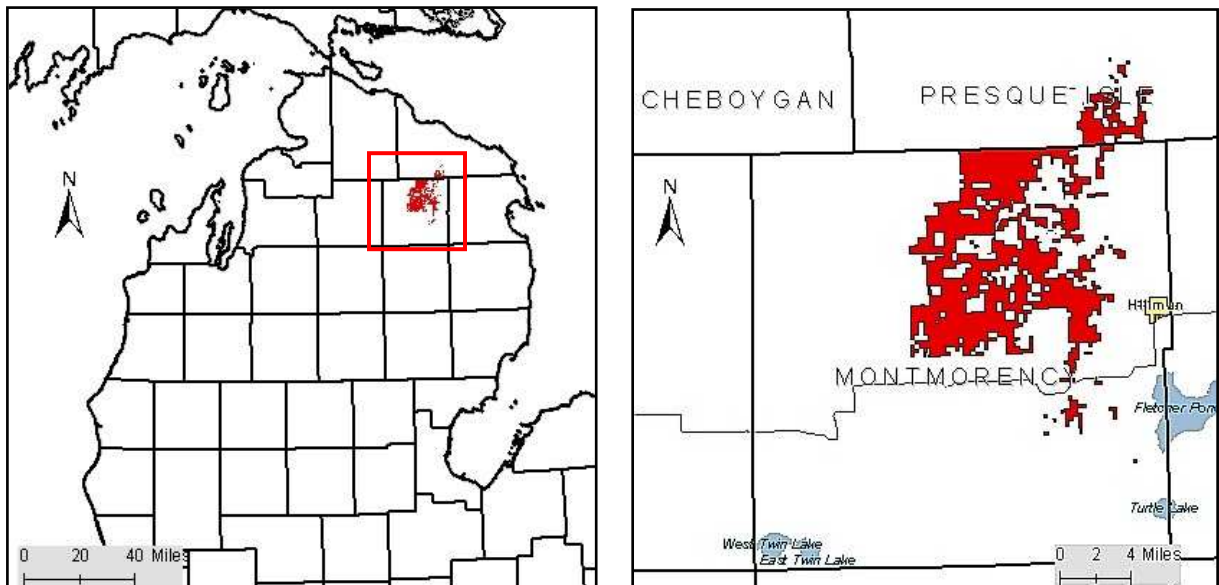


Thunder Bay Outwash Management Area



Attributes

The Thunder Bay Outwash Management Area is located mostly in northern Montmorency County with a small portion in Presque Isle County and has approximately 56,000 acres of state-owned land. The primary attributes which were important in identifying this MA include:

- Ecological Classification - The MA falls within the Onaway sub-region of the NLP Ecoregion as classified by Albert (1994).
- Cover Types – Historically, fires were fairly frequent resulting in red and jack pines mixed with oak being prominent and there was little aspen. The current vegetation composition is mostly aspen, red pine, oak, and jack pine with only 6% in relatively inaccessible lowland types. Elk browsing is adversely impacting oak regeneration, especially in the northern part of the MA.
- Landforms - The dominant landform consists of rolling to moderately sloping ground moraine topography. Drumlins are common and are typically separated by poorly drained outwash.
- Ownership size and connectivity - The state land in this MA is fairly concentrated.
- Social and Economic – The Thunder Bay Outwash MA is a popular destination for game hunting, hiking, mushroom hunting, etc. for the nearby communities of Atlanta, Hillman and Onaway.

Major Cover Types

- Aspen – Most of the approximately 18,000 acres of aspen occurs on the moraines and ice-contact ridges. Of these acres, about 12,000 acres are in the merchantable 40–59 year age classes. There is a history of maximizing aspen production in this MA and the age distribution is heavily skewed to younger age classes reflecting increased harvest intensity and improved aspen timber markets since the 1970s.
- Mixed Swamp Conifers and Cedar - Most of the over 7,000 acres of mixed swamp conifers and cedar is in older age classes and considered inoperable due to poor access.

- **Red Pine** - Of the 5,800 acres of red pine over 4,100 acres are over age 70. Most of the red pine is of planted origin and in many cases jack pine was inter-planted with red pine and has since been removed. Some natural regeneration is occurring, particularly in jack pine plantings in the understory of oak. There are some areas that are inaccessible.
- **Oak** – More than 90% of the approximately 5,500 acres of oak in this MA is over 70 years of age. Although there is relatively little regeneration, 5-spot treatments have been utilized to encourage regeneration. In some places, deer and elk have had impacts upon regeneration, especially in the northern areas of the MA.
- **Jack Pine** – Of the 4,600 acres, about 25% is over age 50. However, most of the older than age 50 jack pine is currently prescribed for treatment. The jack pine under age 50 has a fairly balanced age class structure.
- **Upland Brush/Grass** - Upland brush and grass totals approximately 2,500 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.

Thunder Bay Outwash			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	18,378	33%	451	2,164	2,135	6,540	5,654	335	106	537	400	56	0	0
Red Pine	5,795	10%	136	196	249	45	561	201	586	2,954	456	193	75	143
Oak	5,519	10%	36	92	35	235	5	0	68	1,435	3,262	280	20	51
Jack Pine	4,605	8%	354	1,621	396	887	78	147	300	563	143	14	0	0
Cedar	3,509	6%	0	0	0	0	0	0	0	244	770	539	1,939	17
Mixed Swamp Conifers	3,491	6%	0	0	36	31	0	0	56	1,170	1,041	367	557	233
Lowland Poplar	3,137	6%	140	271	922	591	465	43	90	179	297	110	18	11
Upland Hardwoods	1,428	3%	22	86	44	9	0	0	16	79	54	23	0	1,095
Lowland Brush	1,838	3%												
Grass	1,606	3%												
Upland Brush	953	2%												
Water	639	1%												
Other Types	5,081	9%												

Total 55,979

Other Types include: White Pine, Tamarack, Black Spruce, Swamp Hardwoods, Marsh, Bog, Spruce-Fir, and White Birch.

Concepts of Management

- **Aspen (33% of the MA)** – Aggressively harvest aspen, especially the 40–49 and 50–59 year age classes, to accelerate the transition to balanced age classes. Allow inoperable acreage in the 60+ year ages classes to succeed to more shade-tolerant species.
- **Mixed Swamp Conifers and Cedar (12% of the MA)** - There are about 8,000 acres in older age classes that are probably inoperable. 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 50-79 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. Continue to encourage natural regeneration, particularly in jack pine plantings and the understory of oak. Some acreage may be lost to jack pine conversion on very dry sites.

- Oak (10% of the MA) – Prescribe stand replacement harvests to encourage regeneration for oak over the age of 70, especially on poorer sites. Re-introduce red pine into existing oak stands to provide a cover for oak regeneration. Allow white pine in stands that have good natural white pine regeneration in the understory to become an overstory component of mixed oak-pine stands.
- Jack Pine (8% of the MA) –Improve age class distribution through manipulation of harvest levels as age classes become merchantable. Jack pine acreage is expected to increase due to conversions from red pine on dry sites.
- Upland Brush/Grass (5% of the MA) - Continue opening maintenance by prescribed burning and brush removal to maintain upland brush/grass at a level suitable for wildlife.