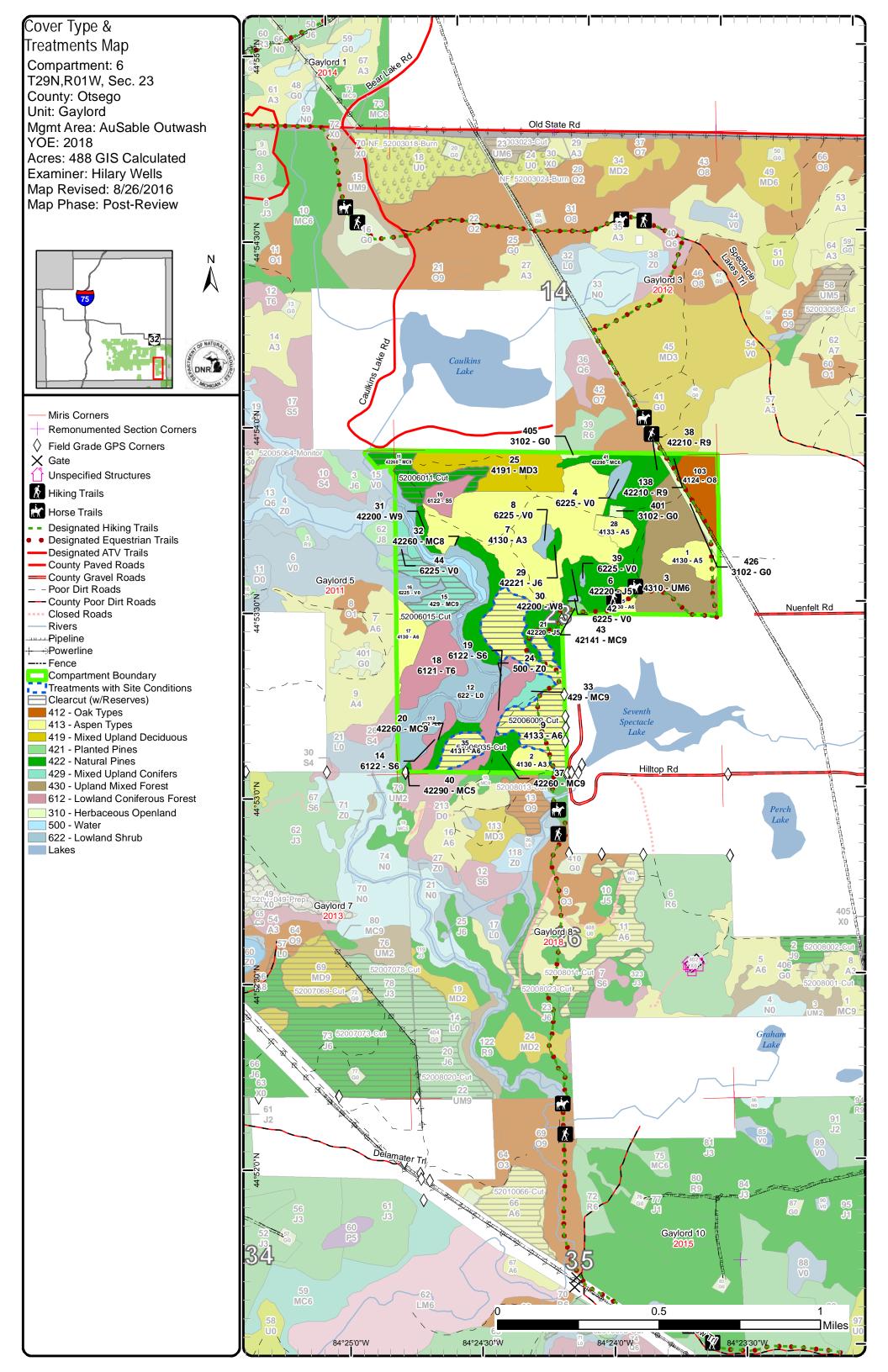
# **Additional Compartment Information:**

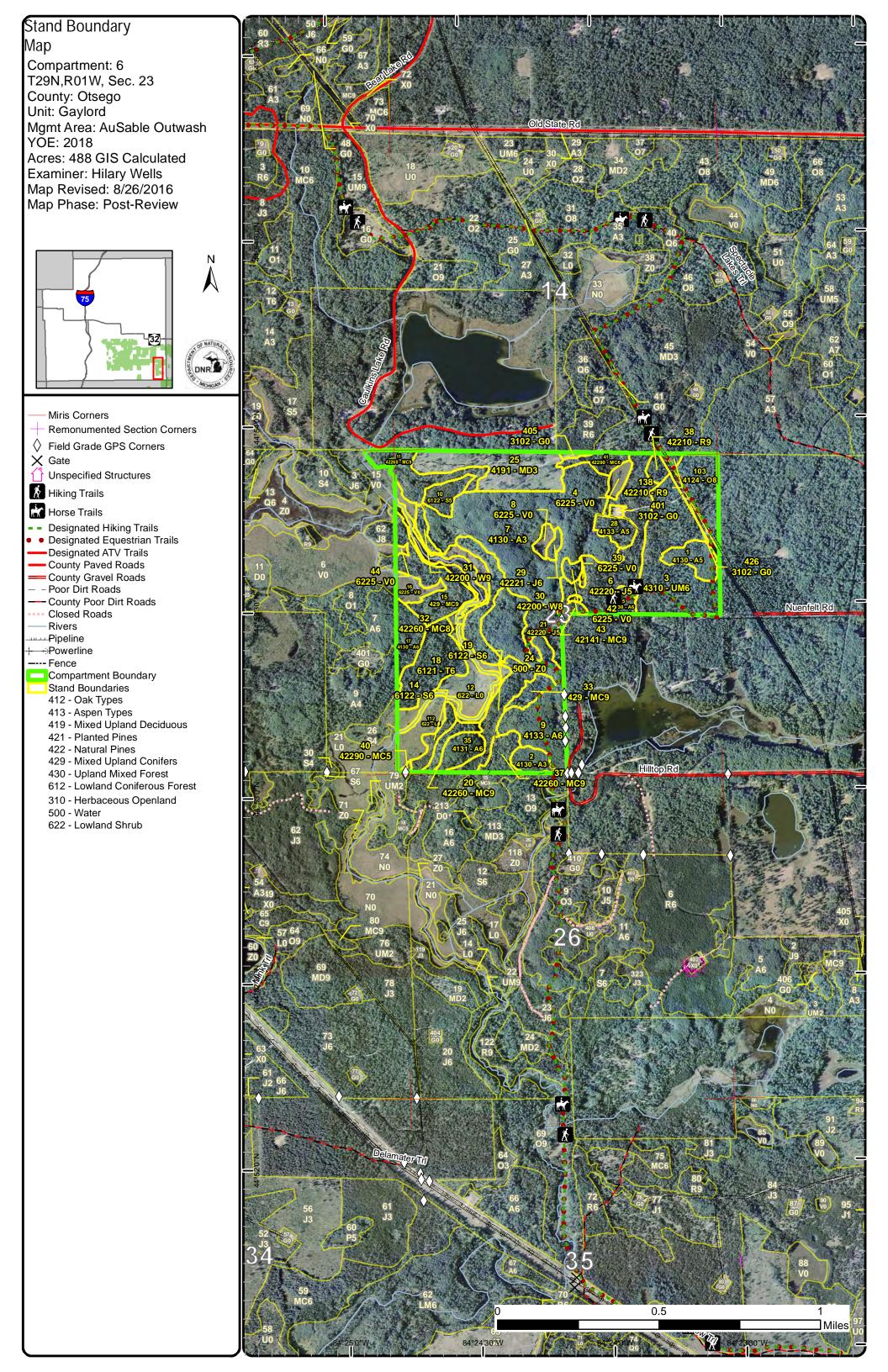
The following reports from the Inventory are attached:

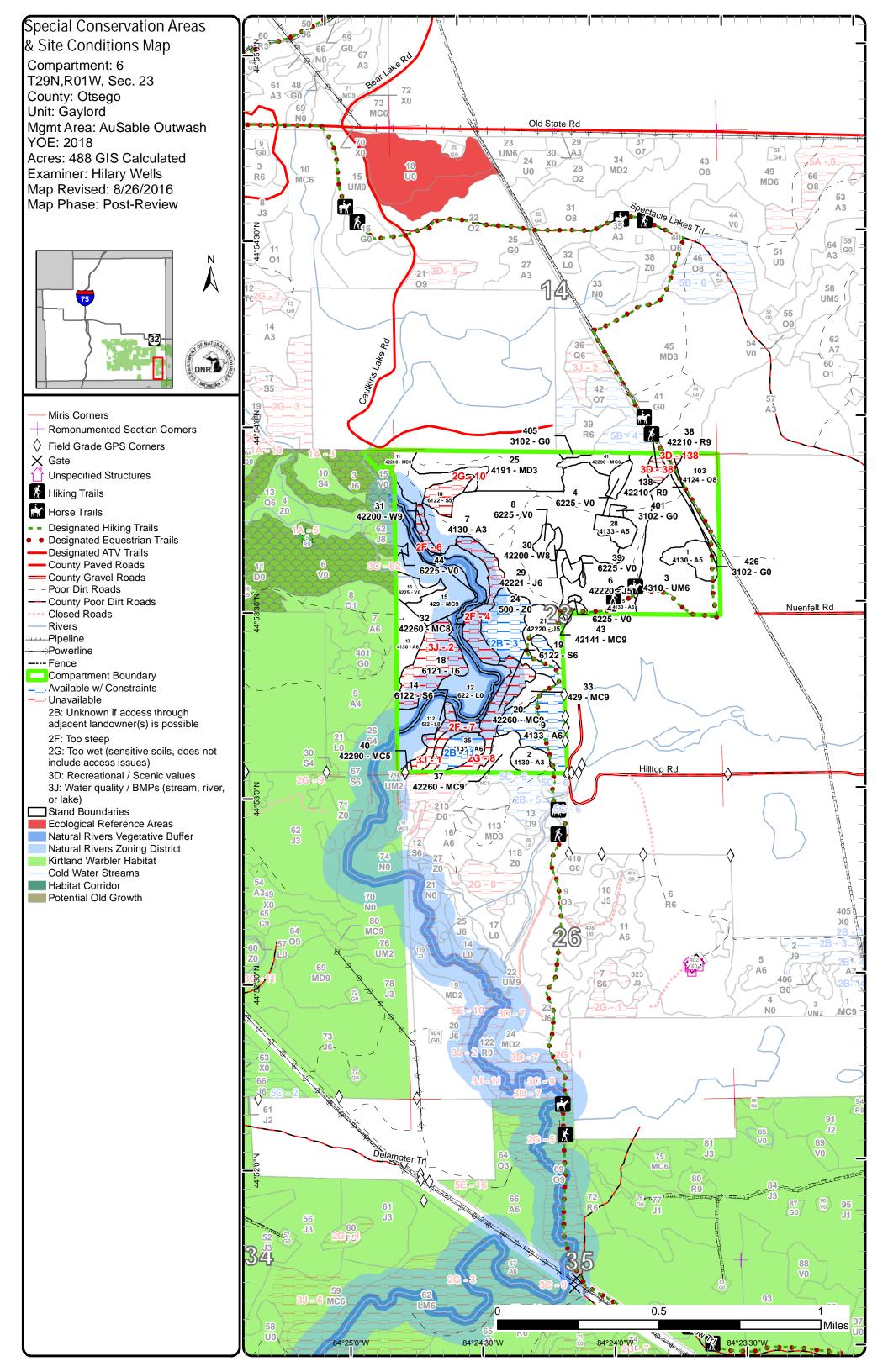
Total Acres by Cover Type and Age Class
Cover Type by Harvest Method
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors
Stand Details (Forested and Nonforested)
Dedicated and Proposed Special Conservation Areas
Site Condition Details

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







Compartment 6

Year of Entry 2018



Gaylord Mgt. Unit
Hilary Wells : Examiner

Age Class

	Aor Aor	A STATE OF THE STA	30 / 2	\$./ %	\$ \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	8 / \$	10 10 10 10 10 10 10 10 10 10 10 10 10 1	\$     	\$ / K	,	80,00	\$ /6/	20,00	\$ \ \	,	S. J. L.	Lis Li	\$ July	A LOS
Aspen	0	0	3	83	37	42	0	0	0	0	0	0	0	0	0	0	0	0	165
Bog	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Herbaceous Openland	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Jack Pine	0	0	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	44
Lowland Shrub	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42
Lowland Spruce/Fir	0	0	0	0	0	0	0	0	0	0	24	0	0	0	0	0	0	0	24
Mixed Upland Deciduous	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
Natural Mixed Pines	0	0	0	0	0	5	0	15	0	0	0	7	17	0	0	0	0	0	43
Oak	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	15
Planted Mixed Pines	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Red Pine	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
Tamarack	0	0	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	20
Upland Conifers	0	0	0	0	0	0	0	0	0	19	0	0	5	0	0	0	0	0	24
Upland Mixed Forest	0	0	0	0	0	0	0	0	0	0	0	43	0	0	0	0	0	0	43
Water	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
White Pine	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	5
Гotal	71	28	3	83	82	47	0	15	0	19	24	88	30	0	0	0	0	0	487



# **Report 2 – Treatment Summary**

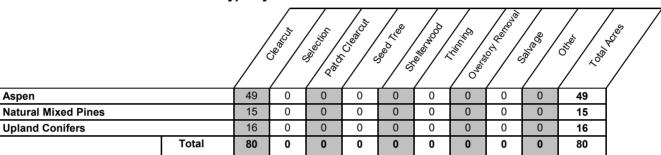
# Gaylord Mgt. Unit Year of Entry: 2018

#### **Acres of Harvest**

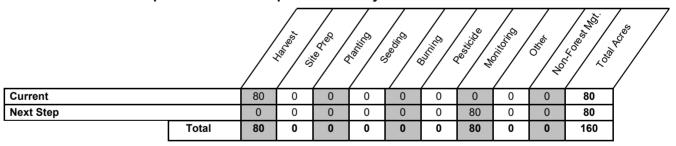
Compartment 6
Total Compartment Acres: 488

Commercial Harvest - 31 Harvests with Site Condition - 49 Next Step Harvest - 0 Habitat Cut - 0

# **Cover Type by Harvest Method**



# **Proposed and Next Step Treatments by Method**



Gaylord Mgt. Unit Report 3 -- Treatments Compartment: 6 S Year of Entry: 2018 t а Stand **Treatment Treatment Cover Type Treatment** Acres Stand Size BA Age **Approval** n Name CoverType Density Age Range Type Method Objective Structure **Status** d 4131 - Aspen, 9 52006009-Cut 4133 - Aspen. Draft Field 419 Poletimber 51-80 Harvest Clearcut with Even-Aged Mixed Pine Retention Oak Boundary **Habitat Cut: No** Site Condition: Unknown Access Prescription Final harvest all trees 2 inches dbh and up. Mark 1-3 scattered oak to leave per acre. Add trail specs and focus retention near trail ensure protection of Shore to Shore Trail. Otherwise follow standard retention guidelines. Specs: Next Step Monitoring, Natural Regen (Re-Inventory) Treatments: Acceptable Any mixture of aspen and oak. Regen: Other Comment: **Proposed Start Date:** 10/01/2017 52006011-Cut 14.5 42260 - Natural Sawtimber 61 51-80 Harvest Clearcut with 42260 - Natural Even-Aged Draft Field

**Habitat Cut: No** Site Condition:

Prescription Final harvest all trees 2 inches dbh and up except oak. Feather boundary along Big Creek and within stand according to available timber and Specs:

Retention

Pine, Mixed

Deciduous

ground moisture. No cut within 50 feet of Big Creek.

Pine, Mixed

Deciduous

Well

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

Acceptable Any mix of oak, pine and maple.

Regen:

Other If eagle nest is found in adjacent compartment 5, do not harvest during nesting season and follow Bald Eagle nest guidelines.

Comment:

Proposed Start Date: 10/01/2017

16.3 429 - Mixed Upland Sawtimber 52006015-Cut 81-110 Harvest Clearcut with 429 - Mixed Even-Aged Draft Field Conifers Well Retention **Upland Conifers** Boundary

**Habitat Cut: No Site Condition:** 

Prescription Final harvest all trees 2 inches dbh and up except all oak species. Utilize red line to create patches of retention and feather boundary line along Specs:

Big Creek. No cut within 50 feet of Big Creek. Protect pockets of Hawthorne and advanced oak regeneration.

Next Step Monitoring, Natural Regen (Re-Inventory)

Treatments:

Acceptable Jack pine, red pine, white pine, aspen, and oak.

Regen:

Access through compartment 5. Only cut from July-October to avoid issues with wet, low areas. Add culvert to access road in compartment 5. Other

Possibly add stand 62 in compartment 5. Permission was given to cut within the 150 foot natural rivers buffer via Brian Bury on 5/12/2016.

**Proposed Start Date:** 10/01/2017

52006035-Cut 7.5 4131 - Aspen, Oak Poletimber 36 81-110 Harvest Clearcut with 413 - Aspen Even-Aged Draft Field

Well

Retention

Boundary

Boundary

**Habitat Cut: No** Site Condition: Unknown Access

Prescription Final harvest. Mark 3-5 scattered oak to leave per acre for mast. No other retention due to small stand size.

Specs:

Next Step Monitoring, Natural Regen (Re-Inventory)

**Treatments:** 

Acceptable Aspen spp., with small red oak, white oak, red pine, white pine, jack pine components.

Regen: Other

Can access off trail to the south if we gain access from adjacent landowners.

Comment:

**Proposed Start Date:** 10/01/2017

**Total Treatment** Acreage Proposed:

80.2

Gaylord Mgt. Unit

Hilary Wells : Examiner

Availa	Availability for Management													
Total	Acres	Acres Avail	Acres		Domina	nt Site	e Con	dition	s					
Acres	Available	With Condition	Not Available		2B	2F	2G	3D	3J					
165	116	49	0	Aspen	49		0							
13	13	0	0	Bog										
6	6	0	0	Herbaceous Openland										
44	44	0	0	Jack Pine										
42	42	0	0	Lowland Shrub										
25	0	0	25	Lowland Spruce/Fir			20		5					
28	28	0	0	Mixed Upland Deciduous										
44	27	0	17	Natural Mixed Pines		17								
15	15	0	0	Oak										
1	1	0	0	Planted Mixed Pines										
4	0	0	4	Red Pine				4						
20	0	0	20	Tamarack					20					
24	24	0	0	Upland Conifers										
43	43	0	0	Upland Mixed Forest										
10	10	0	0	Water										
5	2	0	3	White Pine		3								
488	370	49	69	Total Forested Acres	49	20	20	4	25					
	76%	10%	14%	Relative Percent										

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

	Dominant Site Cond Availability	<b>Dominant Site Condition</b>	Acres	Other Site Condition	Other Site Condition	Other Site Condition	Other Site Condition
1	Unavailable	3J: Water quality / BMPs (stream, river, or lake)	5	2G: Too wet (sensitive soils, does not include access issues)	Unspecified	Unspecified	Unspecified
C	comments:			,			

# Report 4 – Site Conditions

Gaylord Mgt. Unit Hilary Wells : Examiner

Co	omments:						
3	Available	2B: Unknown if access through adjacent landowner(s) is possible	42	Unspecified	Unspecified	Unspecified	Unspecified
Co	omments:						
4	Unavailable	2F: Too steep	13	Unspecified	Unspecified	Unspecified	Unspecified
Co	omments:						
6	Unavailable	2F: Too steep	3	Unspecified	Unspecified	Unspecified	Unspecified
Co	omments:						
7	Unavailable	2F: Too steep	4	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Co	omments:						
3	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	13	3J: Water quality / BMPs (stream, river, or lake)	Unspecified	Unspecified	Unspecified
Co	omments:						

# **Report 4 – Site Conditions**

Gaylord Mgt. Unit Hilary Wells : Examiner

10	Unavailable	2G: Too wet (sensitive soils, does not include access issues)	6	3B: Threatened, endangered, and special concern species	Unspecified	Unspecified	Unspecified
	omments: ossible Hills Thist	le and Bald Eagle's nest on othe	er side	of Big Creek.			
11	Available	2B: Unknown if access through adjacent landowner(s) is possible	8	Unspecified	Unspecified	Unspecified	Unspecified
С	omments:						
38	Unavailable	3D: Recreational / Scenic values	3	5C: Delay treatment for age/size class diversity or exceptional site quality	Unspecified	Unspecified	Unspecified
С	omments:						
138	Unavailable	3D: Recreational / Scenic values	1	5C: Delay treatment for age/size class diversity or exceptional site quality	Unspecified	Unspecified	Unspecified
С	omments:						

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
Comments				

Gaylord Mgt. Unit Compartment: 6
Year of Entry 2018



# **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.

Conservation Area	n Type	Description	ERA = Ecological Reference Area HCVA = High Conservation Value Area SCA = Special Conservation Area			
SCA	Cold Water Stream	A coldwater stream has temperature and dissolved oxygen condi- stocked trout populations and those of other coldwater fish speci- year to year. Coldwater streams in Michigan typically provide the contributions of groundwater to their stream flows. Such streams designated as trout resources by Fisheries Order 210.	es (e.g., slimy sculpin) to persist from se conditions due to substantial			
HCVA	Designated Critical Habitat	· · · · · · · · · · · · · · · · · · ·				
HCVA	Natural Rivers	There are two Natural Rivers datasets which are derived from spapproved distance from the river centerlines. The Natural Rivers most Natural Rivers. The Vegetative Buffer ranges from 25 to 10 and Vegetative Buffers for each Natural River see the table locat folder.	Zoning District is a 400 foot buffer for 00 feet. To view specific Zoning Districts			

S	Gaylor	d Mgt. Unit		Report 7	– Forested	Stands Compartment: 6 Year of Entry: 2018
t a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
1	4130 - Aspen	Poletimber Medium	8.2	36	51-80	Very high density aspen getting close to merchantability. Shore to Shore Trail runs through stand.
2	4130 - Aspen	Sapling Well	5.4	36	1-50	Transitioning from A3 to A6. Scattered red pine from adjacent MC stand. Shore to Shore Trail runs along east edge of stand.
3	4310 - Pine, Oak Mix	Poletimber Well	42.6	102	51-80	Large white pine, red pine, red oak, and some white oak with good advanced oak regeneration underneath. Oak and jack pine in the understory is heavily browsed. Last proposed treatment never completed. Shore to Shore trail runs through stand.
5	4130 - Aspen	Poletimber Well	3.3	16	81-110	Pocket of dense aspen clones. Shore to Shore trail runs through stand.
6	42220 - Natural Jack Pine	Poletimber Medium	32.6	38	51-80	Pole sized jack pine and aspen with good red oak regeneration underneath. Evidence of deer browse. Shore to Shore trails runs through stand.
7	4130 - Aspen	Sapling Well	83.2	28	51-80	Transitioning from A3 to A6. Very dense.
9	4133 - Aspen, Mixed Pine	Poletimber Well	41.9	41	51-80	Slightly larger and older than surrounding aspen stands. Variable quality. Shore to Shore Trail runs through the stand.
10	6122 - Black Spruce	Poletimber Medium	6.3	92	81-110	Very thick swamp.
11	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	14.5	61	51-80	Very large, mature jack pine. Some wet, low areas close to Big Creek and throughout stand.
14	6122 - Black Spruce	Poletimber Well	5.1	99	51-80	Thick black spruce and tamarack swamp along east side of Big Creek.
15	429 - Mixed Upland Conifers	Sawtimber Well	19.3	86	81-110	Good advanced oak and aspen regeneration. Last treatment never completed so it still needs to be harvested. Access may be an issue.
17	4130 - Aspen	Poletimber Well	9.7	36	51-80	Well stocked, young aspen.
18	6121 - Tamarack	Poletimber Well	20.1	107	81-110	Tamarack and black spruce swamp along Big Creek.
19	6122 - Black Spruce	Poletimber Well	13.3	99	51-80	Thick black spruce and tamarack swamp along east side of Big Creek.
20	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	4.4	112	51-80	Large red pine with aspen understory. Steep ridge along spruce swamp leading to Big Creek.OI- REMOVED 9MBF RED PINE LOGS IN 1993

S t	Gaylord Mgt. Unit			Report 7	- Forested	Stands Compartment: 6 Year of Entry: 2018
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
21	42220 - Natural Jack Pine	Poletimber Medium	9.9	38	51-80	Open grown Jack pine stand with some pin cherry and aspen. Oak in understory is heavily browsed. Added pocket of aspen to adjacent stand 9. Shore to Shore trail runs through this stand.
25	4191 - Mixed Upland Deciduous with Conifer	Sapling Well	27.7	4	Immature	OPIC - FMD: Stand harvested in fall of 2013. 520051101 "Caulkins Lake Mix"N1/2NW. Regeneration from harvest in 2013 is mostly Red Maple and Red Oak stump sprouts with a small pocket of aspen. Stump sprouts are heavily browsed. Also pockets of mullein throughout stand.
28	4133 - Aspen, Mixed Pine	Poletimber Medium	5.7	39	1-50	Oak is regenerating well. Evidence of browse. Harvest completed in May, 2010.
29	42221 - Natural Jack Pine, Mixed Deciduous	Poletimber Well	1.8	38	51-80	Small jack pine along east side of bog (stand 8). Oak underneath were heavily browsed.
30	42200 - Natural White Pine	Sawtimber Medium	2.2	112	81-110	White pine stand within A3 stand overlooking bog. Keep for diversity.
31	42200 - Natural White Pine	Sawtimber Well	2.7	107	81-110	Natural white pine along Big Creek. Balsam fir in understory along west boundary.
32	42260 - Natural Pine, Mixed Deciduous	Sawtimber Medium	13.0	112	81-110	Natural white pine on ridge adjacent to Big Creek.
33	429 - Mixed Upland Conifers	Sawtimber Well	4.7	111	81-110	Red pine is quite large and had obviously been thinned, but I can't find anything in the cutting records. Balsam fir underneath the red pine was very thick in pockets. A small area of aspen clones and a handful of red oak that had been heavily browsed.  Unsure of two-aged call due to lack of cutting records.
35	4131 - Aspen, Oak	Poletimber Well	7.5	36	81-110	Was stands 35 and 36. Mix of mature oak and pole sized aspen. On hill overlooking Big Creek.
37	42260 - Natural Pine, Mixed Deciduous	Sawtimber Well	6.6	104	81-110	Adjacent landowner denied access so last prescribed treatment was never completed. Slight hill overlooking Q6 on west side of stand. Good distribution of species. Second age class from fire in 1981.
38	42210 - Natural Red Pine	Sawtimber Well	2.8	112	51-80	Large red pine with hardwood understory. Appears to be natural. Kept for diversity. West side of pipeline.
40	42290 - Natural Mixed Pine	Poletimber Medium	0.4	39	Unspecified	MC 5 in compartment 8 crossing compartment boundary.
41	42290 - Natural Mixed Pine	Poletimber Well	5.3	48	1-50	Pole sized Jack pine of very poor form. Jack pine saplings are heavily browsed. Good advanced Red oak regeneration.
43	42141 - Planted Mixed Pine, Mixed Deciduous	Sawtimber Well	1.5	111	81-110	Red pine/white pine stand with scattered red oak on a steep hillside overlooking a bog. Red maple and aspen in understory encroaching from surrounding stands. Shore to Shore trail runs through stand.

s t	Gaylord	d Mgt. Unit		Report 7	– Forested	d Stands Compartment: 6 Year of Entry: 2018	DNR DNRCE	
a n d	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:	_	
103	4124 - Red with White Oak	Sawtimber Medium	14.7	102	51-80	Very thick red maple understory. Healthy advanced oak regeneration. Previous proposed treatment was never completed. (Same as stand 3).		
138	42210 - Natural Red Pine	Sawtimber Well	0.9	112	51-80	Large red pine with hardwood understory. Appears to be natural. Previously kept for diversity. East side of pipeline.		

Gaylord Mgt. Unit

# Report 8 - Nonforested Stands



Stand	Cover Type	Acres	Managed Site	General Comments:
4	6225 - Bog	3.3	No	Bog.
8	6225 - Bog	2.4	No	Bog.
12	622 - Lowland Shrub	19.2	No	Open marsh land along west side of Big Creek. Some tag alder and sandbar willow.
16	6225 - Bog	5.2	No	Bog on west edge of compartment.
24	500 - Water	10.1	No	Big Creek.
39	6225 - Bog	0.5	No	Bog.
42	6225 - Bog	0.4	No	Bog with snags.
44	6225 - Bog	0.7	No	Bog on west edge of compartment.
112	622 - Lowland Shrub	22.6	No	Tag alder and marsh land along east side of Big Creek.
401	3102 - Grass	1.0	No	Gas well. No ID tags. Jack pine encroachment from surrounding stands.
405	3102 - Grass	0.9	No	Some logging slash from sale in adjacent stand. Trace jack pine and pin cherry, but mostly grasses and sweet fern.
426	3102 - Grass	3.7	No	Pipeline. Shore to Shore Trail runs length of stand.