

MEMO**DATE:** December 2024**TO:** Wildlife Dangerous Tree Assessors**FROM:** Wildlife Dangerous Tree Committee of BC

Updates to the Tree Assessor's Course for Parks

The manual for the Parks module of the Wildlife Dangerous Tree Assessor's Course (WDTAC) was revised in 2023 and launched in 2024 to clarify the process Assessors will use when asked to assess trees within recreational sites (parks, recreation sites, trails). The former Parks module (2019) has now been branded the Wildlife Hazardous Tree Assessor's Course – Parks, Recreation Sites and Trails (WHTAC).

The following summarizes the key revisions to the manual which will support certified Assessors when assessing trees within parks, recreation sites, recreation trails and interpretive forest sites throughout BC. The former Parks module (2019) has now been branded the Wildlife Hazardous Tree Assessor's Course – Parks, Recreation Sites and Trails with a further update completed for December 2024.

Background

All trees, whether they are alive or dead, have the potential to be a hazard to people, property, or facilities. With reference to dangerous trees and the workplace, OHS Regulation 26.11 (1) states: *If it is known or reasonably foreseeable that work will expose a worker to a dangerous tree,*

- (a) the tree must be removed or*
- (b) a risk assessment of the tree must be undertaken.*

Fundamentally, to be declared a dangerous tree means the tree is in a hazardous condition according to the Level of Disturbance and Exposure (LODE) tree hazard tables, and that the hazardous defects are within reach of a target. For the purposes of parks, recreation sites or trails, targets are those areas designated and maintained by a Designated Land Manager (i.e., can include constructed trails, camping sites, picnic sites, playgrounds, roads, bridges, facilities, etc).

The intent of the course is to provide instruction about the hazard tree assessment practices used to protect workers in parks, recreation sites, or trails. In addition, both BC Parks and Recreation Sites and Trails BC require Assessors to assess trees for public safety. Both agencies require their staff and contractors to use this module when assessing trees in designated and maintained parks, recreation sites and trails in BC.

Summary of changes to sections within the manual

Section 1: Introduction to Significant Trees

Introduction to Significant Trees (formerly, Intro to Wildlife Trees) was modified to expand the topic beyond wildlife trees. It is increasingly important for land managers to consider additional values such as Indigenous values (culturally modified trees) and feature trees (e.g., special tree protection regulation) when making tree management decisions.

- The table used by Assessors to rate the tree's wildlife habitat values has been modified to be a significance valuation (page 9).
- Of significant note, in July 2022, the Migratory Birds Regulations afforded federal protection to pileated woodpeckers nest trees for 3 years beyond the date a notice of abandonment had been filed. Information about this requirement has been added to the course manual.
- Other regulatory guidance has been simplified and links added to appendix 3 for further reading. Other elements of section 1 remain substantively unchanged other than adding colour photos, clarifying wordings.

Section 2: Wildlife/Hazardous Tree Assessment

The Wildlife/Hazardous Tree Assessment (formerly, Wildlife/Dangerous Tree Assessment) section was updated and revised to clarify the concept that if suspect trees have defects (hazards) and if the hazard has deteriorated beyond the established failure potential criteria thresholds (tables 3, 4, 4A, 5), then it is called Dangerous when the defect can reach a target. The concept of 'target' is clarified to be workers and the designated and maintained areas or infrastructure where the public are invited to recreate. The risk management concept of protecting targets from damage by failing dangerous tree (hazardous tree) has been retained.

It is the responsibility of Designated Land Managers to determine how their legal responsibilities to protect the public will be integrated within their management policies. These planning and policy responsibilities are beyond the scope of this training.

Table 1 is fundamental to the tree assessment process. Assessors will select the worker levels of disturbance, to which the definition of a dangerous tree (OHS Regulation 26.1) is applied using the concept that disturbance to, or near, a tree might dislodge a hazardous part to workers exposed to the tree. The WDTAC modules (Forest Activity, Wildland Fire, and Parks) all use the principle that with increasing disturbance, there is an increased probability of a tree failure and consequently a diminishing acceptance to the extent of tree deterioration. The tree hazard tables (3, 4, 4a and 5) establish dangerous thresholds for common defects during the 4 levels of disturbance, into which exposure to public targets has been retained with modification.

The fundamental tree assessment process requires the Assessor to complete 5 steps when asked to conduct an assessment. The following outlines the content modifications:

Step 1 (using Table 1) – Determine the level of disturbance (LOD) is now called “level of disturbance and exposure” (LODE)

- The Designated Land Manager will make the LODE determination as well as to create a tree assessment plan for all their parks, recreation sites and trails. The plan should also create a frequency of assessment schedule which can guide the WHT Assessor in planning assessments.
- Strengthen the expectation that although Very Low Risk work activities are of very low disturbance and very low exposure times, there is still a need to have workers advised to avoid exposure to tree hazards without the formal need for an assessment. For example, don't touch suspect trees, avoid walking/working under leaners or overhead hazards, consider windspeed affects to trees.
- The worker descriptors were modified to reflect the common work activities undertaken in a park, recreation site and trail setting during routine maintenance/repair, but also retain the original examples of activities which can be associated with construction, maintenance, and rehabilitation projects.
- The emphasis of the wind-speed equivalency is strengthened to a concept for protecting workers (but is not applied to public exposure).
- Parallel risk categories for public targets were modified from the previous version of this table and appended into a new Appendix 4. Designated and maintained trails for public use should be assessed using LODE-1. For consistency and conformance with OHS safety regulations, a designated and maintained trail will have workers performing a task and therefore a Hazard Tree Assessment is required. When the public goes off-trail (e.g., activities like geocache, hunting, botanical plant collecting, etc) these activities should be rated as Very Low Risk and therefore no assessment is required because their excursions are likely random and unpredictable.
- Site stratification was added to highlight the importance of planning for, and anticipating, differing risk factors throughout the assessment area.
- Inclusion of the temporary worksite perimeter process, as used in the Forest Activity (FA) module,

using a case study to reflect the possibility of short-term work projects with a potentially difference LODDE than might have been traditionally used at a park, recreation site or trail.

It is important to note that the Designated Land Manager establishes the LODDE and periodicity of assessment for designated and maintained parks, recreation sites and trails. This course primarily provides guidance to the Assessor on how to assess tree hazards in proximity to workers and public targets.

Step 2 (using table 2) – Conduct a site assessment overview

This section of the course manual was expanded to provide a series of concepts and scenarios to guide the Assessor. This content expansion promotes the need for the Assessor to also consider the time between assessments when assessing trees. The key areas of elaboration are:

- Stand history and condition
- Weather patterns
- Tree Failure History

Step 3 (using table 3, 4, 4A and 5) – Conduct tree assessments

This section of the course was minimally altered and retains the fundamental hazard criteria thresholds used in the 2019 version of this module. However, common tree hazard indicator naming conventions were altered to clarify points of confusion often raised by students taking the course.

- Defective Top (DT) instead of the former hazard top (which tended to suggest the top was already dangerous)
- Large Defective Limb (DL) instead of the former “dead limbs”, because there is a need to recognize size is important, and that a live defective limb can also be a hazard
- Stem damage (SD) was expanded to highlight the concept of scars (catface) beyond the idea of a gouge out of a tree
- Discussions about tree lean and sweep were expanded to support the concept that LIVE trees can adapt, but once dead, these adaptations stop, and deterioration must now be evaluated more carefully.
- Detailed stem testing can also be performed using specialized equipment (e.g., Resistograph technology), so a reference to this technology was included (but there is no intent to require students to get this device. The use of the increment boring tool is promoted.
- The stem testing criteria was qualified to allow for RST/AST comparisons as per normal tree deformation and to situations where large openings (>50%) occur on the stem. Thus, the qualification, “*Trees with >50% circumference as an open wound and AST <30% of the tree radius have a high failure potential and should be rated as Hazardous*” was added to the detailed stem testing discussion on page 54.
- The concept of a Critical Rooting Zone was added to the course to ensure caution is exercised to evaluating this zone if construction activities compromise a tree’s roots.
- References to a Qualified Person performing assessments requires this to be under the supervision/mentoring of a certified Assessor.
- The SD hazard criteria always inferred decay to be an element of damage, and thus “decay” was added as an element of damage within tables 4 and 4A.
- Structural weakness appears as a term in tables 4, 4A and 5 but the descriptors for signs of structural weakness were not consistently included in the footnotes for each table. This was remedied.
- Assessing temporary worksites was added to this section to help strengthen the necessity for managing worker safety. Consistent with OHS Regulations, assessments for hazards must always be performed prior to the start of work.

Step 4 – Make the appropriate safety recommendations.

The role of the Assessor is essentially to determine whether a suspect tree is a Safe or Dangerous tree; managing the tree is not the role of the Assessor. However, the Assessor recommends what could be done

to their supervisor or to the Designated Land Manager. This recommendation includes the concept that high value trees be afforded greater consideration for retention than low value trees. These concepts were clarified in the manual.

An assessed tree determined to be a dangerous tree has a respective Hazard Area (the area that the part failing could land). The topic of No Work Zones was blended in this manual to include examples of how and when a NWZ would be established to protect workers. Additionally, there are situations when additional measures are likely required to manage the public (e.g., gates, barricades, site closures).

Step 5 – Provide documentation

The existing field assessment form was revised to reflect the added necessity to consider more than wildlife habitat. The title of the card was changed to Hazard Tree Assessment Field Data. The tree comment descriptors were changed

- Wildlife Tree Value changed to Tree Significant Value
- Wildlife Uses codes expanded to include Roosting (R)
- Recreational Attraction expanded in concept descriptors
- Heritage Feature changed to Cultural Feature (to promote focus on CMT's)

Documentation was expanded to include a need for the Assessor to provide a report, including a statement of limitations. This is the opportunity for the Assessor to share their site assessment learnings, safety concerns, summary of findings, recommendations, and a timeline for mitigation. Additionally, the Assessor will declare the reality that assessing trees is not a guarantee a tree will not fail and provides some realistic limitations to be conveyed to the persons requesting the assessment.

The section strengthens the need for Assessors to communicate when a reassessment is required. For example, there have been site altering events, the LODE has changed, too much time has elapsed, etc. The frequency of assessments for public safety is not an Assessor's duty to determine. However, this section maintains the messaging that relative to workers, an assessment is mandatory prior to work start-up, and the assessment should be done as close as possible to the start of work to allow time for implementing mitigation treatments prior to work start-up.

Appended supporting information

The references, glossary and appendices have been refreshed. The legal advice topic was removed. Appendix 1 – added Chaga, other minor fixes. Appendix 2 – added species listing from CDC and SARA.

Appendix 3 provides several links to regulations and acts and other information a diligent Assessor can reference after taking the course.

Appendix 4 now has the focus on managing public safety, with discussion about the role of the WHT Assessor, Designated Land Manager and the public exposure elements for table 1.

Appendix 5 illustrates a revised format for the field data card and a sample of how to fill out the data card, as well as a template for an assessment report.

Appendix 6 provides guidance to tree assessment field techniques, references to tree species names and how to use and care for the increment borer.

Implementing the WHTAC module

The 2024 version of the manual will be put into use for 2025 course deliveries. Courses continue to be delivered through the UNBC Continuing Studies program. Student prerequisites remain unchanged, and certification of WHT Assessors remains at four (4) years.

WHTAC – Parks, Recreation Sites & Trails

Table 1. Levels of Disturbance and Exposure (LODE) NOTE: not an exhaustive listing but a general guide.

Level of Disturbance & Exposure Risk	Example Types of Work Activities	Example Types of Visitor Exposure in Developed and Maintained Areas
Very Low Risk (No Pre-work WHT Assessment)	<ul style="list-style-type: none"> • Forest surveys and reconnaissance, trail layout, foot travel (heads up work) • General light vehicle travel on roads (pickups, ATV/UTV, snow sleds) 	<ul style="list-style-type: none"> • Non-designated and unmaintained trails
1 – Low (Tree Hazard Table 3) <40km/hour Windspeed	<ul style="list-style-type: none"> • Maintenance of developed areas: repairing, replacing, installing infrastructure with hand tools; cleaning, painting, firewood bucking, landscaping, brushing/pruning, lawn mowing • Brushing & Weeding (e.g., removing invasive plants, trimming overgrown areas) • Trail construction with hand tools • Use of light-duty machinery (e.g., weed whips, brush saws, lawnmowers) • Road travel with heavy vehicles (>5500 kg GVWR) on a constructed and maintained road • Fire control with hand tools and/or water hoses 	<ul style="list-style-type: none"> • Designated and maintained trails • Designated and maintained trail lookouts and viewpoints • Designated and maintained hiking trails with interpretive signs • Motorized trail use (ATV/UTV, snowmobile) and horseback and cycling • Designated and maintained rest stops alongside hiking trails • Designated and maintained wheelchair trails and high-use trails (e.g., large tour bus groups)
2 – Moderate (Tree Hazard Table 4) <40km/hour Windspeed	<ul style="list-style-type: none"> • Road travel with heavy vehicles (>5500kg GVWR) on a trail or overgrown road • Maintenance or construction activities without heavy equipment (e.g., small machines such as “bobcats”) • Tree pruning (stems >20 cm dbh) • Juvenile spacing or slashing (stems <15 cm dbh) • Tree bucking (e.g., bucking windfalls, felled trees) 	<ul style="list-style-type: none"> • Designated and maintained parking lots • Designated and maintained day use picnic sites • Designated and maintained public beach/swimming areas • Designated and maintained roadside viewpoints and rest stops • Portable/temporary toilet facilities • Portable/seasonal kiosks • RV sani-stations
3 – High (Tree Hazard Table 4a) 40 - 65 km/hour Windspeed	<ul style="list-style-type: none"> • Maintenance or construction activities with heavy equipment (including rubber tire backhoe where digging could affect tree root systems/stability) • Use of light and intermediate lift helicopters where workers are exposed to rotor wash • Tree falling (does not include hazard tree removal) and log removal (any tree >15 cm dbh) 	<ul style="list-style-type: none"> • Designated and maintained campgrounds and permanent amenities • Designated and maintained developed playgrounds (e.g., swings, slides, etc) • Permanent buildings/facilities and engineered bridges
4 – Very High (Tree Hazard Table 5) >65km/hour Windspeed	<ul style="list-style-type: none"> • Land clearing operations in structurally damaged stands (e.g., wildfire burns, extensive windthrow) • Use of medium and heavy lift helicopters where workers are exposed to rotor wash (e.g., slinging bridges and materials, landing sites) 	