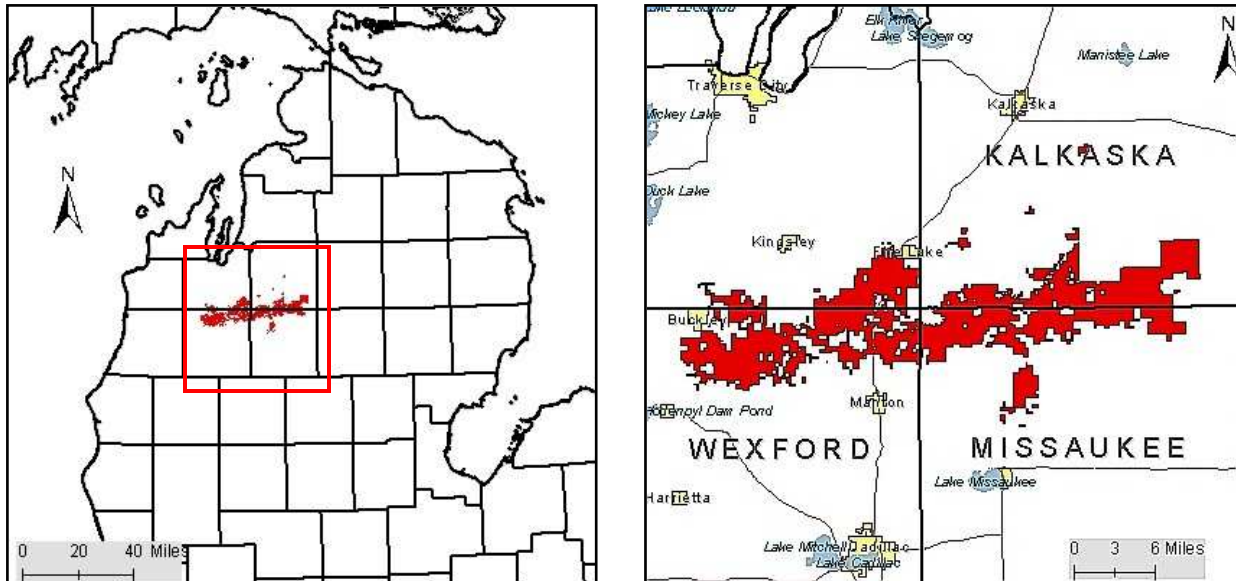


## Manistee River Valley Management Area



### Attributes

The Manistee River Valley Management Area is located in Missaukee, Kalkaska, Wexford and Grand Traverse Counties and has approximately 114,000 acres of concentrated State Forest land. The primary attributes which were important in identifying this MA include:

- Ecological Classification - The MA falls within the Cadillac and Grayling Outwash Plain sub-regions of the NLP Ecoregion as classified by Albert (1994).
- Cover Types - Historically, most of this MA was covered with hemlock, beech, sugar maple, mixed red, jack and white pine with some areas of lowland types. The current vegetation composition is primarily aspen, red, white and jack pines, oak, and upland hardwoods with 13% in relatively inaccessible lowland types.
- Landforms - The Manistee River Valley and its tributaries with large ridges of ice-contact sands and outwash plains is the dominant landform.
- Ownership size and connectivity – The state land is concentrated in the Upper Manistee River valley.
- Social and Economic – This MA is a popular area canoeing, game hunting, hiking, mushroom hunting and other activities for the nearby communities of Cadillac, Houghton Lake, and Kalkaska.

### Major Cover Types

- Aspen – Most of the aspen is under age 60 (29,000 acres) has a balanced age class and only 9% (2,900 acres) of the aspen is over age 60, indicating a history of recent intensive management. Many stands occur in mixed communities with white pine and upland hardwoods.
- Red Pine – There are almost 17,000 acres of red pine, with a considerable portion being planted stands on Consumer's Energy lease lands in which the timber rights have been

reserved by Consumer’s Energy Corporation. Some leases expire in 2011, but most expire in about 40 years. There are two age class spikes in the 40-59 and 70-89 year age classes and there has been little red pine regeneration over the past thirty years.

- **Oak** – Three quarters of the 14,000 acres of oak is in the 70–100+ year age classes. Much of the mixed stands with an aspen component have been harvested and converted to aspen. Regeneration efforts in some oak stands have had poor results, while successful oak regeneration is being established in other cover types, especially in red pine stands.
- **Northern Hardwoods/Upland Hardwoods** – Most of the upland hardwoods are medium to high quality stands and most of the poor quality stands (ironwood and poor quality beech) have been converted to other types, especially aspen. Of the 11,100 acres of upland hardwoods in this MA, 9,500 acres have lower stocking, indicating recent selection management.
- **White Pine** – White pine in plantations or natural stands is dominated by age classes over 40 years of age. Recent regeneration is now prevalent in the understory of pine and oak stands.
- **Mixed Swamp Conifers** – Most of the 5,000 acres of swamp types originated after early 20<sup>th</sup> century harvests and are dominated by acreage in the 50-100 + year age classes. There has been little regeneration over the past 50 years.
- **Jack Pine** – The age class distribution of jack pine is well balanced with the exception of a spike in the 50-69 year age class. Over 900 acres is in old age classes beyond the optimum rotation age.

Manistee River Valley			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+	
Aspen	32,665	29%	2,505	4,482	3,951	6,864	7,936	3,382	1,446	838	576	51	0	444
Red Pine	16,493	15%	118	236	320	890	4,634	3,574	1,121	2,356	2,535	219	62	428
Oak	14,032	13%	204	618	100	614	75	271	328	1,141	3,262	3,223	2,588	1,582
Upland Hardwoods	11,168	10%	47	155	130	300	152	591	494	615	1,280	470	321	6,595
White Pine	6,338	6%	252	0	0	77	1,293	1,063	711	540	531	341	239	1,213
Mixed Swamp Conifers	4,963	4%	23	22	0	32	89	236	554	663	425	858	1,446	609
Jack Pine	4,756	4%	576	557	193	337	682	1,038	405	346	497	82	5	36
Upland Brush	4,145	4%												
Grass	3,007	3%												
Lowland Brush	1,869	2%												
Water	1,253	1%												
Other Types	11,007	10%												
Total			111,696											

Other Types include: Cedar, Swamp Hardwoods, Marsh, Upland Mixed Conifers and Deciduous, Spruce-Fir, Lowland Poplar, Bog, Black Spruce, Tamarack, Sand Dune, and mixed lowland types.

**Concepts of Management**

- **Aspen (29% of the MA)** – Maintain a balanced age class distribution in the 0-59 year age classes. Total aspen acres will decline over time, especially in the Manistee River influence zone where management operations are constrained and the older aspen stands in these areas will eventually succeed to other types.
- **Red Pine (15% 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.

- Oak (13% of the MA) – Conduct stand replacement harvests (shelterwood or clearcutting) in older stands. Seek opportunities to under-plant red pine and white pine to achieve a mixed oak-pine type.
- Northern Hardwoods/Upland Hardwoods (10% of the MA) – Continue regular selection management of upland hardwoods to develop an uneven-aged stand structure.
- White Pine (6% of the MA) – Continue thinning regime for white pine plantations. Allow white pine to become established in selected oak stands.
- Mixed Swamp Conifers (4% of the MA) – Regeneration harvests should be considered; if cuts can be done in a manner that will not adversely impact wetland soils or increase deer browse activities.
- Jack Pine (4% of the MA) - Maintain a balanced age class distribution in the 0-69 year age classes, with particular attention to the 50-69 year age class. On accessible sites, seek opportunity for harvests in older age classes. Some older acreage will transition to mixed stands.