MICHIGAN DEPARTMENT OF NATURAL RESOURCES
WILDLIFE DIVISION

Management Plan for the Cedar River Grouse Enhanced Management Site (GEMS)

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May 26, 2015

Introduction

The Cedar River Grouse Enhanced Management Site (GEMS) is being developed to promote ruffed grouse habitat and hunting opportunities in the south central Upper Peninsula (UP). The Cedar River GEMS is one of several grouse management areas distributed across the UP Region (Appendix 1). The UP GEMS serve as destination sites for upland bird hunters; providing unique hunting and wildlife viewing opportunities, and ultimately supporting local economies.

The Cedar River GEMS will benefit grouse and woodcock primarily, but will also improve habitat for other wildlife species including bear, deer, turkey, and snowshoe hare. The GEMS locations will be utilized by local and non-resident hunters, will function as an effective tool to increase hunter recruitment and retention, and will showcase optimal grouse habitat management practices for educational purposes. Furthermore, the UP GEMS will support our forest economy and will further tie local communities to our natural resources by capitalizing and expanding the forest tourism industry, in accordance with the Department's Land Management Strategy. The DNR wildlife staff will build a reciprocal relationship with local businesses by advertising GEMS throughout the UP Region.

Inventory

The Cedar River GEMS is located on Escanaba River State Forest lands in Menominee County in sections 1 and 12 of T35N, 26W and 5, 6, 7, 8 of T35N, 25W (Appendix 2). The GEMS is approximately 3,083 acres in size with a perimeter of 9.0 miles. Aspen forest accounts for approximately 38% (1,184 acres) of the GEM (Appendix 3). Additional acreage of early successional aspen will become available after mature stands of conifer and hardwoods (containing an aspen component) are harvested in the future. Other predominant cover types within the Cedar River GEMS include cedar, lowland shrub, mixed swamp conifer, northern hardwood, white pine, red pine, upland spruce and fir, all of which are important in meeting life requisites for a variety of game and non-game wildlife species.

Westman Dam Road runs through the center of the Cedar River GEMS, and provides access to a network of dead-end logging trails. Gates and/or berms will be placed at various logging trials to block motorized vehicle traffic and create walk-in hunting opportunities (Appendix 2). Hunter walking trails may be extended following future logging operations. Informational signs will be placed at 2 parking areas along Westman Dam Road.

MANGEMENT ACTIONS

Goal 1: Promote preferred habitat for ruffed grouse.

Aspen management

Ruffed grouse prefer young stands of aspen (<25 years old) with high stem densities for nesting habitat. Older trees that provide sites for roosting and budding are also an important component. Grouse feed on buds, catkins, leaves, and also on the flower buds of older aspen (>25 years old)

(Hammill and Visser, 1984). As a result, varying age classes of aspen are important to grouse. Aspen stands are also important to other wildlife. Woodcock prefer young aspen growth, particularly when it is in association with moist soils where they can probe for earthworms and invertebrates with their long beak. These stands also provide browse and cover for white-tailed deer and snowshoe hare. Edges between young and older aspen stands as well as transitional areas between cover types (e.g. lowland conifers or forest openings) are also used by all of these species.

Aspen trees are relatively shade-intolerant. Stands are managed via clearcutting to provide full sunlight for new growth. Cutting also tends to spur growth of these species through root sprouts, or clones. White birch, often a component of aspen stands and another important tree for ruffed grouse and other wildlife, also does best in full sunlight.

Aspen stands will be managed in small blocks to encourage multiple age classes in close proximity to one another. Past management activities in the Cedar River GEMS have promoted good diversity in aspen stand size and age class. Future management activities will strive to further enhance the age class diversity and generally reduce individual stand or treatment sizes. Some stands are relatively large (> 40 acres), and future treatments will be adjusted to promote stand sizes of approximately 20 acres. The current age class distribution of the approximately 1,184 acres of aspen is shown below:

- 14.3% (169.6 acres) in the 0-10 year old category
- 21.2% (251.26 acres) in the 11-20 year old category
- 28.8% (340.27 acres) in the 21-30 year old category
- 32.4% (383.53 acres) in the 31-40 year old category
- 3.3% (39.17 acres) are over 40 years old

Age classes of aspen, poplar, and birch stands will be diversified with the objective of having up to 8 age classes present at one time, and stands of varying age classes in close proximity to one another. To accomplish this, some stands may be treated early. The treatment rotation map in Appendix 4 shows the planned treatment rotation for each stand. Additional stand-level details including current age and treatment year-of-entry are provided in Tables 1 and 2. Treatment rotations will occur such that the area is re-entered on 5 year intervals to treat stands. This will provide a continuous gradient of age classes. The habitat created by these treatments should encourage use of the area by ruffed grouse as well as American woodcock, snowshoe hare, white-tailed deer, and other game and non-game species.

Stand treatments will primarily be conducted through commercial timber sales where possible. However, some non-commercial timber stand improvements may be necessary at times. During stand treatments, conifers $\leq$ 4 inches dbh may be left uncut since low conifer cover can be important to grouse (Hammill & Moran, 1986). Efforts will be made to maintain species diversity by leaving cedar, hemlock, and other underrepresented species. Pockets of retention will occur near stand intersections with 2 or more adjacent stands to enhance budding and roosting habitat. Small slash piles may be encouraged during harvest activities where feasible and practical to enhance cover for snowshoe hare.

Soft and hard mast production

Ruffed grouse feed almost exclusively on vegetation including leaves, catkins, buds, and fruit. During the fall, soft and hard mast resources become an important component of their diet. Within the Cedar River GEMS, mast producing trees and shrubs will generally be retained and other species may be planted to enhance food resources. Species planted may include: beaked hazelnut, black cherry, dogwood, elderberry, hawthorn, highbush cranberry, Michigan holly, mountain ash, nannyberry, oak, serviceberry, staghorn sumac and other native or naturalized species. Many of the above listed species will be planted along hunter walking trails and within grassland openings found within the GEMS.

Grassland opening maintenance and road seeding

The Cedar River GEMS contains two grassland openings totaling 10 acres, and approximately 8 miles of proposed hunter walking trails (Appendix 3). Collectively, the openings and hunter walking trails will be maintained and seeded with an herbaceous clover mix or other approved blend. Mast producing trees and shrubs may be planted along the edges of the walking trails and forest openings. The openings maintenance and trail seeding will improve grouse habitat and provide better public access throughout the GEMS.

Goal 2: Enhance recreational opportunities for hunting.

The primary purpose of the Cedar River GEMS is to enhance hunting opportunities and provide a destination site for upland bird hunters. Similar areas are being developed on state land throughout the UP. Although the primary emphasis is on ruffed grouse, the area will also provide excellent hunting opportunities for other game species such as woodcock, white-tailed deer, turkey, and snowshoe hare. Hunting opportunities will be enhanced using a variety of methods identified in each objective below.

Support a unique hunting experience

The Cedar River GEMS will be able to offer hunters both a unique walk-in experience and the opportunity to hunt an intensively managed area for ruffed grouse and other species.

Two parking locations will be available off the Westman Dam Road (Appendix 2). These areas service the main hunter walking trails within the GEMS. Hunters will be able to park at these locations, and then walk in and hunt behind the gates. An informational kiosk will be placed at each parking area to provide directions to hunter walking trails, recognize our local stakeholders, and clarify the access restrictions for motorized vehicles.

Maintain and create a trail system for hunters and other users.

A network of forest trails resulting from past logging activities currently provides a trail system throughout the GEMS. These are unmarked roads, generally unimproved, and are all dead-end or closed-loop trails. Some trails have young forest regeneration in them and others have been kept open due to motorized vehicle usage.

A total of 8 gates will be placed on existing logging trails to prevent vehicular traffic into the GEMS, thereby creating walk-in only hunting opportunities. Several proposed trail extensions will be developed to create loop trails (Appendix 2). Additional trails may be created following future logging activities to provide better access to remote areas of the GEMS.

Hunter walking trails will require maintenance, which will include periodic brushing, graveling, planting, or other improvements. Some trails will be planted with herbaceous vegetation such as legumes or grasses. This will occur in conjunction with other management activities that require the use of the trail system, such as logging, or as independent projects. Partnerships with local sportsmen groups will be pursued for some of these projects.

Establish partnerships to assist in management

Wildlife division staff will submit annual budget requests over the next decade to complete the above-noted habitat and infrastructure work. In addition, partnerships with local sportsmen groups and the ruffed grouse society will be pursued for some of these projects. Other funding sources will be explored when available including partnerships with Delta County Wildlife Unlimited, UP Whitetails Association, Safari Club International, National Wild Turkey Federation, along with other groups.

Goal 3: Public information and outreach

The Cedar River GEMS is being created to provide a destination site for hunters in the south central UP. Public outreach will be needed to identify and promote the area, as well as direct visitors to the site.

Identify the area

Various methods can be used to identify the area and direct people to the GEMS. The Cedar River GEMS will be identified on the MI Hunt website, and it will be advertised as a part of the UP GEMS program. Once on site, signs describing the area will be located at the two main parking areas along Westman Dam Road. Pamphlets identifying the GEMS can be handed out to local businesses to distribute to the public.

Establish the site as a destination and an asset to the local economy

Establishment of the Cedar River GEMS will be communicated to local stakeholders for promotion in Delta and Menominee counties. Local businesses will be able to use the GEMS as a tool to promote tourism to the area. Once established on the MI Hunt program and other media, the Cedar River GEMS can be advertised or promoted by local businesses to encourage tourism. This will also allow anyone with internet access to plan their GEMS hunt from anywhere in the world. Although difficult to quantify, the GEMS will likely be an asset to the local economy.

References

Hammill, J., and L. Visser. Status of Aspen in Northern Michigan as Ruffed Grouse Habitat. Pages 123-136 in Ruffed Grouse Management: State of the Art in the Early 1980's. Proceedings of a symposium held at the 45th Midwest Fish and Wildlife Conference, St. Louis, Missouri, December 1983. Edited by William Robinson, Professor of Biology, Northern Michigan University. 1984. 181 pp.

Hamill, J. H., and R. J. Moran. 1986. A habitat model for ruffed grouse in Michigan in Wildlife 2000: Modeling Habitat Relationships of Terrestrial Vertebrates. Edited by J. Verner, M. L. Morrison and C. J. Ralph. pp. 15–18. University of Wisconsin Press, Madison, Wisconsin. 470 pp.

Managed Public Land Strategy. 1 July 2013. Michigan Department of Natural Resources. <http://www.michigan.gov/documents/dnr/Draft_DNR_Public_Land_Management_Strategy-5-24-13_422381_7.pdf>. Accessed 23 June 2014.

Minzey, T. W. 1994. Strickler Grouse Management Unit Management Plan. Michigan Department of Natural Resources. 5pp.

Regional State Forest Management Plan/Eastern Upper Peninsula. Michigan Department of Natural Resources. <http://www.michigan.gov/regionalforestplans>. Accessed 19 June 2014.

Table 1: Harvest treatment rotation, year of entry, and acreage for aspen types in the Cedar River GEMS.

Rotation	**Year of Entry**	**Acres**
1	2017	202.96
2	2022	153.27
3	2027	166.34
4	2032	131.60
5	2037	190.09
6	2042	120.18
7	2047	93.21
8	2052	126.18
	Total:	**1183.83**

Table 2: Compartment, stand numbers, rotation, and year of entry for harvest treatments.

Comp	**Stand**	**Class, Age in 2015**	**Rotation**	**Treatment YOE**	**Acres**
53	1	A5, 35	1	2017	11.11
53	13B	A6, 35	1	2017	36.21
58	7B	A5, 35	1	2017	9.64
52	19	A5, 36	1	2017	21.72
53	18	A5, 39	1	2017	7.11
53	60	A6, 39	1	2017	37.02
53	61B	A6, 39	1	2017	24.6
53	63	A5, 39	1	2017	16.38
53	45	A5, 45	1	2017	5.14
53	9	A6, 57	1	2017	15.6
53	80	A5, 65	1	2017	4.34
53	55	A6, 87	1	2017	14.09
53	41B	A5, 31	2	2022	15.74
53	94	A5, 31	2	2022	3.53
53	92	A5, 34	2	2022	17.51
53	103	A5, 34	2	2022	2.17
53	13C	A6, 35	2	2022	19.3
53	13D	A6, 35	2	2022	11.2
53	44	A5, 35	2	2022	4.25
53	68	A5, 35	2	2022	18.1
58	7A	A5, 35	2	2022	13

Table 2 continued: Compartment, stand numbers, rotation, and year of entry for harvest treatments.

Comp	Stand	Class, Age in 2015	Rotation	Treatment YOE	Acres
52	12	A5, 36	2	2022	8.23
52	20	A5, 36	2	2022	7.26
53	6	A5, 39	2	2022	9.57
53	61A	A6, 39	2	2022	23.41
52	48C	A3, 26	3	2027	27.95
52	5	A3, 27	3	2027	17.64
53	87	A5, 27	3	2027	2.26
58	14A	A6, 28	3	2027	35.89
53	46	A4, 30	3	2027	16.13
53	41A	A5, 31	3	2027	23.4
53	13A	A6, 35	3	2027	32.7
52	6	A4, 37	3	2027	10.37
53	11	A2, 21	4	2032	36.33
53	23	A2, 23	4	2032	8.06
53	48	A3, 23	4	2032	15.25
53	16	A2, 24	4	2032	1.47
53	17	A3, 24	4	2032	7.85
53	91	A2, 24	4	2032	12.04
52	48A	A3, 26	4	2032	15.6
52	7	A3, 27	4	2032	6.64
52	18	A3, 27	4	2032	12.66
58	14B	A6, 28	4	2032	15.7
52	23A	A3, 16	5	2037	16.5
58	10A	A3, 19	5	2037	27.69
52	21	A3, 20	5	2037	28.36
52	65	A3, 20	5	2037	3.94
52	67	A3, 20	5	2037	14.29
53	8	A4, 20	5	2037	17.6
53	15	A3, 20	5	2037	4.79
53	19	A3, 20	5	2037	5.86
53	115	A3, 20	5	2037	2.46
52	62	A3, 21	5	2037	23.83
53	67	A3, 22	5	2037	7.39
53	20	A3, 25	5	2037	15.48
52	48B	A3, 26	5	2037	21.9

Table 2 continued: Compartment, stand numbers, rotation, and year of entry for harvest treatments.

Comp	Stand	Class, Age in 2015	Rotation	Treatment YOE	Acres
52	72	A3, 15	6	2042	5.53
52	23C	A3, 16	6	2042	20
52	27B	A3, 18	6	2042	16.18
58	10B	A3, 19	6	2042	21
52	59	A3, 20	6	2042	17.27
53	10	A3, 21	6	2042	13.68
53	4	A3, 22	6	2042	26.52
52	9A	A3, 5	7	2047	22.21
52	60B	A3, 5	7	2047	21.21
52	23B	A3, 16	7	2047	24.19
52	27A	A3, 18	7	2047	25.6
53	49	A1, 3	8	2052	7.35
53	116	A1, 3	8	2052	18.99
52	43	A3, 4	8	2052	4.9
52	44	A3, 4	8	2052	30.89
52	9B	A3, 5	8	2052	14.2
52	60A	A3, 5	8	2052	27.4
53	51	A2, 5	8	2052	1.78
53	65	A2, 5	8	2052	2.62
52	2	A3, 6	8	2052	11.38
52	17	A3, 6	8	2052	6.67

Table 3: Cedar River GEMS Openings

Compartment	Stand Number	Acreage	Treatment
53	408	4.57	Openings maintenance, cut brush and encroaching tree species, mow, herbicide, lime, fertilize, plant both annual and perennial herbaceous plants as well as hard/soft mast producers.
58	08	6.09	Openings maintenance, cut brush and encroaching tree species, mow, herbicide, lime, fertilize, plant both annual and perennial herbaceous plants as well as hard/soft mast producers.

Appendix 1: GEMS locations in the Upper Peninsula and northern Lower Peninsula regions.

Upper Peninsula

1 **Mosinee**
Gogebic County,
Bessemer Township

2 **Blue Bill Creek**
Gogebic County,
Marenisco Township

3 **Hazel Swamp**
Houghton County,
North East Laird Township

4 **Gold Mine**
Iron County,
Iron River Township

5 **Ralph**
Dickinson County,
West Branch Township

6 **South Marquette**
Marquette County,
Forsyth Township

7 **Cedar River**
Menominee County,
Cedar River Township

8 **Halifax**
Luce County,
McMillan Township

9 **Strickler**
Mackinac County,
Hudson Township

10 **Drummond Island**
Chippewa County,
Drummond Township

For individual GEMS maps visit
www.michigan.gov/hunting

Lower Peninsula

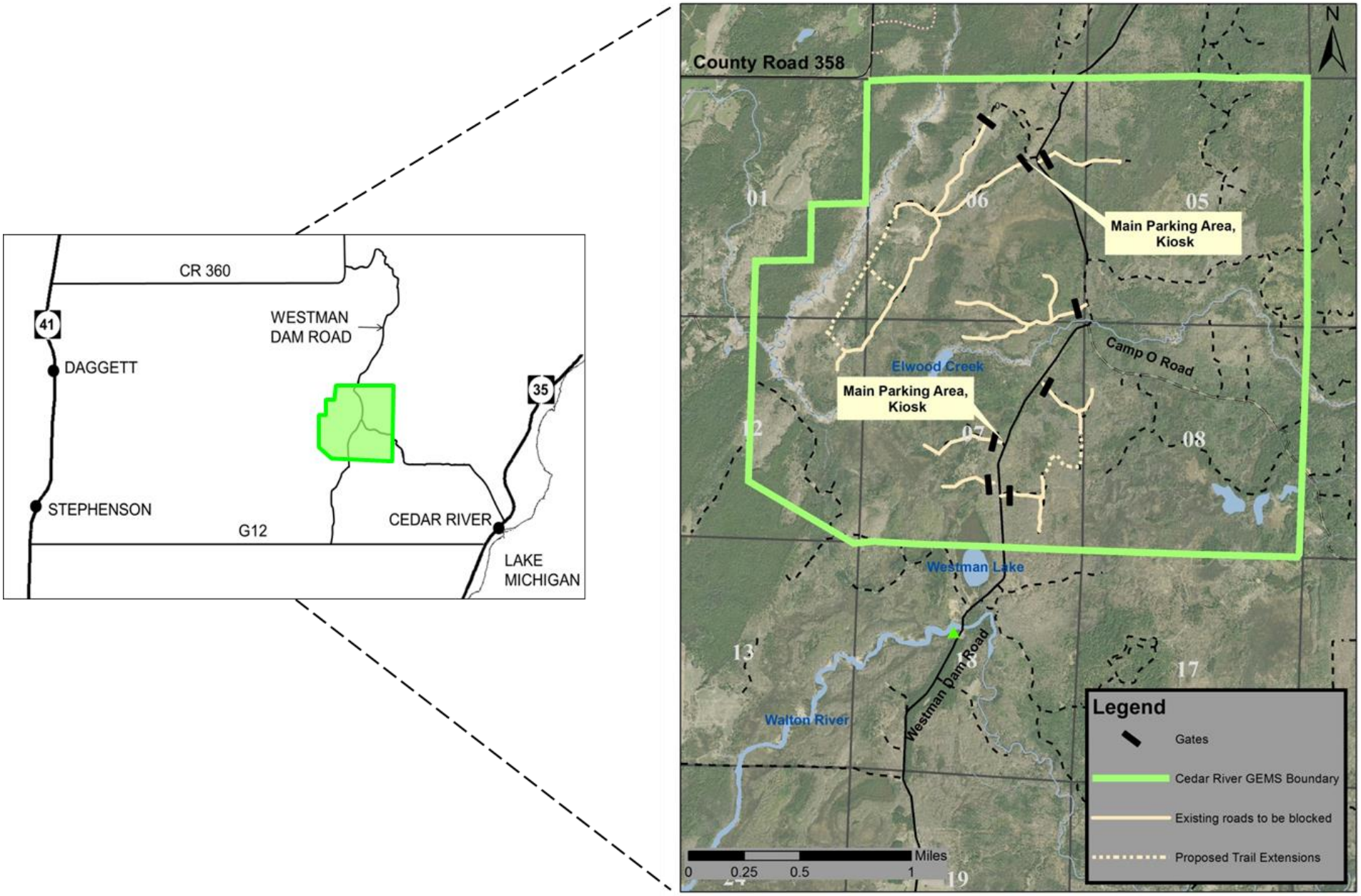
11 **LeeGrande Ranch**
Cheboygan County,
Koehler Township

12 **Greasy Creek**
Montmorency County,
Loud Township

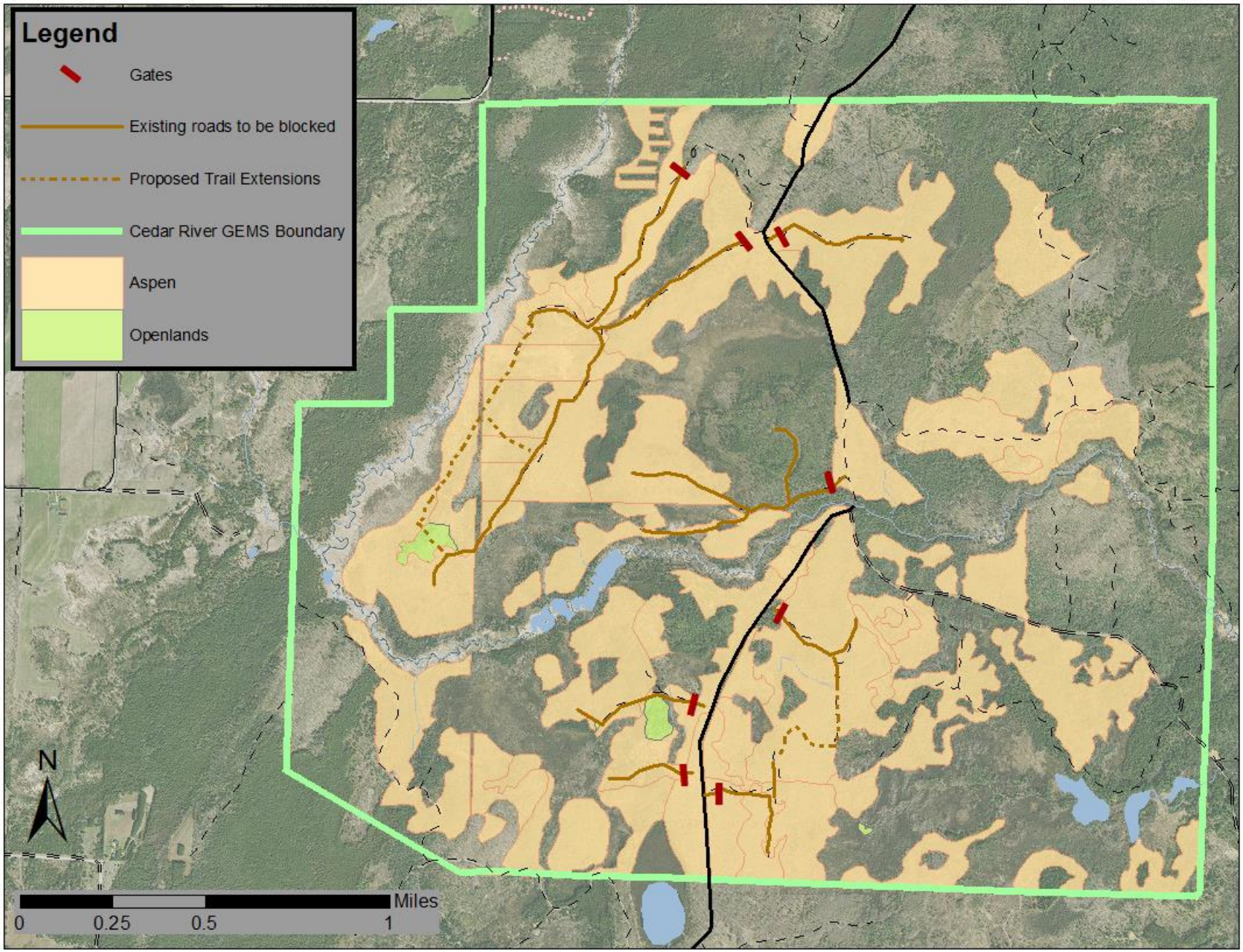
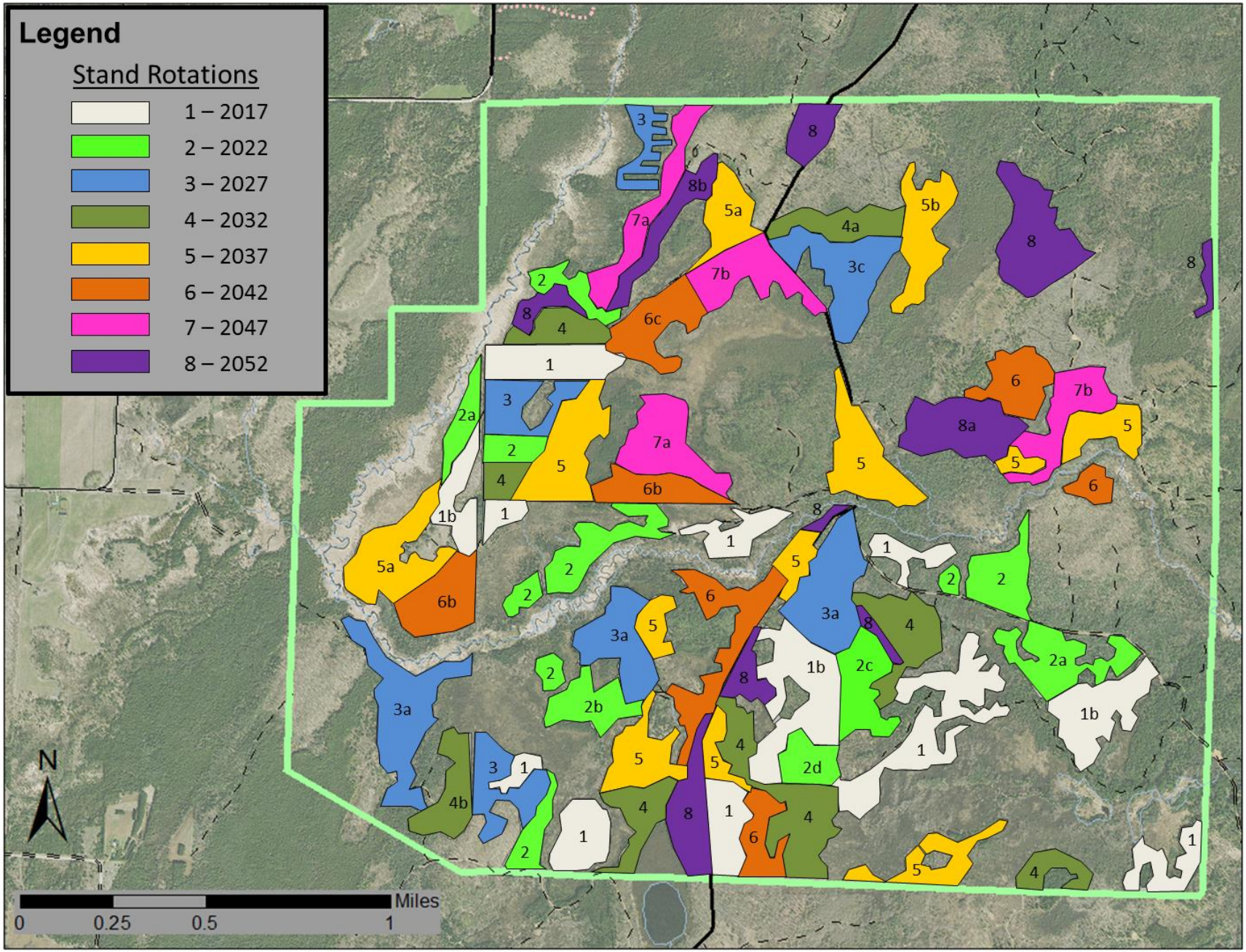
13 **Little Betsie**
Benzie County,
Colfax Township

14 **Lame Duck Foot Access Area**
Gladwin County,
Bourret Township

Appendix 2: Cedar River GEMS boundary, infrastructure, and legal description (35N, 25W, sec 5, 6, 7, 8; 35N, 26W, sec 1, 12).



Appendix 3: Cedar River GEMS aspen stands and grassland openings.



Appendix 4: Treatment rotations for the Cedar River GEMS (rotation number - year of entry). Rotation numbers followed by letters indicate the original stand has been divided into multiple smaller stands (shown in Table 2).