Connecticut Department of Energy & Environmental Protection

Hazard Tree Mitigation Policy

August 1, 2022

1.0   Purpose

Section 17 of Public Act 22-143, An Act Concerning Revisions of Certain Environment Related Statutes, requires the Connecticut Department of Energy and Environmental Protection (DEEP) to establish a hazardous tree mitigation policy that shall apply to the designation, removal and mitigation of trees located in state parks and campgrounds that are determined to be hazardous by DEEP personnel.

DEEP manages more than 250,000 acres of mixed use, open space land such as parks, forests, wildlife management areas, trails, natural area preserve lands, and flood control properties. Connecticut State Park lands are estimated to accommodate more than 10 million person-trips for recreational activities per year. State Forest lands are estimated to accommodate more than 2 million day use person-trips per year. Visitors seek natural, safe areas to enjoy recreational activities, and as responsible managers of these publicly owned natural resource lands, the safety of the public and their property are an important part of DEEP's mission.

Millions of trees exist on these state lands, all growing, maturing, and dying as time progresses. These trees are subject to damaging effects from natural events, such as fire, flooding, strong winds, and other severe weather events, as well as insects, disease, and human activity. Such stresses can cause trees to become fragile, damaged, or die.

This Hazard Tree Mitigation Policy (Policy) provides a framework for a Hazardous Tree management program. This Policy addresses regular and systematic inspections based on visually identifiable tree Defects, information on identifying Hazardous Tree Defects, signage and public notification, and guidance on hazard mitigation.

This Policy will apply to DEEP's hazard tree management activities in DEEP parks and campgrounds, provided that the procedures in this Policy will not apply in the following circumstances:

1. Severe Weather Events - During or immediately following a Severe Weather Event, a large number of trees may be deemed extreme hazards. Priority will be given to addressing public safety risks and providing for quick restoration of operations and public access.
2. Extreme Hazards - A tree is an Extreme Hazard if risk of failure is imminent, and failure has a high probability of resulting in serious or life-threatening injury or serious property damage at any point. If a tree is determined to be an Extreme Hazard, removal should occur as soon as reasonably possible, and the area should be closed off to people until removal occurs.
3. Forest Fire Suppression, Prevention or Protection Efforts – DEEP staff respond to forest fires across the state and often need to remove trees as part of their emergency response. In the case of a forest fire in or near a state park or campground, DEEP would use whatever tree removal methods are necessary and possible to suppress, prevent or protect the public and forest in this scenario.
4. Decorative Pruning – DEEP maintains decorative trees and shrubs in various gardens or scenic areas. This Policy will not apply to pruning intended to enhance the appearance or health of decorative trees.
5. Trail Maintenance, Cutting and Clearing - Both DEEP and other non-governmental organizations maintain trails in state parks and campgrounds and these trail-related activities will not be governed by this Policy.

6. Infrastructure Maintenance Tasks – DEEP depends on roads, emergency access points, utilities and other infrastructure to keep parks operational and provide for public access. This Policy will not apply to tree removal efforts related to infrastructure maintenance.
7. Removal of Invasive Species – DEEP addresses invasive species by executing and funding invasive species removal projects and by supporting removal efforts by volunteer organizations. This Policy will not apply to such efforts.
8. Trees Located on or Near the Boundaries of Department of Energy and Environmental Protection Lands - DEEP already has a Policy governing hazard trees located on boundary lines; this Policy is distinct from and does not apply to or supersede DEEP's Policy governing boundary lines.
9. Forestry Management – DEEP frequently executes forest management projects in state forests and occasionally in state parks. These activities are managed through robust outreach and planning protocols such as the development of 10-year forest management plans and pre-harvest tours. This Policy does not apply to Forest Management activities.
10. Wildlife and Fisheries management activities – Tree related activities designed to enhance wildlife or fisheries habitat. This Policy does not apply to Wildlife and Fisheries management activities.

To provide for Policy implementation planning and required training, Sections 5.0, 9.0 and 10.0 of this Policy will become effective on October 1, 2022, and Sections 4.0 and 6.0 of this Policy will become effective on May 1, 2023. The remainder of this Policy will become effective upon issuance. DEEP also reserves the right to revise this Policy as necessary in order to implement the objectives set forth in PA 22-143. Any updates of this Policy will be published on DEEP's website.

2.0   Definitions

Arborist – A person holding an active license as defined in Section 23-61a of the Connecticut General Statutes (C.G.S. sec. 23-61a).

Defect - Visible sign that a tree or part of a tree is dead, failing or appears likely to fail, including any structural weakness or deformity in the tree's branches, stem, or root system.

Defective Tree - A tree with one or more defects.

Developed Areas - Areas within DEEP Parks and campgrounds that are actively maintained by landscaping or mowing and/or that offer amenities which attract people to linger or congregate.

Extreme Hazard – An existing condition that poses imminent harm to people or property and must be addressed immediately.

Hazardous Tree – Defective tree that is within striking distance of a Target (see definition of target below)

Hazard Potential Rating - Priority ranking assigned by DEEP personnel to a Hazardous Tree when performing a tree inspection in Developed Areas for the purpose of determining the appropriate action the agency should undertake. The hazard potential rating is based on the target within striking distance. Hazard Potential Rating Categories are "Low, Moderate, and High."

Heritage Tree – A tree recognized by DEEP for its unique size, age, historic or cultural significance, or aesthetic or ecological value.

Inspection – A visual assessment from a defined perspective of an individual tree or a population of trees to assess risk to specified targets from obvious defects or specified conditions.

Mobile Hazard Tree Assessment Tool– A portable handheld web-based tool used during inspection to record and document inspections, Heritage Trees and Hazardous Trees.

Natural Diversity Database (NDDB) – The DEEP program for the protection of state endangered, threatened and special concern species (C.G.S. secs.26-303 to 26-313). The NDDB Review process and NDDB Area maps, depicting known locations of listed species, are used for screening agency projects and actions for potential impacts to listed species.

Salvageable – A hazardous heritage tree that can be mitigated using acceptable, cost-effective methods recommended by an arborist in order to keep the tree alive.

Severe Weather Event – A weather condition that produces heavy rain, ice, snow, strong winds, tornadoes, or any other natural event that causes significant damage to many trees in a given area.

Target – People or property that could be in identified Target Areas in parks or campgrounds when a tree fails

Target Area – A developed area where people, vehicles, or equipment are likely to linger and congregate in parks and campgrounds.

3.0   Roles and Responsibilities

The DEEP Bureau of Central Services (BCS) will manage the implementation of this Policy and the collection, recording and storage of required data. Training for applicable DEEP personnel will also be coordinated through BCS with the support and assistance of personnel from the Bureau of Outdoor Recreation (BOR) and Bureau of Natural Resources.

Arborists or an individual who is credentialed with a Tree Risk Assessment Qualification from the International Society of Arboriculture (ISA TRAQ Credential) will be consulted when determining whether a Heritage Tree should be identified as a Hazard Tree, and if so, how such hazard may be cost-effectively mitigated.

3.1   Roles and Responsibilities

Role	Responsibility
DEEP Facility Supervisor	Complete required training and conduct inspections; accountable for implementation of the Policy at their facility
DEEP Facility and Program Personnel	Complete required training, conduct inspections and complete required mitigation as trained
Arborists* & Individuals with an ISA TRAQ Credential*	Assess and provide recommendations for Heritage Tree mitigation. May conduct inspections
Tree Crews *	Perform required tree mitigation activities
DEEP Foresters	Review & provide technical assistance if necessary
DEEP Wildlife and Fisheries Biologists	Review & provide technical assistance if necessary

* Denotes **Role** may be provided by DEEP or non-DEEP personnel.

4.0   Training

All DEEP personnel who perform hazard tree assessments are required to complete training provided by an Arborist or an individual with the recognized knowledge, skills and ability. The training shall cover all sections of this Policy and provide specific instruction on how to identify Hazard Trees and Heritage Trees, and how to collect and record information required by the Policy. This training must be completed before DEEP personnel perform Hazard Tree inspections. DEEP shall encourage and support staff participation in the Tree Wardens' Association of Connecticut Tree Warden School.

5.0   Heritage Tree Designation

Prior to conducting an inspection as described in section 6.0 of this Policy, the DEEP personnel conducting the inspection will review any public input received, and shall use the following criteria to determine if a tree constitutes a Heritage Tree, unless the tree is determined to be an Extreme Hazard. Heritage Tree criteria: a tree or stand of trees that is particularly desirable because it has valued, unique characteristics that set them apart from other similar trees. Valued, unique characteristics include

uncommon genus, species, form, size, location, historic significance, age, ecological value, is part of a scenic vista or has other desirable features.

The public may send input and comments concerning Heritage Trees to DEEP.HazardTrees@ct.gov.

6.0   Inspections

The purpose of an inspection is to attempt to identify Defective Trees near Target Areas, assess severity of Defects present, and assess risk to people and property. Before any hazard tree mitigation project is started, trained personnel should conduct inspections to assess tree condition within Target Areas located in the facility with a Hazard Potential Rating category of moderate or high. In addition, all personnel at DEEP facilities should be encouraged to report any trees they encounter during daily working activities that they have concerns about to the facility supervisor for further assessment. Facility supervisors will be responsible for ensuring inspections occur at their facilities before any hazard tree mitigation project occurs.

Inspections are broken up into two different types depending on the Hazard Potential Rating.

The first type of inspection is an individual inspection. This inspection is more thorough and is intended to occur in areas with high and moderate priority Targets, as determined in table 6.1. For an individual inspection, trained personnel will attempt to assess trees that are within striking distance to high and moderate priority Targets.

The second kind of inspection is a walkthrough or windshield inspection. This inspection is less thorough and may occur in Target Areas with a low Hazard Potential Rating as identified in Table 6.1. A walkthrough or windshield inspection is a visual inspection where the inspector walks or drives the trail, path, or road, noting any visual Defects encountered. This type of inspection does not assess every single tree but looks for obvious Defects visible from a distance.

For any tree not identified as a Heritage Tree, trained DEEP personnel can assess the Defect on the tree. DEEP personnel will be trained on identifying Defects associated with Hazard Trees. Some of these Defects include cracks, dead trees, and branch decay. Facility supervisors will determine corrective actions for Hazard Trees that are not Heritage Trees.

Trained DEEP personnel will determine the Hazard Potential Rating using Table 6.1. There are three classifications of Hazard Potential Rating: high, moderate, and low. These classifications are based on the Target.

6.1   Hazard Potential Rating Target Areas

High	Moderate	Low
Developed campsite	Developed water access sites	
Developed picnic area	Developed parking lots	Developed hiking trails
Buildings	Developed overlooks	Developed roads
Observation decks, piers, or docks		Dams
Pavilions/shelters	Kiosks	
	Developed roadside pull-offs	
	Developed corridors connecting parking areas and site attractions	

7.0   Information Collection

Best efforts should be made to use DEEP's Mobile Hazard Tree Assessment Tool when conducting inspections. Required information that cannot be recorded electronically in the field and transmitted to DEEP's Hazard Tree data repository, should be physically recorded in the field and then recorded in DEEP's Hazard Tree data repository within two weeks of the inspection.

When a tree is determined to be a hazard, the following information should be collected by the inspector as practicable:

1. The date the tree was encountered
2. The Target present
3. The tree condition, including visible Defects
4. The likelihood of the tree striking the Target
5. Heritage Tree status
6. A photograph if the tree is a Heritage Tree
7. The location of the tree
8. The tree species
9. The tree dbh (diameter at breast height)
10. Individual or cluster
11. Number of trees, if cluster
12. Special considerations

If the tree is a Heritage Tree, DEEP shall consult an Arborist or an individual with an ISA TRAQ credential to complete an assessment including, but not limited to, the condition of the tree, site factors, the Target(s) and a risk categorization.

All data collected should be recorded in DEEP's Hazard Tree data repository.

8.0   Internal Review

DEEP will provide internal notifications of all planned tree mitigation projects that are subject to this Hazard Tree Mitigation Policy to allow professional disciplines within DEEP the opportunity to advise and comment on proposed, upcoming Hazard tree mitigation projects. Such DEEP disciplines will include, but are not limited to, the Engineering Field Support Services, Fisheries, Forestry, Parks and Wildlife Divisions. Such internal notifications shall be sent to key program staff within those areas including the program's Office Director or Division Director. These notifications will be updated monthly.

The chiefs of the Bureau of Outdoor Recreation and the Bureau of Natural Resources will be responsible for approving all hazard tree mitigation projects.

9.0   Signage and Notification

Hazardous Trees located in high or moderate Target Areas and identified through this program shall be marked with a spray-painted orange dot to indicate a tree that has been determined to be a hazard. Informational signage will be placed at DEEP properties to inform the public that the marked trees are hazards. Fencing or cautionary tape may be utilized by DEEP as a temporary measure to further notify the public of the marked trees.

DEEP will provide external notifications of all planned tree mitigation projects that are subject to this Hazard Tree Mitigation Policy at least 14 days before cutting is scheduled to begin. External notifications will be initiated by the Bureau of Outdoor Recreation and provided through DEEP's website and physical signage posted at the proposed site.

DEEP personnel managing tree mitigation projects are responsible for posting informational signs at planned cut locations at least 14 days before cutting begins to inform the public of planned cutting activities. The signs will provide an email address where interested parties can send comments and inquiries about the planned cutting activities. DEEP will review and consider submitted comments to determine if adjustments to the planned mitigation project for that location should be made.

An informational sign will be placed on each Heritage Tree to inform the reader of any planned next steps of hazard mitigation and provide an email address where interested parties can send comments and inquiries about the planned mitigation activities. Information for planned Heritage Tree mitigation projects will be posted on the DEEP's Website at least 14 days before mitigation begins.

Internal and external notifications will include the following information:

1.   The location of the planned tree mitigation project
2.   The number of trees being pruned or removed
3.   The number and location of any Heritage trees that will be pruned or removed
4.   The date the work is planned to begin

10.0 Corrective Actions and Mitigation

Corrective action and hazard tree mitigation can occur after all preliminary steps identified in this Policy are taken. Corrective actions include pruning and removal, and in the case of Heritage Trees, they may include site adjustments as well as recommendations made by Arborists or individuals with ISA TRAQ credentials. If the tree is a Heritage Tree, site adjustments and recommendations should be considered.

Closure of the Target Area before corrective actions are taken will be the decision of the facility supervisor based on the Target(s) and the threat of the hazard if the tree is not an Extreme Hazard.

Natural Diversity Database (NDDB) reviews of planned cuts will be performed as required and necessary actions will be taken to protect plants and animals.

Tree removal and pruning will only be performed by qualified personnel and contractors.

When an Arborist or individual with an ISA TRAQ credential assesses a Heritage Tree, they must assess the tree's condition consistent with the ISA risk assessment standards and determine if the hazard can be mitigated without removal. They must provide a signed report to the Commissioner or the Commissioner's designee that provides a summary of the site investigation and recommended cost-effective mitigation options.

If the recommendations include mitigation measures other than removal, they must include the following information within the report:

1. The proposed methods that may be used to mitigate the hazard tree
2. The financial costs associated with the proposed mitigation methods
3. The recommended monitoring requirements if the proposed mitigation methods are implemented
4. Any remaining risk associated with the subject tree

The Commissioner or the Commissioner's designee will evaluate the feasibility of the proposed mitigation options. If the salvage recommendations are determined to be infeasible, the tree will either be pruned or removed.

After corrective actions are completed, these activities shall be recorded in DEEP's Hazard Tree data repository.

11.0 Replanting

DEEP does not currently have funding or staff resources to support tree replanting. For many hazard tree projects located in wooded areas, new trees will either naturally re-seed or the existing canopy will expand through natural silvicultural processes. Replanting may not be advisable in some locations, where a new tree would replicate the same safety risks that caused a removed tree to become a hazard. However, in some cases it may be appropriate to replant trees in order to reestablish benefits provided by to the ecosystem, culture or aesthetics of the park or campground. New trees require significant space, light, and water to be successful.

In these situations, DEEP will consider replanting through non-profit or volunteer support. Newly planted seedling or sapling trees often need specialized care including regular watering and protection from animals. DEEP's preferred option for replanting is to partner with a non-profit organization or volunteer organization who can support successful tree replanting projects.

Any replanting should be done with approval from DEEP facility managers and DEEP forestry and wildlife staff who can approve trees species and locations that will provide maximum benefits while supporting the native ecosystem and public use of the facility.