



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

COMPARTMENT # 21 ENTRY YEAR: 2012

Compartment Acreage: 1471 County: Benzie

Stand Examiner: Craig Allen

Legal Description: T25N- R13W; Sections 3, 10, 15

Management Goals: This compartment was previously managed under the Pere Marquette State Forest Management Plan. Under this plan the past emphasis of management was designated primarily towards intensive wildlife habitat management. A variety of forest cover types and age classes will be maintained. There are large stands dominated by aspen in this compartment in the 35 to 60 age class range. An effort to begin staggering these age classes by harvesting various locations was started 10 years ago and we will continue with this effort. This will help the aspen age class distribution in the area and provide early successional wildlife needed habitat conditions.

The red pine in this area grows extremely well and is a preferred plantation species in this region. Under the State's "Red Pine Project" efforts to balance the age class distribution of Red pine throughout the State include final harvest and re-planting of some plantations. This will also further help the state's "red pine project" by getting new plantations of red pine started to balance out the state's red pine age classes.

Soil and Topography: The terrain is mostly level, particularly in section 15. The soils in the area are mostly Deer Park fine sands, Kalkaska- Rubicon association with Roscommon- AuGres-Croswell association in the lowland areas.

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

Compartment 21 is part of a large contiguous block of State land ownership around the Grass Lake flooding and Betsie River system. There are some large blocks of private ownership within the compartment. Most of this private land is undeveloped, although there are a few scattered year-round houses and seasonal cabins mainly fronting or near the Betsie River. There are no paved roads within the compartment; however, Reynolds road is heavily traveled as a seasonal County gravel road.

Unique, Natural Features: The Betsie River, flowing through the compartment, is a designated Michigan Natural River system. The designation begins at the Grass Lake Dam, then extending downstream to its mouth at Betsie Lake in Frankfort and includes all tributaries.

Archeological, Historical, and Cultural Features: There are a few old homestead sites within or near the compartment. Early Native Americans would commonly establish settlements along the Betsie River. There are old railroad grades within or near the compartment that were used during the original logging operations in this area around the turn of the century. There is also a more modern era railroad grade that is abandoned and in State ownership in section 3. This grade has a two-track road and is used primarily for normal forest access purposes.

Special Management Designations or Considerations: Visual management is an important consideration when proposing vegetative management along recreational trails on State lands. Also, all proposed land

management activities near the Betsie River should reference the Betsie River Natural River Plan for guidance and consideration.

Watershed and Fisheries Considerations: Shady cover and woody debris are currently lacking in many stretches of the Betsie River. While the Betsie River has excellent natural reproduction of chinook salmon, species such as steelhead, brown trout, and coho salmon do not reproduce as well. This is due to problems with high summer water temperatures, sand loading, and lack of woody debris. Fisheries Division currently stocks brown trout and steelhead into the Betsie River annually. Restoration projects have also taken place in the watershed in order to stabilize eroding stream banks. The Betsie River is a state-designated Natural River, as well as a designated trout stream. According to the Betsie River Natural Rivers guidelines, no cutting can be done within 100 feet of the Betsie River without a variance from the Natural Rivers Board, and this guideline should be adhered to (Heather Seites, MDNRE Fish Division comments).

Wildlife Habitat Considerations: This compartment falls into two land type associations: state lands in sections 3 and 10 are part of a broad, flat outwash plain with excessively drained sand and state lands in section 15 are part of poorly drained flat outwash plain. However, many stands in section 3 and 10 with just slightly lower elevations harbor lowland tree and shrub species. Such stands could be cut in small patches, but may not regenerate well in wet periods. Aside from some small, periodic patch cuts, these low areas should mostly be allowed to succeed to uneven-aged ash, red maple, and balsam fir dominated stands and treated with selective harvest. Upland areas should continue to be managed for a variety of forest age classes, successional stages, and patch sizes, as well as grass/shrub openings, consistent with the fire-driven dynamics that historically shaped vegetation on this LTA. Where harvesting is to occur in these types, we should maintain within stand structural diversity by retaining various leave trees (particularly mast producers), snags, and down logs. If possible tops should be left unchipped and scattered around the sale area and under 24 inches in height. The hilly area in the northwest corner of section 3 should be managed for uneven-aged northern hardwoods. Several openings are in need of treatment, including warm season grass/forb maintenance and possibly some planting of native fruiting shrubs. As red pine plantations approach final harvest, conversion of some stands to more natural mixes of forest vegetation should be considered. Also, incorporating small (2-5 acre) islands that are left relatively un-thinned within mature pine stands would provide winter roosting cover for turkeys. Small habitat cuts near (but >50' from) the Betsie River may enhance habitat conditions for riparian associates requiring young deciduous habitat. The lowland deciduous forest in section 15 has been treated in the past with mediocre results. Habitat cuts here should be small and carefully designed to optimize regeneration and to mimic naturally occurring blow down pockets. (Comments by Steve Griffith, DNRE Wildlife Div. Traverse City F.O.)

Mineral Resource and Development Concerns and/or Restrictions:

Surface sediments consist of glacial outwash sand and gravel and postglacial alluvium. Glacial drift thickness varies between 400 and 600 feet. Beneath the glacial drift is the Devonian Ellsworth Shale. There is no current economic use for the Ellsworth Shale. The nearest gravel pit is within two miles to the west in the SW of Section 8. Gravel potential in the compartment is considered good. This area is located northwest of the Antrim Shale gas play. There are no current leases for oil and gas development, but the Antrim Shale appears to have potential. This area is just north of the Niagaran reef trend, but potential is limited. A "deep" Prairie du Chien Field is located in section 24, but production was minor (< 100,000 mcf gas). (Comments by Tom Hoane, Geologist, FM division of DNRE)

Vehicle Access: There are many gravel and seasonal county roads throughout the compartment within this area offering good access to State lands. There are also many forest "2-track" roads in various areas of the compartment that are in good condition and are used for public and DNRE land management accessibility.

Survey Needs: There will be survey needs within this compartment around the private land in section 15. There are some proposed harvesting treatments that will border this property.

Recreational Facilities and Opportunities: The Platte River State Snowmobile trail runs across the compartment and hunting, fishing, cross-country skiing and dispersed camping are other popular recreational activities throughout these lands. The Grass Lake State Campground is nearby, just east of the compartment.

Fire Protection: DNRE Fire Protection is from the Platte River Field Office. Travel time is acceptable, and access in this compartment is good. There are scattered residences within this compartment, but urban interface issues are not too much of a concern. Cover type does not allow for catastrophic fires. VFD protection is from the Thompsonville Volunteer Fire Dept. (Comments by Paul Simmer, DNRE Fire Officer Supervisor, Traverse City F.O.).

Additional Compartment Information:

* **Cover type details, proposed treatments and stands designated as FDF are listed in the attached reports:**

Cover Type by Age Class
Proposed Treatments – No Limiting Factors
Proposed Treatments – With Limiting Factors

* **The following information is displayed on the attached compartment maps:**

Base feature information, stand numbers, cover types
Proposed treatments
Proposed road access system

Cover Type & Treatment Map

UnNamed # 1 Benzie Co
UnNamed # 1 Benzie Co
85°51'0"W

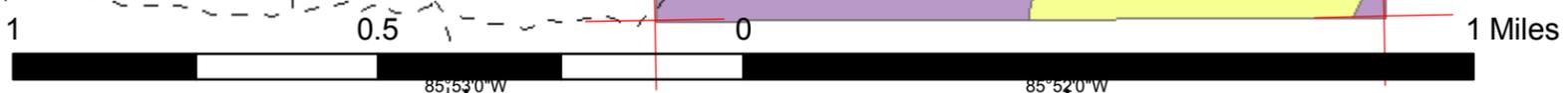
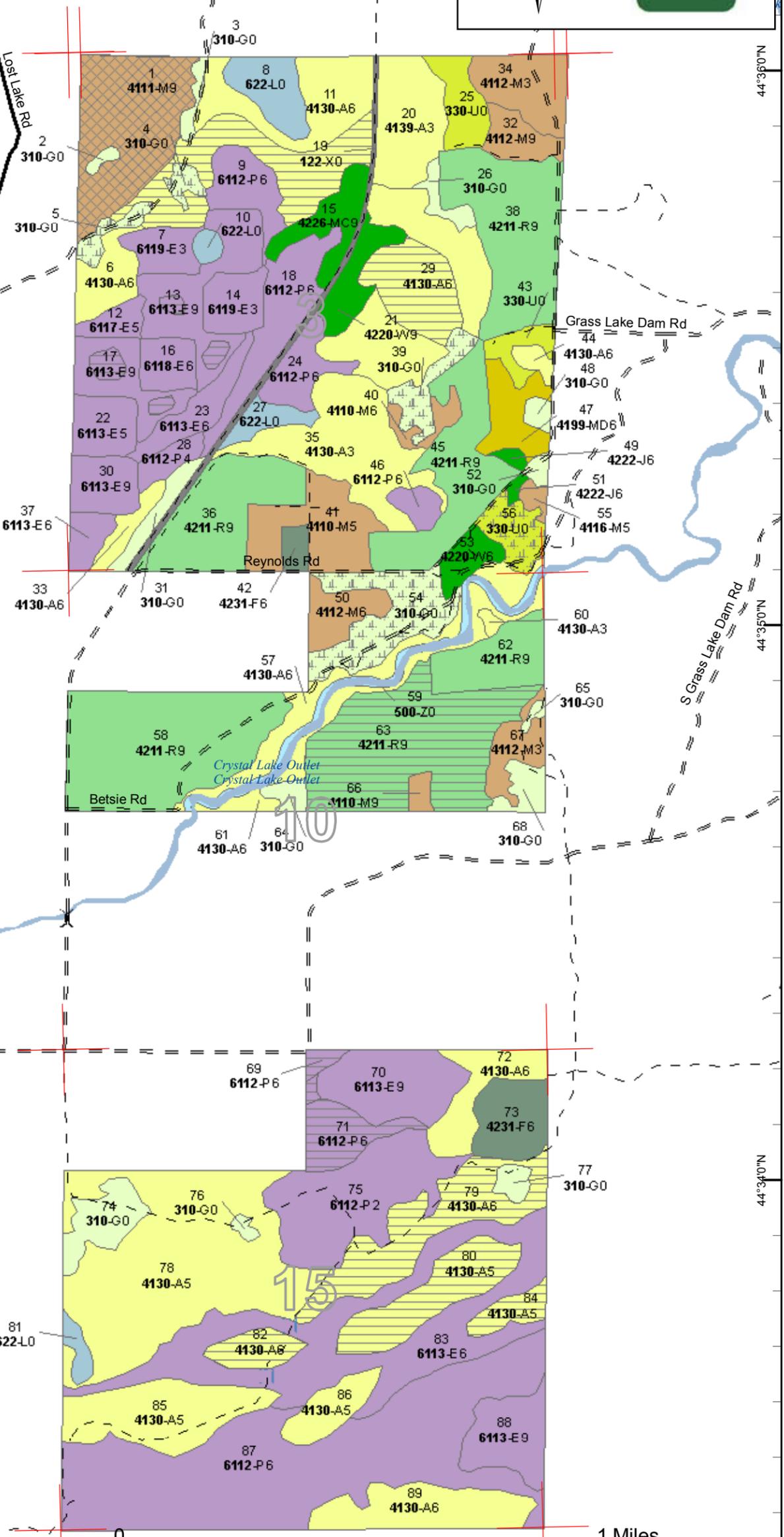
Compartment 21
T25N, R13W, Sec. 03, 10, 15
County: Benzie
Unit: Traverse City
YOE: 2012
Acres: 1,471 GIS Calculated
Stand Examiner: Craig Allen
Map Revised: 5/25/2010
Map Phase: Pre-Review

Stand #
23
(4120) - A7
Level 3 OI
Level 4 Code
Cover Type Code

3
10
15



- Legend**
- Miris Corners
 - Paved Roads
 - == Gravel Roads
 - - - Poor Dirt Roads
 - · - · - Intermittent Stream/Drain
 - Stream
 - Lakes and Rivers
 - ⊗ Bridges
 - ⊔ Culverts
- Treatments**
- ▨ Clearcut (w/Reserves, Patch/Strip)
 - ⊗ Selection (Group, Single Tree)
 - ▨ Other Treatment - See Comments
- Forest Stands**
- Level 3
- 411 - Northern Hardwood
 - 413 - Aspen Types
 - 419 - Mixed Upland Deciduous
 - 421 - Planted Pines
 - 422 - Natural Pines
 - 423 - Other Upland Conifers
 - 611 - Lowland Deciduous Forest
- Non-Forest Stands**
- Level 3
- 122 - Road/Parking Lot
 - 310 - Herbaceous Openland
 - 330 - Low-Density Trees
 - 500 - Water
 - 622 - Lowland Shrub



85°53'0"W 85°52'0"W 85°51'0"W

44°36'0"N
44°35'0"N

44°36'0"N
44°35'0"N
44°34'0"N

Table 1 – Total Acres by Cover Type and Age Class
 (Level 3 Cover Type)



	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	60	0	8	236	120	0	31	0	0	0	0	0	0	0	456
Herbaceous Openland	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80
Low-Density Trees	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Lowland Deciduous Forest	0	0	0	70	242	40	77	0	0	0	17	0	0	0	0	446
Lowland Shrub	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
Mixed Upland Deciduous	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	12
Natural Pines	0	0	0	9	0	0	22	0	0	0	0	0	0	0	0	31
Northern Hardwood	0	0	0	65	0	0	0	2	8	40	0	0	0	0	0	116
Other Upland Conifers	0	0	0	0	0	15	3	0	0	0	0	0	0	0	0	18
Planted Pines	0	0	0	0	0	0	31	213	0	0	0	0	0	0	0	244
Road/Parking Lot	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Water	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Total	148	60	0	152	490	176	133	246	8	40	17	0	0	0	0	1471



Table 2 – Proposed Treatment Summaries

Traverse City Mgt. Unit
Year of Entry 2012

Compartment 021
Total Compartment Acres: 1471

Acres by Treatment Type

Commercial Harvest - 235	Site Prep - 0	Tree Planting - 0	Prescribed Burn - 0	Other - 0
Habitat Cut - 6	Opening Maintenance - 47	Tree Seeding - 0	Pesticide - 0	

Cover Type by Harvest Method

	<i>Clearcut</i>	<i>Selection</i>	<i>Seed Tree</i>	<i>Shelterwood</i>	<i>Thinning</i>	<i>Other - Specify</i>	<i>Total Acres</i>
Aspen	120	0	0	0	0	0	120
Lowland Aspen/Balsam Poplar	14	0	0	0	0	0	14
Lowland Deciduous	7	0	0	0	0	0	7
Northern Hardwood	0	40	0	0	0	0	40
Red Pine	60	0	0	0	0	0	60
Total	201	40	0	0	0	0	241



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
17	12053_island	2.5	6113 - Lowland Maple	High Density Log	50	Harvest	Patch or Strip Clearcut	Aspen, Mixed Deciduous	Cmpt. Review Proposal

Prescription Potential winter habitat cut of aspen in part of the stand. Hand fell some of the deciduous component (aspen, maple, etc) in to produce
Specs: 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.

Other
Comments:

Next
Steps:

17	12053_island_1	1.0	6113 - Lowland Maple	High Density Log	50	Harvest	Patch or Strip Clearcut	Aspen, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Potential winter habitat cut of aspen in part of the stand. Hand fell some of the deciduous component (aspen, maple, etc) in to produce
Specs: 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.

Other
Comments:

Next
Steps:

13	12054_island	1.1	6113 - Lowland Maple	High Density Log	50	Harvest	Patch or Strip Clearcut	Aspen, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Potential winter habitat cut of aspen in part of the stand. Hand fell some of the deciduous component (aspen, maple, etc) in to produce
Specs: 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.

Other
Comments:

Next
Steps:

13	12054_island_1	1.4	6113 - Lowland Maple	High Density Log	50	Harvest	Patch or Strip Clearcut	Aspen, Mixed Deciduous	Cmpt. Review Proposal
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Prescription Potential winter habitat cut of aspen in part of the stand. Hand fell some of the deciduous component (aspen, maple, etc) in to produce
Specs: 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.

Other
Comments:

Next
Steps:

1	61021001-Cut	40.4	4110 - Sugar Maple Association	High Density Log	80	Harvest	Single Tree Selection	Sugar Maple Association	Cmpt. Review Proposal
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Prescription --Craig Allen : 05/06/2010 comments: Select thin following compleat marker guidelines to reduce volume to approx 80 SF overall. Volumes will
Specs: be variable.

Other
Comments:

Next
Steps:



S t a n d	Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
6	61021006-Cut	7.6	4130 - Aspen	High Density Pole	44	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal

Prescription --Craig Allen : 05/06/2010 comments: Clearcut to expand and regenerate aspen in continuing effort to diversify age class of aspen for wildlife use. Leave all conifers and mark some leave tree maple.

Other Comments: Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps:

11	61021011-Cut	24.1	4130 - Aspen	High Density Pole	44	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
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Prescription --Craig Allen : 05/06/2010 comments: Clearcut to regenerate and expand aspen and to continue diversifying age class of aspen in this area for wildlife use. Leave all conifers. Mark some leave tree maple.

Other Comments: Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps:

29	61021029-Cut	18.9	4130 - Aspen	High Density Pole	44	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
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Prescription --Craig Allen : 05/06/2010 comments: Clearcut to regenerate and expand aspen and to continue diversifying age class of aspen in this area for wildlife use. Leave all conifers. Mark some leave tree maple.

Other Comments: Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps:

63	61021063-Cut	60.2	42110 - Planted Red Pine	High Density Log	61	Harvest	Clearcut	Planted Red Pine	Cmpt. Review Proposal
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Prescription
Specs:

Other Comments: Stand is under contract for treatment for phase 2 of Red Pine Project.

Next Steps: replant to red pine

69	61021069-Cut	2.0	6112 - Lowland Aspen	High Density Pole	51	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
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Prescription --Craig Allen : 05/06/2010 comments: Clearcut to expand and regenerate aspen in continuing effort to diversify age class of aspen for wildlife use. Leave all conifers and mark some leave tree maple.

Other Comments:

Next Steps:



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
70 61021070-Cut_small	0.8	6113 - Lowland Maple	High Density Log	51	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal

Prescription --Craig Allen : 05/06/2010 comments: Clearcut to expand and regenerate aspen in continuing effort to diversify age class of aspen for wildlife
Specs: use. Leave all conifers and mark some leave tree maple.

Other Comments:

Next Steps:

71 61021071-Cut	12.2	6112 - Lowland Aspen	High Density Pole	35	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
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Prescription --Craig Allen : 05/06/2010 comments: Clearcut to expand and regenerate aspen in continuing effort to diversify age class of aspen for wildlife
Specs: use. Leave all conifers and mark some leave tree maple.

Other Comments: Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps:

79 61021079-Cut	32.6	4130 - Aspen	High Density Pole	35	Harvest	Clearcut with Reserves	Aspen	Cmpt. Review Proposal
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Prescription --Craig Allen : 05/06/2010 comments: Clearcut to expand and regenerate aspen in continuing effort to diversify age class of aspen for wildlife
Specs: use. Leave all conifers and possibly mark some leave tree maple.

Other Comments: Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps:

80 61021080-Cut	22.5	4130 - Aspen	Medium Density Pole	35	Harvest	Clearcut	Aspen	Cmpt. Review Proposal
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Prescription --Craig Allen : 05/06/2010 comments: Clearcut to expand and regenerate aspen in continuing effort to diversify age class of aspen for wildlife
Specs: use. Leave any conifers that may be on site. No other retention due to wildlife habitat reasons.

Other Comments: Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps:

82 61021082-Cut	7.8	4130 - Aspen	High Density Pole	35	Harvest	Clearcut	Aspen	Cmpt. Review Proposal
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Prescription --Craig Allen : 05/06/2010 comments: Clearcut to expand and regenerate aspen in continuing effort to diversify age class of aspen for wildlife
Specs: use. Leave any conifers that may be on site. No other retention due to wildlife habitat reasons.

Other Comments: Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps:



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
84 61021084-Cut	6.1	4130 - Aspen	Medium Density Pole	35	Harvest	Clearcut	Aspen	Cmpt. Review Proposal

Prescription --Craig Allen : 05/06/2010 comments: Clearcut to expand and regenerate aspen in continuing effort to diversify age class of aspen for wildlife use. Leave any conifers that may be on site. No other retention due to wildlife habitat reasons and due to small size of stand.

Other Comments: Create some (approximately 1 tree per 2 acres) coarse woody debris (CWD) during harvest operations, preferably via timber sale specs. CWD trees should be log sized or bigger, the more decay resistant the tree species is the better, and cut approximately at breast height (4.5 feet). The log should be left within 3 feet it's stump.

Next Steps:

4 NF_61021004-Forage	2.8	Unspecified		0	Non-Forest Management	Other - Specify	Mixed Upland Herbaceous	Cmpt. Review Proposal
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Prescription Disk , plant to annual rye for several years and then convert to a pasture mix (i.e. clover/alfalfa) or appropriate native species.

Specs:

Other Comments:

Next Steps: Maintain as needed with mowing, seeding, fertilizing, burning, or removal of woody encroachment.

5 NF_61021005-Forage	4.1	Unspecified		0	Non-Forest Management	Other - Specify	Mixed Upland Herbaceous	Cmpt. Review Proposal
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Prescription Disk , plant to annual rye for several years and then convert to a pasture mix (i.e. clover/alfalfa) or appropriate native species.

Specs:

Other Comments:

Next Steps: Maintain as needed with mowing, seeding, fertilizing, burning, or removal of woody encroachment.

39 NF_61021039-WSG	8.0	Unspecified		0	Non-Forest Management	Other - Specify	Warm Season Grass	Cmpt. Review Proposal
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Prescription This field was planted to warm season grasses in 2004. Now that little bluestem, big bluestem, and Indian grass have been established, maintenance activities need to continue to promote these grasses, i.e. mowing braken, burning, additional seeding of native grasses and forbs.

Other Comments:

Next Steps:

54 NF_61021054-WSG	23.1	Unspecified		0	Non-Forest Management	Other - Specify	Warm Season Grass	Cmpt. Review Proposal
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Prescription This field was planted to warm season grasses in 2004. Now that little bluestem, big bluestem, and Indian grass have been established, maintenance activities need to continue to promote these grasses, i.e. mowing braken, burning, additional seeding of native grasses and forbs.

Other Comments:

Next Steps:

56 NF_61021056-WSG	9.3	Unspecified		0	Non-Forest Management	Other - Specify	Warm Season Grass	Cmpt. Review Proposal
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Prescription Terrain is generally flat and operable. Propose to hand fell some encroachment, burn, then plant native prairie species.

Specs:

Other Comments:

Next Steps: Maintain as needed with mowing, seeding, fertilizing, burning, or removal of woody encroachment.

**Table 3 -- Treatments Prescribed
with No Limiting Factor**



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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Total Treatment
Acreage Proposed: 288.4

Table 4 -- Treatments Prescribed with a Limiting Factor



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Treatment Name	Acres	Stage1 CoverType	Size Density	Stand Age	Treatment Type	Treatment Method	Cover Type Objective	Approval Status
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Prescription Specs:

Other Comment:

Next Steps:

Limiting Factor and No Treatment Reason

Total Treatment Acreage Proposed: 0

Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 021
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012
						General Comments:
1	4111 - S.Maple, Hard Mast Association	High Density Log	40.4	80	111-140	
6	4130 - Aspen	High Density Pole	18.3	44		
7	6119 - Mixed Lowland Deciduous Forest	High Density Sapling	8.3	26		
9	6112 - Lowland Aspen	High Density Pole	12.4	26		
11	4130 - Aspen	High Density Pole	47.7	44		
12	6117 - Lowland Deciduous, Mixed Coniferous	Medium Density Pole	5.1	26		
13	6113 - Lowland Maple	High Density Log	24.6	50		Possibly thin north portion (if lowland conditions allow) of this stand, when cutting adjacent aspen stand.
14	6119 - Mixed Lowland Deciduous Forest	High Density Sapling	9.9	26		
15	42260 - Natural Pine, Mixed Deciduous	High Density Log	11.9	50		aspen falling out. nice pine. humcky
16	6118 - Lowland Deciduous with Cedar	High Density Pole	8.0	22		
17	6113 - Lowland Maple	High Density Log	15.4	50		
18	6112 - Lowland Aspen	High Density Pole	20.4	44		
20	4139 - Aspen, Mixed Deciduous	High Density Sapling	22.2	8		
21	42200 - Natural White Pine	High Density Log	10.0	50	1-50	
22	6113 - Lowland Maple	Medium Density Pole	10.4	22		
23	6113 - Lowland Maple	High Density Pole	10.4	22		
24	6112 - Lowland Aspen	High Density Pole	10.5	44		



S t a n d	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 021
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012
						General Comments:
28	6112 - Lowland Aspen	Low Density Pole	5.0	44		
29	4130 - Aspen	High Density Pole	54.4	44		Cut portion of stand to continue diversifying age class of aspen.
30	6113 - Lowland Maple	High Density Log	10.4	50		
32	4112 - Maple, Beech, Cherry Association	High Density Log	8.0	75		
33	4130 - Aspen	High Density Pole	5.2	26		may need to cut an access skid lane through stand to get to stand 27.
34	4112 - Maple, Beech, Cherry Association	High Density Sapling	16.1	26		
35	4130 - Aspen	High Density Sapling	37.2	8		wildfire swept through south portion of stand. some resulting mortality and resprouting.
36	42110 - Planted Red Pine	High Density Log	31.1	54	111-140	
37	6113 - Lowland Maple	High Density Pole	5.6	26		
38	42110 - Planted Red Pine	High Density Log	42.7	61	1-50	
40	4110 - Sugar Maple Association	High Density Pole	4.6	26		wildfire swept through [approximately 2005] majority of stand killing some trees.
41	4110 - Sugar Maple Association	Medium Density Pole	23.4	26		
42	42310 - Planted Spruce	High Density Pole	3.2	51	81-110	
44	4130 - Aspen	High Density Pole	2.7	26		
45	42110 - Planted Red Pine	High Density Log	33.2	61	111-140	
46	6112 - Lowland Aspen	High Density Pole	4.4	44		
47	4199 - Other Mixed Upland Deciduous	High Density Pole	11.7	30		
49	42220 - Natural Jack Pine	High Density Pole	1.4	26		



Stand	Traverse City Mgt. Unit			5 – Forested Stands		Compartment: 021	General Comments:
	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	Year of Entry: 2012	
50	4112 - Maple, Beech, Cherry Association	High Density Pole	9.8	25			
51	42220 - Natural Jack Pine	High Density Pole	1.0	26			
53	42200 - Natural White Pine	High Density Pole	6.6	25			
55	4116 - Mixed N. Hardwood - Aspen	Medium Density Pole	2.1	26			
57	4130 - Aspen	High Density Pole	17.1	62			
58	42110 - Planted Red Pine	High Density Log	59.8	61	141-170		
60	4130 - Aspen	High Density Sapling	1.1	8			
61	4130 - Aspen	High Density Pole	13.4	62			
62	42110 - Planted Red Pine	High Density Log	17.2	61	1-50		
63	42110 - Planted Red Pine	High Density Log	60.2	61	1-50		
66	4110 - Sugar Maple Association	High Density Log	2.4	65			
67	4112 - Maple, Beech, Cherry Association	High Density Sapling	9.0	26			
69	6112 - Lowland Aspen	High Density Pole	2.0	51			
70	6113 - Lowland Maple	High Density Log	24.6	51			
71	6112 - Lowland Aspen	High Density Pole	12.2	35			Clearcut to regenerate and expand aspen...will help diversify aspen age class in this area. Leave all conifers
72	4130 - Aspen	High Density Pole	14.4	35			
73	42310 - Planted Spruce	High Density Pole	15.2	46			
75	6112 - Lowland Aspen	Medium Density	39.9	35			

sparse and maybe stunted.



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Traverse City Mgt. Unit

5 – Forested Stands

Compartment: 021
Year of Entry: 2012

Inventory Method: IFMAP

Stand	Level 4 Cover Type	Size Density	Acres	Stand Age	BA Range	General Comments:
78	4130 - Aspen	Medium Density Pole	91.2	35		
79	4130 - Aspen	High Density Pole	32.6	35		Clearcut to regenerate aspen for age class diversity and wildlife habitat needs. Leave any conifers.
80	4130 - Aspen	Medium Density Pole	22.5	35		
82	4130 - Aspen	High Density Pole	7.8	35		clearcut to regenerate and expand aspen for age class diversity and wildlife needs.
83	6113 - Lowland Maple	High Density Pole	69.5	35	1-50	
84	4130 - Aspen	Medium Density Pole	6.1	35		Clearcut to regenerate and expand aspen for age class diversity and wildlife habitat needs.
85	4130 - Aspen	Medium Density Pole	29.4	35		
86	4130 - Aspen	Medium Density Pole	9.9	35		
87	6112 - Lowland Aspen	High Density Pole	120.1	35		
88	6113 - Lowland Maple	High Density Log	16.8	96	81-110	
89	4130 - Aspen	High Density Pole	22.4	35		



Stand	Cover Type	Acres	Gen Cmts:
2	3103 - Rubus-Fern	1.2	opening was planted with spruce in april 2002 by Wildlife. see FTP W-61-384
3	310 - Herbaceous Openland	2.5	
4	3103 - Rubus-Fern	2.8	Original rx in 2000 called for planting to WSG.
5	3103 - Rubus-Fern	4.1	Original rx in 2000 called for planting to WSG.
8	622 - Lowland Shrub	12.1	
10	622 - Lowland Shrub	2.3	
19	122 - Road/Parking Lot	8.1	
25	330 - Low-Density Trees	10.0	
26	310 - Herbaceous Openland	3.7	
27	622 - Lowland Shrub	5.7	
31	310 - Herbaceous Openland	5.4	
39	3103 - Rubus-Fern	8.0	There was a wildfire that burned most of this stand in the Fall of 2007.
43	330 - Low-Density Trees	5.6	
48	310 - Herbaceous Openland	2.1	
52	310 - Herbaceous Openland	1.7	
54	3103 - Rubus-Fern	23.1	A prescribed burn was conducted in this stand in 2008.
56	3303 - Mixed Low Density Trees	9.3	Terrain is generally flat and operable. Propose to hand fell some encroachment, burn, then plant native prairie species.
59	50 - Water	12.3	



Stand	Cover Type	Acres	Gen Cmts:
64	310 - Herbaceous Openland	3.0	
65	310 - Herbaceous Openland	1.0	
68	310 - Herbaceous Openland	5.3	
74	310 - Herbaceous Openland	11.7	
76	310 - Herbaceous Openland	1.2	
77	310 - Herbaceous Openland	3.0	
81	622 - Lowland Shrub	3.3	



7 – 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 Type	SCA Name	Acres	Comments
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8 – 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
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.
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	Potential Old Growth Areas	This category contains stands were identified for a broad range of reasons and were coded in the OI database as stand condition 8 as potential old growth (POG). Approximately 310,000 acres have been identified through the Operations Inventory (OI)/Compartment Review process. For stands in Year of Entry 2008 and forward, potential old growth is managed for the identified objective until it is: 1) vetted through the Biodiversity Conservation Planning Process (BCPP) and given a specific designation and objective (as an ERA, HCVA, or other type of SCA) and is released from the potential old growth designation; or 2) it is released from the potential old growth designation via the Compartment Review process.