

Hazel Swamp Grouse Enhancement Management System

Introduction

The Grouse Enhancement Management (GEM) areas provide hunting opportunities that are easy to access for the general public. These areas will act as destination sites for grouse hunting across the UP, providing a unique opportunity for hunting and wildlife viewing, and ultimately support local economies. The walk-in access trail system provides a unique opportunity for hunters as well as a multitude of other outdoor recreation opportunities. While the management of these areas will primarily focus on ruffed grouse and woodcock they will also provide habitat for other wildlife species including black bear, deer, turkey, snowshoe hare, bobcat, fisher and many non-game species.

An added benefit to these GEMS will be their use as an effective tool for hunter recruitment and retention, as well as showcasing high quality optimum grouse habitat. The ten UP GEMS will support our forest based economy and will further tie local communities to our natural resources by capitalizing and expanding the outdoor tourism industry.

Location and Area Description

The Hazel Swamp GEM is located in Houghton County, west of Pelkie and north of MI HWY 38 in T51N R35W sections 2, 3, 10, 11 and T52N R35W sections 34 and 35. The Hazel Swamp GEM is bordered by the Donken-Tapiola road to the north and the West Branch of the Otter River to the south, the Hazel Swamp Road goes through the middle of the area. There are two access points to the Hazel Swamp GEM; the north end can be accessed from the Donken-Tapiola Road 1 mile west of the Horoscope Road (Figure 1). The south and center of the GEM can be accessed by using the Hazel Swamp Road ~2 miles north from the North Laird Road.

Inventory

The Hazel Swamp GEM encompasses approximately 2,000 acres of state forest land in forest compartments 40, 41, and 43 within the Baraga Forest Management Unit. Land was obtained by the state through tax reversion. The Hazel Swamp GEM is currently composed of approximately 45% (932 acres) Aspen, an additional 40 acres of mixed aspen/hardwoods has been identified to be managed for aspen after treatment. The Remaining forest cover types in the Hazel Swamp GEM include; northern hardwood stands, upland conifer, hemlock, and sugar maple.

Ruffed Grouse Habitat Management within the Hazel Swamp GEM

Ruffed grouse require aspen in several different age classes, as well as other conifer and deciduous species throughout the year and their life cycle. Grouse feed on insects, herbaceous grasses, buds,

catkins, soft mast like leaves, fruits, berries, and hard mast like hazelnut when available. Grouse prefer dense, high stem-density aspen stands (~5,000 stems/ acre) to breed and rear broods, these conditions are often found in young aspen stands which provide high insect abundance for foraging and cover from predators. Kubisiak (1985) found significantly higher grouse drummer densities in aspen stands that had a dominant alder understory than pure aspen stands. In the winter grouse consume the buds and catkins from mature aspen, yellow and white birch, as well as fruit from trees and shrubs. Conifer provide important escape cover for grouse year round (Hammill and Moran 1986) and are essential for grouse in the winter when snow conditions do not allow grouse to roost under the snow (Rachelle 2011). Male grouse use drumming logs in the spring to establish territory and attract females; they prefer logs with a minimum diameter of 8 inches, 8 feet long and for the log to be within 5 feet of larger vertical “guard” tree or stump (Palmer 1963).

Hazel Swamp GEM benefits to other wildlife

American woodcock, a migratory game bird, prefer early successional forest habitat with high stem-densities and rich moist soils that support earthworms and other invertebrates. Young regenerating aspen stands often provide ideal woodcock habitat.

White-tailed deer, snowshoe hare, beaver, and turkey will benefit from the food provided by the aspen regeneration and hard and soft mast promoted through planting and management on the GEM. Promoting hard and soft mast and planting clover mix will also provide food for black bears, passerine birds, and small rodents.

Retaining mature aspen and conifer component throughout regenerating aspen on the GEM will provide nesting habitat for raptors.

Management Actions

To provide regenerating aspen habitat for grouse and other wildlife long-term, we will attempt to diversify the age classes of aspen throughout the Hazel Swamp GEM. With help from the DNR Forestry Resources Division we will attempt to establish 8 different age classes on the GEM. We will achieve greater aspen diversity by decreasing the size of traditional harvest stands to smaller blocks distributed throughout the GEM and harvesting blocks of aspen approximately 20 acres in size, on rotations every 5 years through 2055 (Appendix 1). This approach will provide a continuum of available aspen habitat with new regenerating, high stem-density aspen stands available over the next 65 years.

The current age-class distribution on the Hazel Swamp GEM is skewed towards younger aspen and is currently (2015) excellent grouse habitat in 2015 (Table 1). However, the aspen age-classes are not diverse on the GEM. We will attempt to rotate the harvest of blocks within stands of aspen so that there is at least 10 years between harvest of adjacent blocks (Figure 2). However, with several blocks

this was not possible due to the juxtaposition of the block and our attempt to ensure the treatments will commercially treated.

Table 1. Aspen age class distribution on the Hazel Swamp GEM.

| Aspen Age Class Distribution on Hazel Swamp GEM | | |
|--|--------------|--------------------------------|
| Age Class | Acres | Percentage of Age class |
| 0-10 | 117 | 13 |
| 11-20 | 196 | 21 |
| 21-30 | 517 | 55 |
| 31-40 | 0 | 0 |
| 41-50 | 0 | 0 |
| 50+ | 102 | 11 |

Treatments of aspen blocks in Hazel Swamp GEM

Harvest treatments of aspen blocks within the GEM will include;

- Retention of conifer (cedar, hemlock, white pine, spruce, fir) within aspen stands to provide escape cover and winter roosting sites.
- Maintain mast-producing trees such as; yellow birch, cherry, elm, and oak.
- Leave one \geq 8 inches diameter log on ground within 5 feet of stump per 2 acres of aspen harvested for grouse to use as drumming log.

Openings

Openings in the forest provide important food resources for wildlife by providing grasses, forbes and soft and hard mast producing trees and shrubs. There are several small openings less than 1 acre throughout the Hazel Swamp GEM. We will maintain the openings within the GEM and promote mast production in forest openings through natural colonization and planting species like: crabapple, service berry, dogwood, mountain ash, and beaked hazelnut, to name a few. We will evaluate locations to increase the number of openings on the GEM as resources allow and timber harvests create opportunity.

Enhance Hunting Opportunity

The Hazel Swamp GEM is being developed to increase quality hunting opportunities and serve as a destination location for grouse hunters. The GEM provides a unique walk-in hunting experience on many walking trails, where motorized vehicles are limited. Although the primary focus is to increase

opportunity for hunters, the trails on the Hazel Swamp GEM will provide opportunity for other non-motorized uses including; hiking, bird watching, berry picking, cross-country skiing and snowshoeing.

Walking Trails

The hunter walking trails on the Hazel Swamp GEM are made from logging skid trails and timber hauling roads already closed to vehicle traffic. The trails will be gated or have a berm in place, trail heads will be marked and have associated parking. Where possible trails will be planted with an herbaceous mixture of clover and grasses and as resources are available we will plant mast producing trees and shrubs along the trails. Trails will require maintenance over time including mowing, planting, and adding gravel.

The Hazel Swamp GEM currently has 5 trail heads and parking areas identified, covering approximately 6 miles of trails (Figure 2). Clearing and planting of the GEM trails will start during the summer of 2015, we will assess creating new trails as timber harvest and resources allow.

Funding and Partnerships

Funding for annual maintenance and habitat improvements on the Hazel Swamp GEM will come from annual Pitman-Robertson requests. Funding for larger projects on the GEM will be explored as need and granting opportunities are available.

We are pursuing opportunities to work with local sportsmen clubs like the Ottawa Sportsmen Club, and interest groups like National Turkey Federation and UP Whitetails to adopt trails and opening to plant and maintain.

Public information/outreach

The Hazel Swamp GEM was created to promote a destination area for hunters. Public outreach will be needed to identify and promote the area, as well as to direct visitors to the site.

Identify the area

Various methods will be used to identify the area and direct people to the site. The Hazel Swamp GEM will be identified on the MI Hunt system, and it will be promoted as part of the UP GEMS on the MI DNR website and in GEM promotional brochures. On-site, signs identifying the area will be placed at the main entrance on the Hazel Swamp Road. Other directional signs as well as GEM signs may be placed at locations—along roads or at gates as needed.

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

Establishment of the Hazel Swamp GEM will be communicated through various media. Local businesses will be able to use the GEM as a tool to promote tourism to the area. Once established on the MI Hunt system and possibly in other media, the Hazel Swamp GEM can be advertised or promoted by local businesses to encourage tourism. Although currently difficult to quantify, the GEM will be an asset to the local economy.

GEM Implementation

Starting in the spring of 2015 trails were identified and mark to be cleared.

Summer of 2015 several trails will be cleared and leveled with bulldozer.

- 2 culverts will be installed to allow tractor access for planting and mowing access on Eagle Eye Trail.
- Trails that are ready for planting will be disked and planted with clover mix.
- Kiosk will be installed.
- 3-5 Gates at ready trails will be installed.
- Parking areas at trail heads completed.
- Directional signs to locate GEMS installed.

References

- Kubisiak, J.F. 1985. Ruffed grouse habitat relationships in aspen and oak forests of central Wisconsin USA. Technical Bulletin 151. Department of Natural Resources, PO Box 7921, Madison, WI 53707.
- Hammill, J., and L. Visser. 1984. 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. 181 pp.
- Palmer, W.L. 1963. Ruffed Grouse Drumming Sites in Northern Michigan. *The Journal of Wildlife Management*. Vol. 27, No. 4:656-663.

Figure 1. Hazel Swamp GEM Area locations.

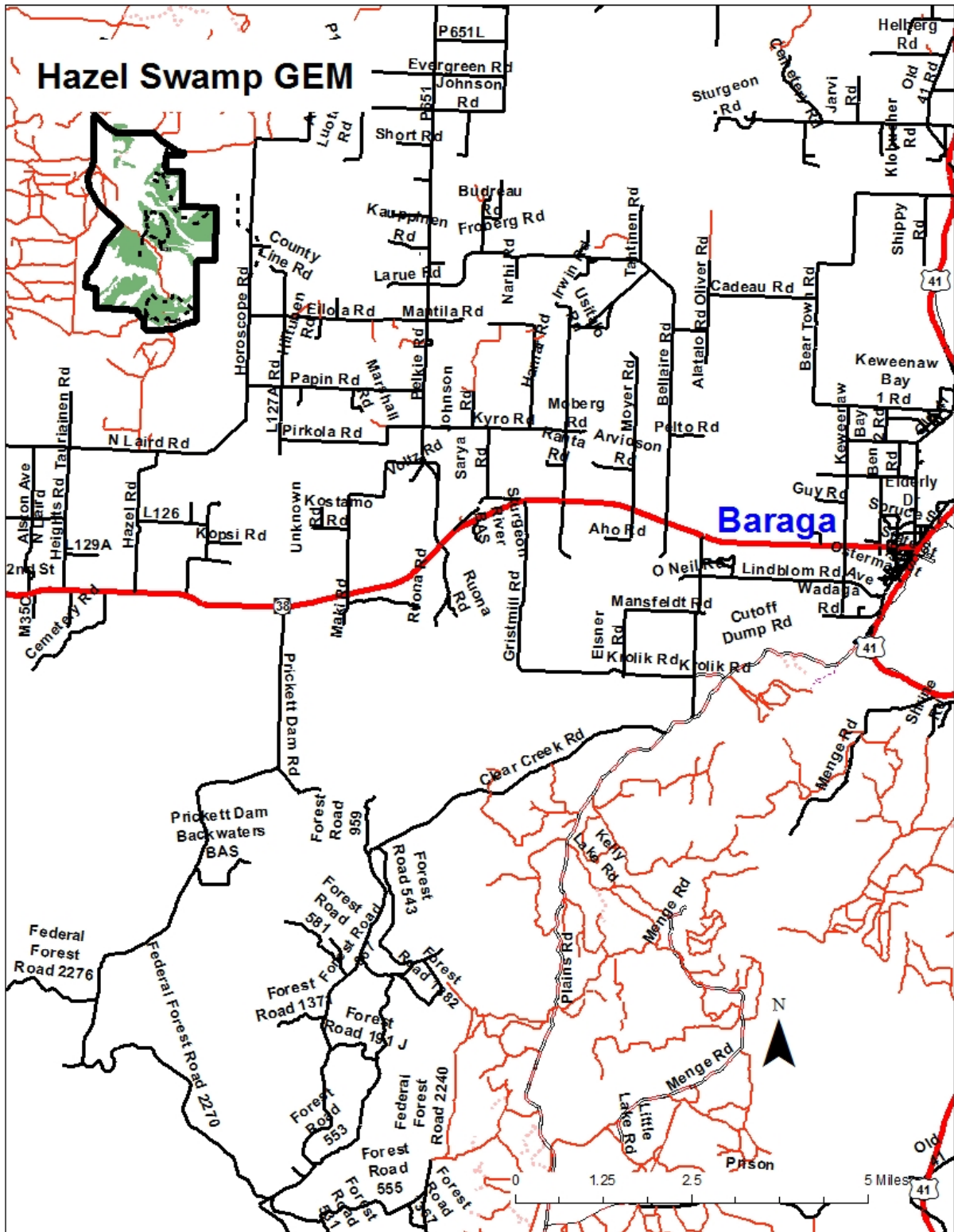
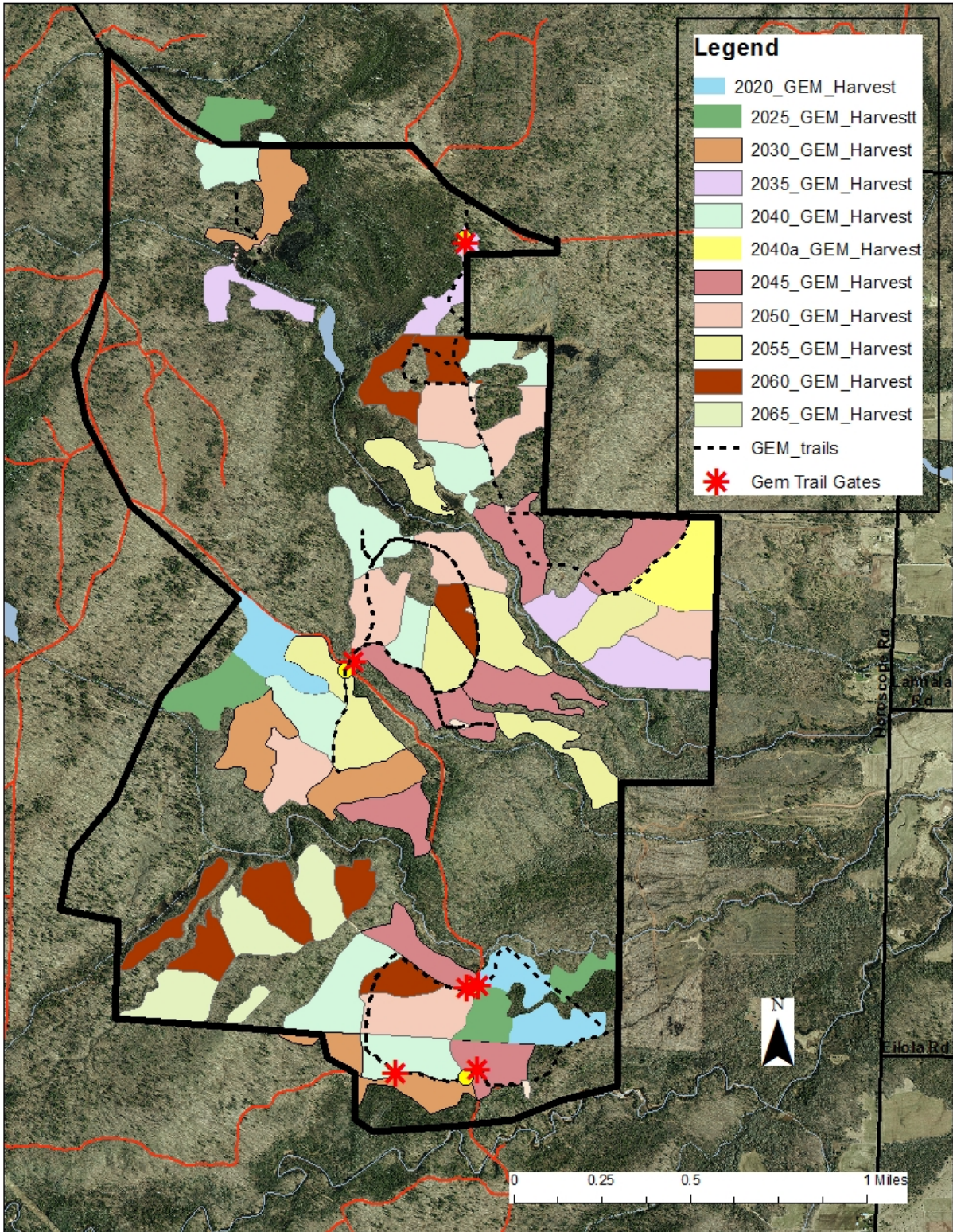


Figure 2. Hazel Swamp GEM Aspen treatment rotations distribution.



Appendix 1. Aspen treatments on the Hazel Swamp GEM.

| Year of Harvest | Rotation | Compartment | Stand | Age in 2015 | Acres |
|-----------------|----------|-------------|-------|-------------|-------|
| 2015 | 1 | 41 | 27 | 0 | 60 |
| 2020 | 2 | 41 | 38 | 91 | 30 |
| 2020 | 2 | 41 | 7 | conversion | 19 |
| 2025 | 3 | 40 | 17 | 34 | 13 |
| 2025 | 3 | 41 | 7 | conversion | 21 |
| 2025 | 3 | 41 | 38 | 91 | 19 |
| 2030 | 4 | 40 | 18 | 25 | 19 |
| 2030 | 4 | 41 | 8 | 21 | 24 |
| 2030 | 4 | 41 | 20 | 24 | 42 |
| 2030 | 4 | 43 | 9 | 23 | 22 |
| 2035 | 5 | 40 | 20 | 25 | 14 |
| 2035 | 5 | 40 | 25 | 25 | 11 |
| 2035 | 5 | 41 | 28 | 21 | 36 |
| 2040 | 6 | 40 | 18 | 25 | 13 |
| 2040 | 6 | 41 | 11 | 21 | 28 |
| 2040 | 6 | 41 | 28 | 21 | 28 |
| 2040 | 6 | 41 | 19 | 15 | 31 |
| 2040 | 6 | 41 | 20 | 24 | 17 |
| 2040 | 6 | 41 | 27 | 23 | 26 |
| 2040 | 6 | 43 | 9 | 23 | 20 |
| 2045 | 7 | 41 | 28 | 21 | 44 |
| 2045 | 7 | 41 | 19 | 15 | 45 |
| 2045 | 7 | 41 | 20 | 24 | 16 |
| 2045 | 7 | 41 | 36 | 23 | 16 |
| 2045 | 7 | 43 | 15 | 16 | 17 |
| 2050 | 8 | 41 | 11 | 21 | 32 |
| 2050 | 8 | 41 | 28 | 21 | 17 |
| 2050 | 8 | 41 | 19 | 15 | 35 |
| 2050 | 8 | 41 | 20 | 24 | 18 |
| 2050 | 8 | 41 | 36 | 23 | 24 |
| 2055 | 9 | 41 | 11 | 21 | 13 |
| 2055 | 9 | 41 | 28 | 21 | 19 |
| 2055 | 9 | 41 | 19 | 15 | 53 |
| 2055 | 9 | 41 | 20 | 24 | 29 |