

**Ohio Department of Natural Resources
Division of Forestry**

Mohican-Memorial State Forest

Tornado Response Plan

2022-2023



Introduction

On June 13 and 14, 2022, severe thunderstorms and multiple F1 tornadoes impacted thousands of acres of forestland in Morrow, Richland, Ashland, Knox, Wayne, and Holmes counties. The National Weather Service, on June 15, confirmed that four F1 tornadoes touched down in Ohio. The storm impacting Mohican State Forest contained one F1 tornado with maximum winds of 105mph from the northwest. The storm was devastating, resulting in some level of damage to the entire forest, ranging from individual trees down or broken to entire stands of timber on the ground. For many parts of the forest, the level of damage is severe impacting infrastructure and displacing recreational users. All roads in the state forest, the state park, and most rural county and township roads were blocked with downed powerlines and trees.

Storm Response Plan

Although several of these items have already been completed, it is important for citizens to understand what has been accomplished with this storm and the priorities that the Division of Forestry uses to respond to any devastating storm.

A. Priority 1: Human Safety - Completed

In the immediate hours following the storm, human safety was highest priority. The following actions were completed.

- Main access roads were cleared to allow trapped campers to leave the forest and park.
- All backcountry campsites were evacuated.
- ODOT closed Highway 97 due to down trees and powerlines.
- Access to the Mohican Youth Academy was cleared.
- Roads with residences were cleared.
- Assist Township Trustees with opening township roads within the state forest.
- All trails were closed.
- All public parking areas were closed.
- Aerial tree hazards such as hangers and leaners were removed along roads.

B. Priority 2: Infrastructure - Completed

In the days and weeks following the storm, the priority shifted to infrastructure. The following actions were completed.

- All forest and park roads were cleared.
- Most access roads to Columbia gas storage wells were opened.
- Parking areas, the horse camp, and office facilities were cleared.
- Assistance was given to the Township with road cleanup.
- Hazard trees around MARCS radio tower were cleared.

C. Priority 3a: Recreation – ongoing and concurrent with 3b.

The following actions are proposed for the recreational trails and facilities on Mohican State Forest. These actions are closely tied with Priority 4: Forest Management. They are mutually dependent and will be completed simultaneously.

1. Memorial Shrine

The Memorial Shrine can remain open throughout this response. There are a few trees to clean up in the yard area, but they pose no hazard to the public. These trees will be removed as

schedules allow. The site will be completely restored prior to Gold Star Mother's Day on September 25.

2. Horse Camp and Bridle Day-Use Area

Both the bridle day-use parking area and the weekend-only horse group camp remain closed until such time as enough horse trails are open to ride.

3. Bridle Trails

Tree removal work on the horse trails has begun. The progress is very slow with 1-2 miles completed per day with chainsaw crews and heavy equipment. Most of the horse trails are located south of 97 where the storm damage was most severe. The entire "blue" bridle trail will be prioritized as the focus of this effort and will be cleared first. The "red", "yellow", "green" and "orange" bridle trails have such a significant volume of timber on top of them that they may remain closed indefinitely until forest management actions are completed. Working with several volunteer horse groups; the goal is to open the blue trail by August 1 and re-open the day-use parking and the horse group camp at the same time.

4. Mountain Bike Trail

The mountain bike trail is located on the northern half of the state forest where storm damage is the least. A trail assessment will be completed by volunteers which shall identify areas that need heavy equipment to open the trail. Once completed DOF will work cooperatively to open the entire loop. The goal is to have this trail open by mid to late August.

5. Hiking Trail

The Hog Hollow hiking trail is currently closed. DOF will clear the trail of the most significant hazards and large trees. Once completed, we would ask the local volunteers to assist with final trail rehab and opening the trail as early as August.

6. Park and Pack Campsites

All park and pack campsites are currently closed. Campsites 1-4 may open in the coming weeks as the access is clear, and the hazards have been removed. Campsites 5-10 should remain closed indefinitely as those sites are in forests with severe damage.

D. Priority 3b: Forest Management – ongoing and concurrent with 3a.

Storm-damaged forest stands were classified on their level of damage as follows: **Light:** less than 25% of the dominant size class trees damaged; **Moderate:** 26-75% of the dominant trees damaged; and **Severe:** over 75% of the dominant trees damaged.

1. Aerial Survey

Staff from the Division of Forestry conducted an aerial survey on July 6, 2022, to map areas of severe (over 75% of the dominant trees) damaged stands. Mapping was conducted visually by passengers in a helicopter and digitized electronically. Ground-truthing has been completed on a portion of the aerially mapped areas. As ground-truthing continues, the acreage may change up or down to represent the area of damage accurately.

The attached map delineates the areas of severe storm damage. All of Mohican's 4,600 acres were impacted or damaged from this storm, but only the areas that were severely damaged were mapped. The map shows approximately **480 acres** of severely damaged forest, or areas with more than 75% of the trees on the ground. This storm was as a natural stand-replacing event. Entire stands of trees are now on the ground. Lightly damaged or moderately damaged stands were not surveyed or mapped as they are lower priority.

2. Determination of Salvage Priorities

Mohican's forests are delineated into management zones and the management of these zones was written in a publicly reviewed plan in 2017. Furthermore, the 10-year state forest management plan was approved in 2021. *These plans and the current zoning remain in force*¹. Mohican's forests are zoned as follows: 1,326 acres of High Conservation Value Forest, 820 acres of HCVF Restoration area, 193 acres of Resource Protection Area, 1,389 of Aesthetic Area / Un-even aged Management, and 838 acres of Demonstration Area.

All zones allow for salvaging damaged timber due to catastrophic weather events such as the storm from June 13, 2022. The intent of this response plan is prioritizing areas for salvage, for stewardship, and for opening recreational trails. Once this effort is completed, we will return to the management focus of our plan for Mohican which is to promote native hardwood regeneration in pine plantations.

Salvaging damaged timber is needed to complete the recreational priorities listed in the above section C. It is also good stewardship of valuable public timber resources that will be lost. It is also helpful to restore the forest functions, promote natural regeneration, restore wildlife habitat, and reduce carbon emissions from decomposition. Un-salvaged storm-damaged areas are a barrier to regeneration and become a future fire hazard. By salvaging these stands, we can safely re-open the trails beneath them, and avoid a potential future forest fire problem.

Priority	Zone(s)	Acres	Comment
1	1D, 3B, 3D	388	Intersecting trails, large acreages, wildlife, and restoration needs.
2	1D, 3B	56	Smaller acreages, no intersecting trails.
No Harvest	1A: HCVF	88	HCVF. Individual trees removed only as needed.
Total Damaged 480 acres			

3. Salvage Severely Damaged Stands in Zone 1D, 3B, and 3D.

These stands are marked on the attached map with a number "1" as they will be the first to receive salvage treatments. These are stands that are entirely on the ground where the trails cannot be opened. These stands will be marked, impacts considered, and administered with our normal timber sale assessments². They will be sold using our normal bid procedure and harvested by trained master logging companies. These sites will be rehabilitated to mitigate invasive species to conserve soil resources. The timeframe for the completion of these activities will be abbreviated so that trails can be opened as soon as possible and to prevent decomposition of the timber. As part of our normal processes a pre-harvest assessment will be completed, and

¹ Both the Restoring Native Hardwood Initiative (Mohican) and the 10-year Management Plan can be found on our website.

² Outlined in the 10-year Management Plan.

the actual unit may change depending on the environmental considerations that need to be made. The total acreage included in this priority is **388 acres** composed of several different harvest units.

4. Salvage severely damaged stands in Zone 3B and 3D, that have minor trail impacts.

For small acreages with little or no trails in the damaged area, salvage operations will be delayed focusing on higher priority stands. These stands are marked on the map with a number "2". Salvage operations will be completed using DOF staff as time and conditions allow. Or they may be sold using our normal bid procedure and harvested by trained master logging companies. The total acreage included in this priority is **56 acres**.

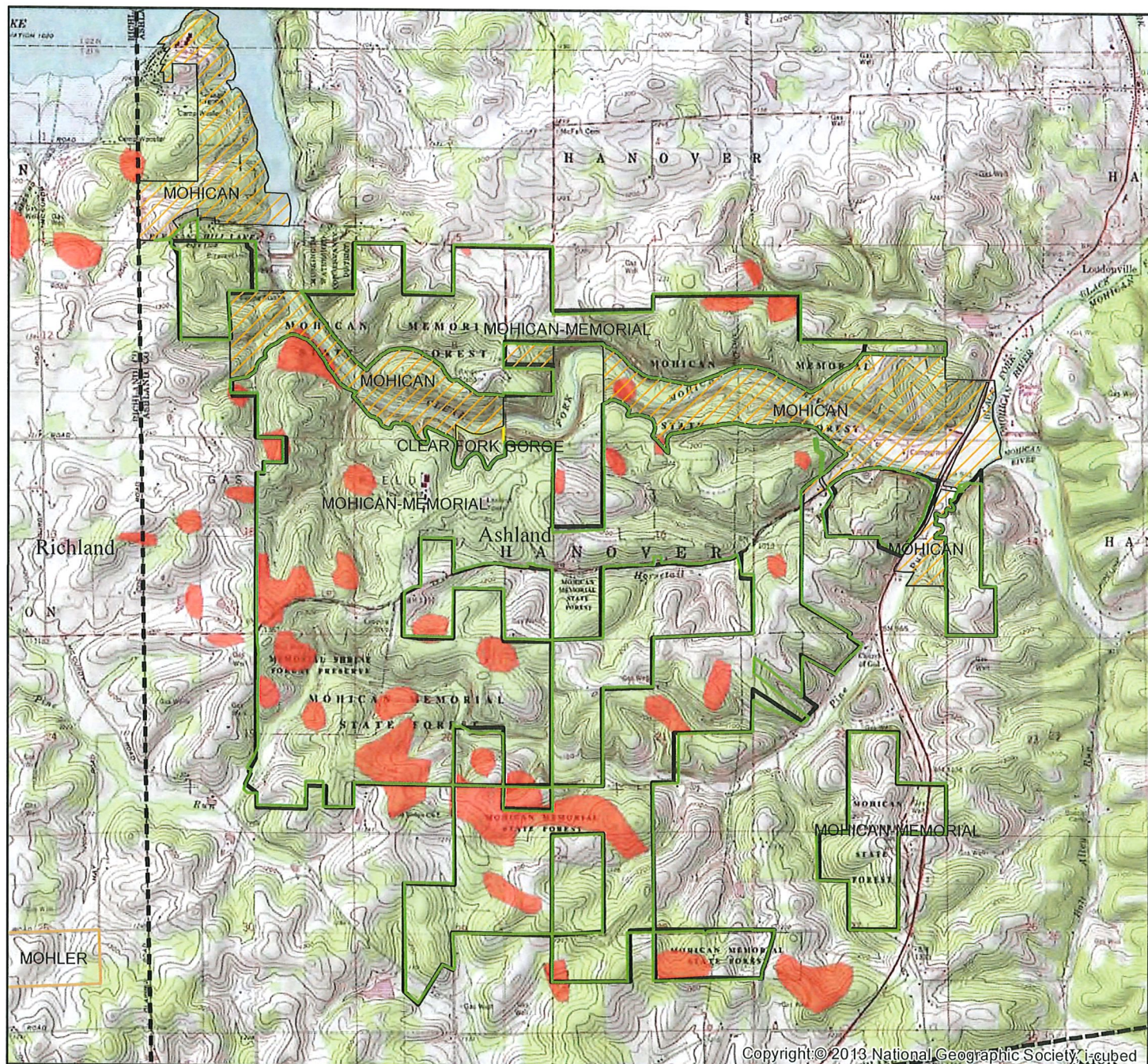
5. No Commercial Salvage Operations in Zone 1A.

Damaged stands within zone 1A: High Conservation Value Forest (HCVF), will receive no commercial salvage treatments. Salvage of individual trees will need to occur to safely open recreational trails or access roads. However, this work will be limited in scope and incidental. Salvaging individual trees within this area will only occur to improve or restore roads and trails. The total acreage of damage stands within in HCVF that will not be salvaged is **88 acres**.

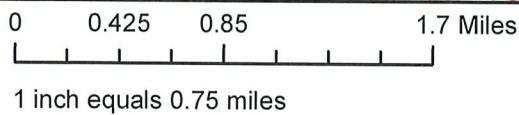
6. Delay Advertising New Pine Thinning Timber Sales.

There are currently 2 executed contracts for pine plantations thinning operations. Those contracts remain in force. No new pine plantation thinning timber sales will be advertised until the salvage and recreational priorities in this document are completed. This response plan outlines several activities that are expected to take 1-3 years to complete

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 Division of Forestry
 Mohican - Memorial State Forest
 Severe Damage from Storm on June 13, 2022



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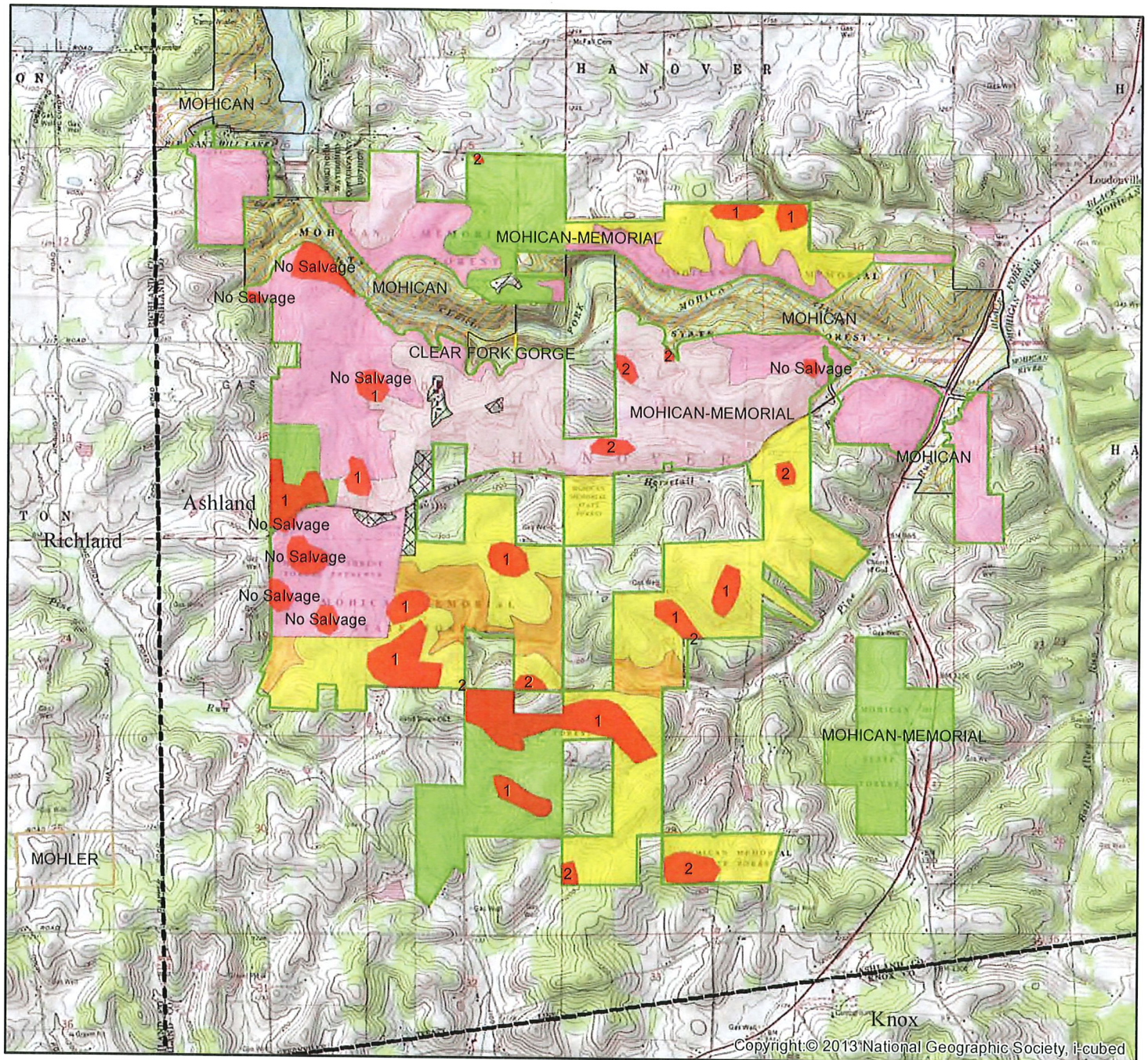


Legend

- State Forest Boundary
- Storm_damage
- Counties (ODOT)



Ohio Department of Natural Resources Division of Forestry Mohican - Memorial State Forest Salvage Priority



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0 0.425 0.85 1.7 Miles

1 inch equals 0.75 miles

Legend

Counties (ODOT)

Storm Damage Mohican only

Mohican Zones

Zone

1A - HCVF

1D - HCVF Restoration

3A - Resource Protection

3B - Unevenaged Mgmt

3D - Demonstration

4A - Facilities

4B - Parking

