

**STATE OF TENNESSEE
DEPARTMENT OF AGRICULTURE
DIVISION OF FORESTRY**

**Hurricane Helene Agriculture and Timber Relief Fund
Forest Management Plan Guidance**

Dear Accredited Foresters,

The Tennessee Division of Forestry (TDF) has developed a Forest Recovery and Management Plan template to assist landowners whose forestland was damaged by Hurricane Helene. This plan is designed for use by accredited foresters working with affected landowners to assess damage, plan recovery actions, and promote long-term forest health and resilience.

Purpose

- Document storm-related forest damage
- Identify immediate recovery and hazard mitigation needs
- Develop short- and long-term management recommendations
- Support participation in cost-share or recovery assistance programs

How to Use

- Accredited foresters should complete the plan in cooperation with each landowner.
- Use the Storm Damage Assessment section to describe specific impacts (windthrow, flooding, erosion, etc.).
- Outline Immediate Recovery Actions (safety, debris removal, salvage) and Long-Term Restoration Objectives (reforestation, regeneration, erosion control).
- Submit a completed copy to the TDF Area Forester for review and recordkeeping.
- Attach maps, photos, or documentation as available.

File Format

An accredited forester must complete the [Forest Management Plan](#) in Formstack. To complete the plan, please follow the steps as described in the Submittable application. They are also listed below.

1. Click on the above link to **complete the form in Formstack**.
2. The email address used in the Formstack will receive a **confirmation email with an attached PDF containing the responses**.
3. **Email the PDF** to the applicant.
4. **The applicant will upload the PDF** in the Submittable application where indicated.

If you prefer to manually complete the form, please download this template, complete it, and upload a copy of your completed answers into Submittable.

Contact

If you have questions or need technical guidance, please contact your TDF Area Forester or the Forest Management Unit. You can locate the appropriate contact by visiting the [Area Forester Directory](#).

Thank you for your continued partnership in helping restore Tennessee's forests following Hurricane Helene.

Tennessee Department of Agriculture – Division of Forestry

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**Hurricane Helene Agriculture and Timber Relief Fund
Damage Assessment and Payment Methodology**

Timber Loss will be determined by using the methodology below:
Calculation for the Damage Category Column in the Timber Loss Calculations table below.

- Moderate damage value = value \$/acre x 27% (27% represents the moderate damage financial loss).
- Severe damage value = value \$/acre x 50% (50% midpoint value for severe damage financial loss).

Timber Loss Calculations

Timber Type	Site Quality ¹	Avg \$/Ton ²	Avg Tons/Ac ³	Value (\$)/Ac ⁴	Damage Category ⁵	
					Moderate	Severe
Hardwood						
	Poor	\$36.00	39	\$1,404.00	\$379.08/acre	\$702.00/acre
	Fair	\$36.00	62	\$2,232.00	\$602.64/acre	\$1,116.00/acre
	Excellent	\$36.00	72	\$2,592.00	\$699.84/acre	\$1,296.00/acre
Softwood						
	Poor	\$9.00	5	\$45.00	\$12.15/acre	\$22.50/acre
	Fair	\$9.00	6	\$54.00	\$14.58/acre	\$27.00/acre
	Excellent	\$9.00	3	\$27.00	\$7.29/acre	\$13.50/acre

1-Site quality is based on average site index value for the parcel, see Table 1 for site index

2-Average \$/ton is calculated using Timber Mart South pricing for Qtr III 2024. Predominant species of hickory, red oak, white oak, hard maple, and yellow polar were used. Softwood was calculated using TimberMart-South Qtr III 2024 pricing for Virginia Pine as it was the value produced. See Table 2 for values. (Values have been rounded to nearest dollar)

3-Average tons/acre were calculated using the USDA Forest Service EVALIDator tool (<https://apps.fs.usda.gov/fiadb-api/evaluator>) by querying TN FIA data for the 8-county based on site quality. Only values for private forestland were used.

4-Value/acre = Avg \$/Ton x Avg Tons/Acre

5-Damage category for moderate and severe were identified using the Southern Group of Damage Assessment Protocol. Moderate Damage is defined by a minimum of 15% of forest Severe Damage is defined by a minimum of 40% of forest damaged. Percentages are based acreage size of 10 acres. Moderate damage value = value \$/acre x 27% (27% represents the of the moderate damage financial loss. Severe damage value = value \$/acre x 50% (50% midpoint value for severe damage financial loss). See Table 4 for Damage Assessment

Table 1: Average Site Index Values

Hardwood Species¹

Site Quality	Site Index (ft)	Description
Poor	< 65	Low site productivity. Limited timber value; typically suited to low-input management
Fair	65 – 80	Moderate productivity. Suitable for general hardwood management and mixed-use objectives.
Excellent	> 80	High productivity. Capable of supporting fast-growing, high-quality hardwood timber

1 – Hardwood Species - Hickory, Red Oak, White Oak, Hard Maple, Yellow- Poplar

Softwood Species¹

Site Quality	Site Index (ft)	Description
Poor	< 60	Very limited growth; typically, not suitable for intensive timber management
Fair	60 – 75	Moderate productivity; may support short-rotation or mixed-use forestry
Excellent	> 75	High productivity; suitable for commercial pulpwood and low-grade sawtimber

1 – Softwood Species - Virginia Pine

Table 2: Average Stumpage Value – TimberMart-South 3rd Quarter 2024 Stumpage Prices for TN1 range

Average Stumpage Prices \$/ton for Selected Hardwood Species & Virginia Pine (Softwood)	
	Mid Average
Hard Maple	\$ 25.87
Hickory	\$ 24.08

Red Oak	\$ 39.44
White Oak	\$ 46.79
Yellow-Poplar	\$ 42.17
Hardwood Average	\$ 35.67 <i>Rounded to \$36/ton</i>
Va Pine (Softwood Average)	\$ 9.33 <i>Rounded to \$9/ton</i>

Table 3: Tennessee Forest Inventory & Analysis Reported Volume (tons) per Acre

Site Index Class	Site Index Range	Private Acres	Softwood Volume	Hardwood Volume ¹	Softwood (Green Tons/Acre)	Hardwood (Green Tons/Acre)
Poor	< 65 HW <60 SW	99,891	453,662	3,890,481	5	39
Fair	60-80 HW 60-75 SW	212,201	1,241,915	13,100,043	6	62
Excellent	> 80 HW >75 SW	122,933	410,307	8,896,571	3	72

1-Volume information was generated through the USDA Forest Service EVALIDator database

Table 4: Southern Group of State Foresters Damage Assessment Categories

SGSF Damage Category	Wind speeds (mph)	Vegetative Impacts to Canopy / Stems	Estimated Range of Tree Damage	Estimated % Financial Loss Midpoint (for calculating loss in dollars) ¹
Moderate	85 - 111	Approximately 1/4 - 1/3 of all trees with damage	16 - 39%	27%



Severe	112 +	Greater than half of all trees with damage	40% or Greater	50%
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1 - The midpoint represents the average percent loss for the damage category.

Instructions for Determining Damage Category of Affected Forests – to be completed by Accredited Foresters only

Detailed field instructions for visually (ocularly) estimating timber damage severity based solely on observation—no measurement tools, plots, or cruising inventory methods required. These guidelines help foresters, landowners, and resource professionals quickly and consistently classify damage across a stand after natural disturbances.

To assess forest stand damage by visual estimation only, classifying stands into one of the following categories:

Damage Class	Approx. % of Trees Damaged (Visually Estimated)
Moderate Damage	16--39%
Severe Damage	40% or Greater

GENERAL INSTRUCTIONS

- Walk or drive slowly along stand edges, roads, or trails.
- Observe entire stands from multiple vantage points (e.g., from the ground, hilltops, landings).
- Use landmarks to divide stands visually (e.g., by species group, age class).
- Evaluate all visible tree damage within a reasonable field of view (both near and far).
- Estimate the proportion of trees that show major visible damage.

GENERAL RULES OF THUMB

- Observations should be quick but deliberate — consistency is more important than exact precision.
- Use a mental frame of reference (e.g., “1 in 4 trees damaged = ~25%”) to aid visual estimation.
- If assessing from aircraft or drone footage, apply the same criteria from an overhead perspective.



STEP 1: DEFINE WHAT COUNTS AS A “DAMAGED TREE”

Use these criteria to determine which trees are considered damaged based on visible signs:

Damage Type	Visual Indicators (Ocular)
Uprooted	Entire tree or root mass lifted; soil exposed
Snapped/Broken Stem	Tree trunk visibly snapped, splintered, or bent beyond recovery
Severe Leaning	Tree leaning >30° with root plate visible
Crown Loss	Half or more of crown visibly broken, burned, or defoliated
Bole Damage	Deep visible bark wounds or charring on a significant portion
Dead Tree	No foliage or entirely brown/red crown post-event

Do not count trees with:

- Minor limb loss
- Slight defoliation

STEP 2: OBSERVE & ESTIMATE PERCENT DAMAGE

- Focus on a representative area or segment of the stand.
- Visually estimate the total number of trees in view (e.g., "about 50 trees visible").
- Estimate how many of those show major visible damage (based on Step 1).
- Use the following reference to assign a damage category:

STEP 3: CLASSIFY DAMAGE SEVERITY BY VISUAL PERCENTAGE

Damage Class	Visual Indicators
● Moderate (16-39%)	Damage visible on some trees; majority of stand appears intact. Clusters of broken or leaning trees.
● Severe (40% or Greater)	Damage widespread; Approximately half or more of the trees snapped, broken, or uprooted. Some undamaged trees may remain, but they are few if any.

Repeat this estimation for multiple points or angles of each stand to ensure accuracy.

STEP 4: DOCUMENT VISUAL OBSERVATIONS

For each stand or segment, record:

- Stand ID or Location
- Date of observation
- Observer initials
- Visual % estimate of damaged trees (e.g., “~45%”)
- Assigned damage class (Moderate, Severe, Catastrophic)
- Dominant species (if known)
- Optional: notes on accessibility, salvage potential, hazards

STEP 5: TAKE PHOTOS (OPTIONAL BUT RECOMMENDED)

- Wide-angle views of stand condition
- Close-ups of representative damage types (broken stems, uproots, scorched crowns)
- Include identifiable landmarks or tree species

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**Hurricane Helene Agriculture and Timber Relief Fund
Forest Management Plan**

Prepared in cooperation with the Tennessee Division of Forestry and Accredited Foresters

Introduction

Hurricane Helene caused widespread damage to Tennessee’s forests, including windthrow, flooding, erosion, and debris accumulation. This Forest Recovery and Management Plan provides guidance to help landowners and accredited foresters assess damage, restore forest health, and plan for resilient future forests. The Tennessee Division of Forestry (TDF) encourages cooperation between landowners and professional foresters to ensure safe, sustainable, and effective recovery actions.

Property Owner Contact Information

Name:

Mailing Address:

City:

State/Zip:

Phone:

Email:

Property Address:

County:

Lat/Long Coordinates (DD):

Tax Parcel ID(s):

Total Acreage:

Forested Acreage:

Affected Forested Acreage:



Storm Damage Assessment

Describe the type and extent of damage caused by Hurricane Helene. Include notes on windthrown trees, flooding, erosion, or other storm impacts. See attached rapid assessment method.

(Example: XXX acres of trees were damaged including species, age, and quality)

Forest Management Goals & Recovery Objectives

Summarize your goals for forest recovery and future management. Goals may include salvaging usable timber, replanting native species, stabilizing soil, restoring wildlife habitat, or improving future storm resilience.

(Example: Replant with mixed hardwood species to restore productivity and wildlife habitat.)

Description of Forest Management Unit(s)

Each management unit should represent an area with similar conditions or recovery needs. Complete one section per unit.

(Example: Unit 1 - 25 acres of upland hardwoods with moderate wind damage. Focus on salvage and natural regeneration monitoring.)

Unit Name or Number: _____ Size of Unit in Acres: _____
Date: _____

Site Quality: _____

Existing Forest Type: _____

Species Composition:

Observed Storm Damage:

Immediate Recovery Actions:

Plan Certification

The undersigned certify that the information provided in this plan is true and accurate to the best of their knowledge. This plan was prepared to guide recovery from Hurricane Helene and promote long-term forest health and sustainability.

Landowner or Lessee

Printed Name(s): _____

Signature(s): _____

Date: _____

Accredited Forester

Printed Name: _____

Signature: _____

Date: _____

**Once the landowner or lessee and the accredited forester have signed the plan, you will submit the Forest Management Plan with your application through Submittable. (See instructions on page 1 of the instructions on how to complete the plan.) The Division of Forestry will then review it as part of the full application review.*