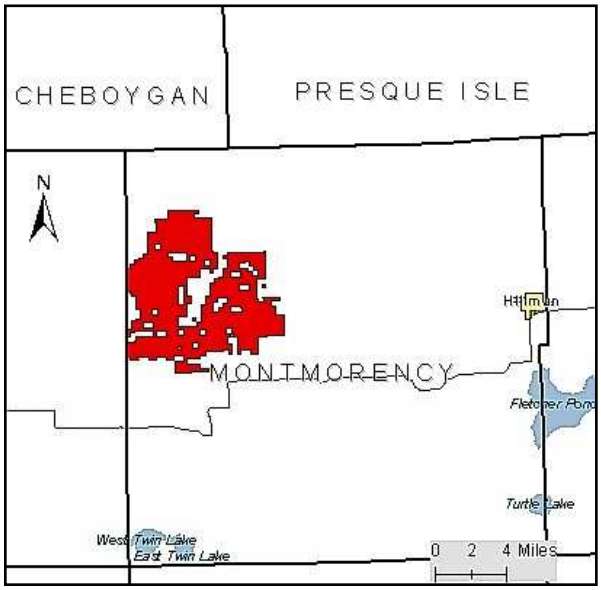
Rattlesnake Hills Management Area



Attributes

The Rattlesnake Hills Management Area, located in northwestern Montmorency County, has 31,330 acres of State Forest. The primary attributes which were important in identifying this MA include:

- Ecological Classification - The MA falls within the Vanderbilt Moraines sub-region of the NLP Ecoregion as classified by Albert (1994).

- Cover Types - Historically, northern hardwoods, red and jack pines mixed with oak, wetlands and, to a lesser degree, aspen were present. Fires were fairly frequent in the drier northern part of the MA. The majority of the current vegetation is northern hardwoods, aspen, and red pine, with about 10% in relatively inaccessible lowland types which includes cedar. Elk concentrations have resulted in some cover type changes, the most significant being conversions to upland brush.

- Landforms - The dominant landform consists of sandy, well drained moraine ridges surrounded by poorly drained outwash channels and plains.

- Ownership size and connectivity – The state land in this MA is concentrated with scattered inclusions of private property.

- Social and Economic – The Rattlesnake Hills MA is a popular area for the nearby communities of Atlanta and Onaway for game hunting, hiking, mushroom hunting and other activities. Along with the Pigeon River Country State Forest to the west, this area represents the core of Michigan's elk range. This area has intensive Antrim and Niagaran gas development.

Major Cover Types

- Northern Hardwoods/Upland Hardwoods – Upland hardwoods cover approximately 7,400 acres with only 30% of the areas having the density required for selective harvesting. In some locations, elk browsing is affecting regeneration.

- Aspen – Approximately 6,000 acres of the MA is in aspen, with about 3,400 acres in the merchantable 40–59 year age classes. The majority of the aspen is 20-40 years old, reflecting increased harvest intensity and improved aspen timber markets since the 1970s. There are approximately 500 acres in older age classes, probably on inoperable slopes. Most of the aspen is

concentrated along the edges of the moraines and is of high quality. In some locations, elk browsing is affecting regeneration.

- Cedar – All of the approximately 3,000 acres of cedar are in age classes above 60 years of age and some cedar is of high quality. There is virtually no cedar in younger age classes.

- Red Pine – Red pine of either natural or planted origin covers approximately 3,000 acres, with over 2,100 acres in the 60-90 year age classes. Most red pine is on natural red pine sites, however some areas are better suited to jack pine.

- Jack Pine – The 2,600 acres of jack pine has a well balanced age class structure, however, there are about 750 acres that exceed the 60 year rotation age.

- Oak **-** Most of the 2,400 acres is in the 70-100+ age classes and is located on steep slopes or classified as old growth.

- Mixed Swamp Conifers – Almost all acreage is in the 60-100+ age classes, with little in younger age classes.

- Upland Brush/Grass - Upland brush and grass totals approximately 2,000 acres. This is a result of the past management practices or natural processes of fire, frost or other disturbances which create openings in the forest canopy along with maintenance treatments to keep areas open.

Rattlesnake Hills			**Age Class (Years)**											
Cover Type	Acres	%	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100+	Uneven Aged
Upland Hardwoods	7,359	23%	0	53	358	409	21	40	20	155	375	92	0	5,836
Aspen	6,014	19%	90	685	1,372	1,891	1,502	47	59	190	159	19	0	0
Cedar	3,076	10%	0	0	0	0	0	0	8	23	1,300	1,380	197	168
Red Pine	3,070	10%	112	178	210	69	259	417	480	1,209	92	28	16	0
Jack Pine	2,624	8%	33	661	219	438	495	303	196	185	65	0	0	0
Oak	2,418	8%	0	0	42	16	10	32	51	381	960	460	0	466
Mixed Swamp Conifers	1,649	5%	0	2	8	0	0	0	145	343	414	224	266	247
Grass	1,359	4%												
Upland Brush	762	2%												
Water	220	1%												
Other Types	2,779	9%												
Total	31,330													

Other Types include Lowland Poplar, White Pine, Lowland Brush, Tamarack, Paper Birch, Spruce, Swamp Hardwoods, Fir, Hemlock, Bogs and Marsh.

Concepts of Management

- Northern Hardwoods/Upland Hardwoods (23% of the MA) - Continue regular selection management of upland hardwoods to develop uneven-aged stand structure. Due to elk impacts on regeneration, experiment with thinning and monitoring large areas (~500 acres) to assess the effect on elk browsing intensity.

- Aspen (19% of the MA) – Maintain the current level of aspen as it is important elk habitat. Seek opportunities for younger-than-rotation harvests to balance age classes in the 0-59 year age classes. There is some evidence that larger cuts may reduce impacts from elk browse. Therefore, utilize larger cuts to protect aspen regeneration. Allow inoperable aspen areas to succeed to late successional species.

- Cedar (10% of the MA) — Regeneration harvests should be considered if deer browsing can be minimized and wetland soils are not adversely impacted.

- Red Pine (10% of the MA) – Following the Red Pine Management Guidelines, address the age class spike of red pine and trough of regeneration. Harvest aggressively in the age class spikes between

50-89 years and regenerate suitable red pine areas through planting or prescribed fire to encourage natural regeneration. Allow selected areas of managed red pine to reach biological maturity. Following the Within Stand Retention Guidelines allow selected individual red pines in other cover types to become super canopy specimens. Red pine acreage will decrease somewhat over next 10 years as a result of conversion to jack pine on drier or poorer quality sites.

- Oak (10% of the MA) – Due to the lack of access on steep slopes or classification as old growth, very little oak will be treated over next 10 years.

- Jack Pine (8% of the MA) – In order to minimize potential jack pine budworm impacts, increase harvest in the 60–90 year age classes. Jack pine acres are expected to increase as lower quality red pine sites are converted to jack pine.

- Upland Brush/Grass (6% of the MA) – Continue opening maintenance by farming, prescribed burning and brush removal to sustain upland brush/grass at a level beneficial to wildlife.

- Mixed Swamp Conifers (5% of the MA) - Harvests for regeneration if harvests can be done in a manner that will not adversely impact wetland soils and deer browsing can be minimized.