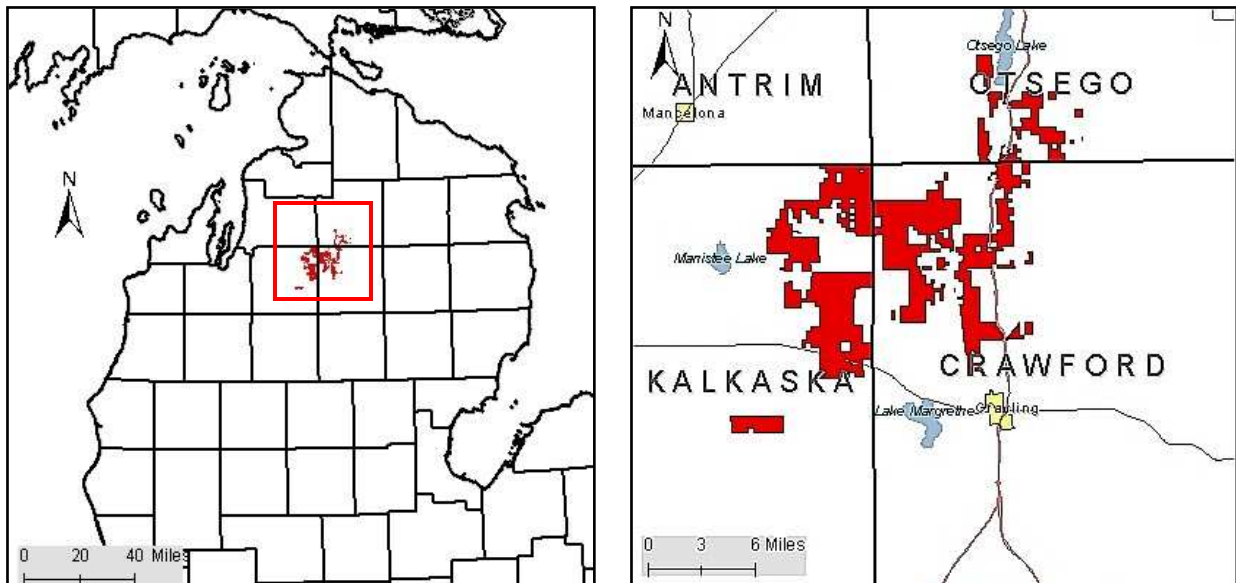


Grayling Ice Contact Management Area



Attributes

The Grayling Ice Contact Management Area is located in high plains of Otsego, Crawford and Kalkaska Counties and has approximately 54,000 acres of State Forest land. The primary attributes which were important in identifying this MA include:

- Ecological Classification - The MA falls within the Grayling Outwash Plain sub-region of the NLP Ecoregion as classified by Albert (1994).
- Cover Types - Fires which spread from the adjacent outwash areas were important in determining species composition. Historically, vegetation varied on these ice-contact ridges – some ridges were dominated by northern hardwoods and others dominated by red oak, hemlock and white pine. Current vegetation is primarily northern hardwood, aspen, red pine and oak with only 3% in relatively inaccessible lowland cover types.
- Landforms – This MA, which lies in the central part of the Grayling Outwash Plain sub-region, is made up of ice-contact formed end-moraine ridges, separated by outwash areas. The headwaters of the AuSable and Manistee Rivers are in this MA.
- Cultural – The Deward Tract Dedicated Management Area is located in this MA.
- Social and Economic - Antrim gas development is extensive. There is extensive ORV and snowmobile recreation use.

Major Cover Types

- Northern Hardwoods/Upland Hardwoods – About 15,000 acres is covered by upland hardwoods. About 60% of it is uneven aged, indicating recent selective harvesting. Some of the highest quality hardwoods in the MA are found in Crawford County. There is some browsing pressure, particularly on ash regeneration. Past management has been to expand aspen pockets within poor quality hardwood stands.

- Aspen - About 15,000 acres is covered by aspen and with approximately 90% less than 60 years of age. This indicates a history of intensive management. Some aspen is very high quality, yielding eight or nine pulp sticks per tree. Many mixed aspen stands also include red maple and oak.
- Red Pine – The red pine in this MA has two age class spikes – those planted by the Civilian Conservation Corps in the 1930s (about 2,000 acres) and those planted by the state after World War II (about 3,800 acres). There has been very little regeneration of red pine in this MA over the past 40 years. Some very poor quality red pine trees and stands are located on higher quality hardwood sites.
- Oak – There are about 5,800 acres of fairly good quality oak. Age classes are unbalanced due a large amount of old oak with a pronounced spike in the 80-89 year old age classes, and very little regeneration.
- Jack Pine – About half of the 1,200 acres is over age 60 with the greatest amounts in the 60-79 year age classes.
- White Pine - All 1,200 acres occurs in natural stands concentrated in the age groups from 40-79. There is very little white pine under the age of 39.
- Upland Brush/Grass – Grass and upland brush totals approximately 5,300 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. The DeWard area is indicative of an upland brush area that has not been re-vegetated by trees since the fires at the turn of the 20th century.

Grayling Ice Contact			Age Class (Years)											Uneven Aged
Cover Type	Acres	%	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100+	
Upland Hardwoods	15,459	29%	41	17	129	61	543	696	1,366	1,828	1,413	118	6	9,241
Aspen	15,146	28%	714	2,971	3,956	3,111	2,086	823	759	70	466	53	0	137
Red Pine	6,782	13%	202	203	498	245	1,694	1,551	613	1,336	99	156	167	18
Oak	5,827	11%	64	193	390	0	60	0	328	1,103	2,142	1,169	255	123
Jack Pine	1,215	2%	77	53	19	183	93	176	369	231	14	0	0	0
White Pine	1,176	2%	0	1	0	6	267	324	158	120	63	35	88	114
Upland Brush	2,948	5%	0	85	0	5	41	282	99	40	47	0	0	81
Grass	2,398	4%	0	45	0	40	0	1	1	6	0	0	0	0
Water	223	0%	0	0	0	0	0	0	0	0	0	0	0	0
Other Types	2,458	5%												
53,632														

Other Types include: Mixed Swamp Conifers, Lowland Brush, Swamp Hardwoods, Cedar, Spruce-Fir, White Birch, Tamarack, Lowland Poplar, Bog, and Black Spruce.

Concepts of Management

- Northern Hardwoods/Upland Hardwoods (29% of the MA) – Maintain current in upland hardwoods except in areas where there are aspen pockets that could be expanded. Continue selective management of the better quality hardwoods, especially those areas in Crawford County. Seek opportunities to expand pockets of aspen in poor quality hardwoods. Maintain an oak component in low quality stands to provide mast and add diversity.
- Aspen (28% of the MA) – Focus management on balancing the 0-69 year age classes of aspen. Harvest selected stands before reaching rotation age which will accelerate balancing age classes. Where aspen in the over 70 year age old classes is operable, it should be

targeted for harvest. Allow older aspen on inoperable sites to succeed to more shade tolerant cover types.

- Red Pine (13% 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 40-79 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 is expected to slightly decline as poor quality stands are converted to aspen, hardwoods, or other types. Consider aesthetics when selecting harvest methods in red pine adjacent to the Manistee River.
- Oak (11% of the MA) – Maintain the current acreage of oak, with a long-term trend toward more mixed stands with a greater component of red maple and white pine. Conduct stand replacement harvests by clearcutting to promote regeneration. Upcoming changes in oak silvicultural guidelines which may recommend group selection harvest on better oak sites.
- Upland Brush/Grass (9% of the MA) – Continue opening maintenance by prescribed burning or brush removal to sustain upland brush/grass. Acreage levels are expected to be maintained or may slightly decrease based on natural succession to thinly stocked pine or other species.
- Jack Pine (2% of the MA) – Balance the age class distribution by emphasizing harvest of the 60-89 year age classes. Acreage levels are expected to be maintained or decrease slightly as jack pine is removed from strip plantations.
- White Pine (2% of the MA) – Manage white pine through regeneration harvests as it reaches the 100 year rotation age. Due to the current age structure, very little management is expected during this management period.