

DRAFT

Plan for Recognition and Reduction of Tree
Hazards in Prince William Forest Park (PRWI)

I. Importance of a Plan.

The following five items express the need for the creation and implementation of a Hazard Tree Plan for PRWI:

1. Legal Liability: The Federal Tort Claim Act (1946) provides that the United States is liable in the same manner as a private party for the negligent acts or omissions of its employees. The modern trend of Tort Law is to make the land owner responsible for exercising reasonable care in preventing harm to the persons who might come on his/her land.

By legal definition, there are three classes of visitors, the invitee, the licensee, and the trespasser. The invitee is the class which users of National Park Service land fall. To the invitee, the land manager owes the greatest degree of legal responsibility. The land manager must act with reasonable care to discover any unreasonably dangerous conditions and correct them or warn the invitee of the risk involved.

In *Middough vs U.S.* (1968), the court decided that the NPS had a duty to protect the visitor from obvious tree hazards and that the park had a duty to inspect camping areas for obvious safety hazards. Based on this court decision, the NPS was directed to act in a reasonable and prudent manner to reduce tree hazards.

2. Moral Obligation: The National Park Service assumes a moral obligation for providing recreation facilities which are safe for the visitor and their personal

property. By having a facility open for visitor use, the NPS is implying that the area is reasonably safe, except for those dangers that are associated with the natural aspect of the area, e.g., cliffs, waterfalls, and bear activity, etc.

3. Natural Resource Protection: Unchecked tree failures which might have been controlled, can result in damage to healthy trees, or loss of aesthetics. Disease or insect infested trees in visitor use areas can lead to the loss of large numbers of trees when left unchecked.

4. Park Property Losses: In the absence of a control program, there is an increased chance of damage to recreational facilities such as restrooms, picnic tables, signs, fences, and other property in forested areas.

5. Personal Property Losses, Injuries, and Fatalities: Unchecked tree hazards potentially threaten personal property in recreation areas, as well as offer the possibility of personal injury or loss of life.

Prince William Forest Park has approximately 13,000 acres of forested land and receives an average of 500,000 visitors per year to its twelve visitor use areas. The forest is predominantly mixed hardwoods with scattered stands of uniform age Virginia pine. To the untrained eye, only those trees that are dead and are in close proximity to facilities or campsites are considered hazardous. However, living trees that, through disease or injury, have lost their structural ability to withstand high winds or snow and ice accumulations are also hazards. This plan is directed to the recognition and control procedures for both living and dead trees in Prince William Forest Park visitor use areas.

II. The Hazard Tree Control Decision Rule.

The goal of hazard tree control is to provide an acceptable level of public safety

at minimum cost and with the least damage to the resources. Complete safety is impossible to obtain without removal of all trees, an unacceptable standard from the aspect of resource protection. The maximum hazard allowable at Prince William Forest Park is that which the expected loss from a tree failure is less than the cost for tree control. This rule will be applied to all areas and all trees within the park. When there is no target (facility, person, and property) as with a tree in an undeveloped forest area, no action is needed. In special cases, this rule may be modified to either provide greater safety or more resource protection.

Hazard control does not necessarily mean direct action against the tree. The hazard is also reduced when the target is removed through relocation, area closure, or horticultural stabilization of the tree (bolting and cabling).

III. Hazard Tree Evaluation.

Four equally important factors are utilized in determining the potential hazard of a tree:

- 1) probability of tree failure
- 2) probability of target impact
- 3) damage potential
- 4) target value

All four factors must be rated high for hazard potential to exist. Their definitions as they apply to PRWI are as follows:

1. Probability of Tree Failure: Assuming that every tree will eventually fail, the probability of tree failure during a specific period (before the next examination) is determined by observation of a visible condition, location, or defect of the tree as it relates to predictable environmental conditions. To determine this, an analysis is made of what environmental factor would cause

failure, and how often during a specific period this condition could occur.

For example:

*The conditions that generally cause tree failures at PRWI are:

<u>Environmental Condition</u>	<u>Probability of Occurance Per Year</u>	<u>Season</u>
Wet snow over 10"	.14	Winter
Wind gusts 26 - 33 MPH	.50	All
Wind gusts 34 - 42 MPH	.23	All
Wind gusts 43 → MPH	.04	All

*Note: If it is determined that the environmental factor creating the hazard potential is of a seasonal nature, the hazard potential is effectively reduced by removing the target during the specific season. (e.g. campground closure in winter). This is not applicable, however, with fixed property.

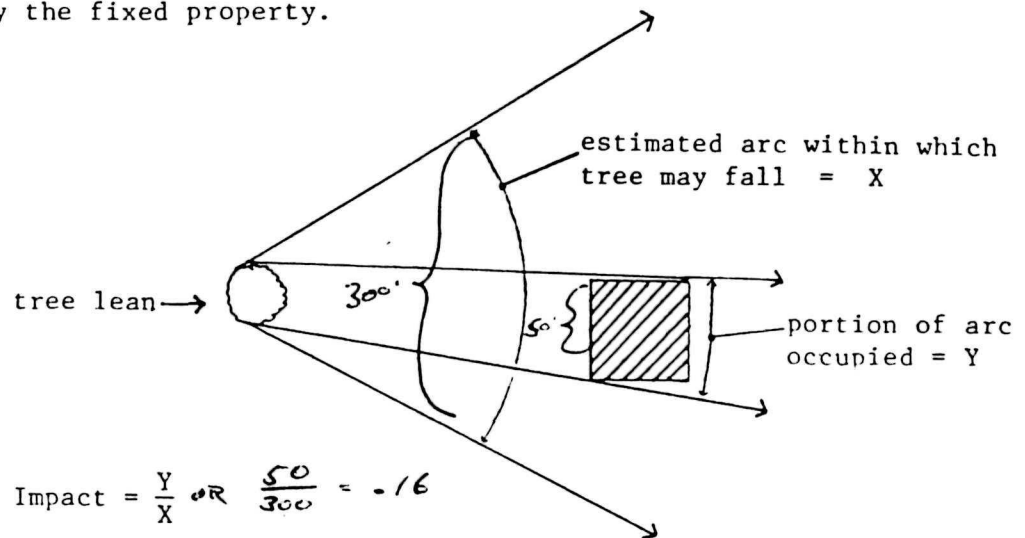
2. Probability of Target Impact: This factor is calculated differently depending on whether the target is human, personal property, or fixed property.

a. Human occupancy: The probability of target impact is considered equal to the probability of occupancy, when considering campsites. The probability of occupancy is calculated by:

$$\frac{\text{Specific campsite number of days occupied by one or more visitors}}{\text{Specific campsite number of days open}} = \% \text{ occupancy}$$

b. Fixed property: The probability of occupancy for fixed property is considered 100%, so the probability of target impact is determined by estimating whether the property will be struck by the tree when it falls. An evaluation of

the estimated arc within which the tree will fall is made, and how much of that arc is occupied by the fixed property.



$$\text{Probability of Impact} = \frac{Y}{X} \text{ OR } \frac{50}{300} = .16$$

Key notes:

a. Occupancy rates will be determined per park specific area and are recorded on page #7.

b. Probability of occupancy is not considered in fixed property, only the probability of a tree striking the property.

3. Damage Potential: Two tables are provided which were derived from field data from other agencies. (See Attachment B) Damage resulting from tree failure depends on the type of tree, where on the tree the failure occurs, (upper, lower bole, and limb) and the size of the tree.

4. Target Value: This factor is the maximum possible monetary loss if the target is struck. Two basic types of targets are considered, fixed property and human occupants.

a. Human occupants are assigned a rating of \$4,000.00. This figure was developed as an average personal injury and/or property loss for damage to a recreation list from hazardous tree failures.

b. Fixed property is assigned a value based on its net worth. If the tree will only damage a portion of the property, then an estimate should be made of the actual value of the anticipated damage. A list of all PRWI structures and their values is in Appendix A.

Example: Campsite would be assigned a target value of \$4,000.00.

Lavatory threatened by a pine could be assigned a target value of \$1,000.00.

Factor Application

For a specific tree located within a visitor use area, it is visually checked for signs that would indicate hazard potential. Decay, fungal fruiting bodies, unnatural lean, physical damage, and other physical defects would indicate the tree needs to be evaluated for hazard potential. An increment borer may be utilized to determine soundness of the tree trunk. The four rating factors would be applied and numerical values assigned. The values would then be multiplied together to result in a final rating. The Tree Control Decision Rule would be applied and control recommended or not recommended.

IV. Site Specific Areas of Hazard Tree Control.

The National Park Service cannot assume responsibilities for hazard tree control except in those areas of fixed property or public use. Hazardous trees that lie outside of the boundaries of control listed below will be considered part of the natural ecosystem and will not be controlled. To simplify the examining procedures, the following specifications shall be made concerning each employee and public use area in PRWI. All areas will be examined for hazard trees at least once per year. Such inspections will be fully documented.

1. All trees within 50 feet of the perimeter of buildings and park facilities including Cabin Camp buildings, restrooms, offices, water fountains, quarters, bulletin boards, and concessionaire facilities shall be examined for hazard potential

once per year. Monetary value shall be assigned to each building and utilized in the calculation of hazard rating.

2. All campsites in Travel Trailer Village (TTV), Oak Ridge Campground, Turkey Run Ridge, the assigned group sites in Chopawamsic Backpack Area, the picnic sites in Telegraph Road, Carter's Day Camp and Pine Grove Picnic Areas shall be examined once per year. Target values of these areas shall be set at \$4,000.00, unless a picnic table is also an anticipated target, at which time its value shall be included. All trees within 50 feet of the perimeter of these sites shall be examined for hazard potential.

Occupancy rates shall be determined as follows, based on 1980 figures:

a. Oak Ridge Campground.

Season - March 15 - November 30

Total days - 260

Total sites - 75 (available)

Percent occupancy - (sites available/sites filled) - 20%

b. Turkey Run Ridge Campground.

Season - All year

Total days - 365

Total sites - 10

Percent occupancy - 15%

c. Chopawamsic Backpack Area.

Season - May 15 - September 27

Total days - 137

Total sites - 7

Percent occupancy - 14%

d. Travel Trailer Village.

Season - All year

Total days - 365

Total sites - 90

Percent occupancy - 35%

e. Cabin Camps.

Season - April 3 - October 31

Total days - 215

Total sites - 1 per Cabin Camp

Percent occupancy - 65%

f. Pine Grove Picnic Area.

Season - All year

Total days - 365

Total sites - 40

Percent occupancy - 15%

g. Telegraph Road Picnic Area.

Season - All year

Total days - 365

Total sites - 35

Percent occupancy - 15%

3. All park blazed trails, short spur trails within cabin camps, campgrounds, or picnic areas, and all fire roads shall be surveyed once per year. All trees within 50 feet of the trail or road edge shall be examined. A target value of \$4,000.00 shall be assigned. Since there are over 35 miles of trails, the occupancy rate is difficult to determine. Thus hazard tree control on park trails will consist of removal of all dead trees within 50 feet of the trail perimeter that could

potentially fall across the trail. All trees overhanging trail will be examined once per year for hazard potential.

4. All park paved roads and parking areas (e.g., Pine Grove parking lot, Telegraph Road Parking lot, letter parking lots, Park Central Drive, Maintenance Road, Cabin Camp parking lots, Carter's Day Camp parking area) shall be surveyed once per year. A target value of \$4,000.00 shall be assigned all trees within 50 feet of road edge. Occupancy rates shall be determined as follows:

a. Park Central Drive (mile post 1 - 12), Main Entrance, Nature Center Road, Parking Lots A - I, Nature Center Parking Lot, and the Service Road.

Season - All year

Total days - 365

Average number cars per year -

Average time spent driving in park -.48 hours

Percent occupancy - $\frac{\text{number of possible hours (365 X 24)}}{\text{number of autos X time spent (85,067 X .48)}} = 21\%$

b. Cabin Camp parking lots and entrance roads.

Percent occupancy will be the same as the Cabin Camp occupancy percentage.

c. Quarter's driveways and parking areas.

Season - All year

Total days - 365

Percent occupancy - 100%

d. All campground roads (TTV, Chopawamsic, Oak Ridge Campground, and TRR) will be evaluated with the same occupancy percentages as the campgrounds themselves.

V. Environmental Factors to Consider in Hazard Tree Rating.

Several weather conditions that occur on a documented frequency affect hazard tree potential rating. These include high winds, tropical storms, snow, and ice.

Each weather condition can precipitate a different type of tree failure. Also, certain weather conditions affect principally only certain tree species.

It is recognized that some environmental conditions cannot be predicted such as unusually high winds, lightening strikes, floods, hurricanes, and "freak" weather changes. This Hazard Tree Plan is not designed to predict these conditions nor to protect the visitor or visitor's property against such occurrences.

The following is a summary of weather conditions at PRWI that may affect hazard potential and a discussion of the trees that they generally affect.

a. High winds: High speed winds account for many of the tree failures in PRWI. The winds generally affect tall, shallow rooted trees with an average to large canopy. Failures are generally at the root level. Virginia pines are commonly affected by high winds. Also trees with structural defects or disease that render the stem less stable are subject to wind throw.

Tree failures are generally associated with winds gusting above 35 miles per hour, a condition with a probability of .23 per year in the PRWI area.

b. Snow and ice storms: Very deep, wet snows often cause failure of trees such as Virginia pine. These trees can have limb failure or stem failure due to the weight build up of the snow. Occasionally the trees are uprooted. The same failure is associated with ice storms.

Tree failures are associated with deep snow storms or ice storms, a condition that occurs approximately once every two years. It is noted that this condition occurs when most of the PRWI recreational facilities are closed or have very low occupancy, thereby removing the target.

VI. Other Factors in Hazard Tree Rating.

1. All dead trees within the boundaries of the areas described in Section IV

shall be considered hazardous and control will be recommended except when the tree is leaning in such a manner that its falling will be in the opposite direction of any potential target. Special exceptions shall be made for dead trees utilized for interpretive or special interest purposes.

VII. Responsible Staff for Hazard Tree Control.

1. The PRWI Resource Manager or his/her designated representative will be responsible for surveying all areas cited in Section IV once per year for identification of potentially hazardous trees. This person must have a minimum of 16 hours of training in the Hazard Tree Rating System and must demonstrate ability to identify characteristics of tree disease and damage that indicate hazard potential. Such training and ability shall be documented.

2. All trees rated and determined to require control will be documented. Type of control will then be recommended by the Resource Manager through the Chief IRRM to the Chief of Maintenance. If the recommended control requires the removal of the tree, all efforts will be made to protect adjacent vegetation and property during actual control. Minimum safety standards for direct control of hazard trees will be those set by the US Forest Service Health and Safety Code (FSH 6109.13).

VIII. Implementation of the Hazard Tree Plan.

1. Once per year the Resource Manager shall survey all areas cited in Section IV of the Hazard Tree Plan for potentially hazard trees. All trees indicating some potential of hazard will be rated through the system explained in Section III of the Hazard Tree Plan. The resulting rating will be evaluated and compared with the current cost of control. Action will be recommended to the Chief of Maintenance thru the Chief IRRM.

2. Any tree so rated as to require hazard control will be documented on a 10-343. A two week period will be allowed between identification of a hazard tree and

implementation of control. In situations where the hazard rating is high enough to require control, the area within the target zone maybe closed to the public by the posting of signs, until such time the control is effectuated.

3. Actual reduction of hazard tree potential may be recommended in various stages. The following examples are types of recommended control:

- a. closure of area
- b. removal of hazard limb
- c. reduction of canopy size
- d. bolting and cabling
- e. tree removal

4. Trees that show signs or symptoms of hazard potential but the calculated hazard rating does not indicate control is required will be placed on an "observation" list. These trees will be photographed and re-evaluated at 6 month intervals to document any decline in their condition, or increase in their hazard rating.

5. The form attached will be utilized in the field evaluation of hazard potential.

6. When a specific area has been surveyed on the yearly inspection by the Resource Manager and all hazard tree control has been recommended and implemented, this completion shall be documented on a 10-343.

7. Current control costs for the removal of a 20 in. dbh Virginia pine is below. This includes transportation to and from site, salary and equipment costs: (1981 \$53.00).

Pine =
Hardwood =

Guidelines for Hazardous Tree Policy NCR

The underlying premise of arboreal management within the National Capital Region is to sustain the woody vegetative components of the environment. Thus, the decision-making attitude when inspecting a tree (s) is how can it (they) best be retained as a vital component of the ecology; not, should the tree (s) be removed.

With this in mind a major inspection process concerns hazardous or potentially hazardous-trees. Particularly in landscape management areas; visitor use areas such as interpretation centers, picnic groves and campsites; or transportation corridors (roads and trails) where the public is openly invited, some trees may pose a special risk to personal safety or property. Such trees should be construed as "hazardous trees". Technically, a hazardous tree is one that poses a recognizable threat to people or property through mechanical failure or uprooting. Of course, any tree represents a latent risk; what is meant here is a risk due to a discernable flaw in the tree (s) which, if not adequately dealt with, would place life or property in jeopardy. Just what action should be taken is a result of the comparison of the hazard potential of a tree to its virtue as an aesthetic or functional component of the environment. The National Park Service has a well-defined obligation to protect the visitor (1975-Management Policies). There is not only a moral obligation but a legal one as well, since the Service may be held liable for failure or negligence with respect to living up to the responsibility of visitor protection (Federal Tort Claims Act-1946). Therefore, the activities of Park Service units with respect to hazardous trees should be directed toward avoiding a posture of negligence while simultaneously looking out for the public welfare.

The four elements which together constitute negligence are:

1. There must be a legal duty or obligation requiring the agency to conform to a standard of conduct to protect the visitor against unreasonable risks.
2. There must be a failure (breach of duty) to meet the standard.
3. There must be an establishable connection between the action (or inaction) and the resulting injury or damage.
4. There must be a definable injury or damage level.

The responsibility of the agency to the visitor may generally be defined "to use ordinary and reasonable care to keep the premises reasonably safe for his visit and to warn him of any hidden danger" (Smith vs. U.S., 1974). A substantial portion of this responsibility can actually be carried under the umbrella of "warning".

It should be pointed out that the Hazardous Tree Guidelines as presented here do not deal with the safety aspect of a vehicle driving into a tree--only the risk of a tree (limb) falling on a vehicle, persons or property. The park units of the National Capital Region should carry out the following activities to fulfill their responsibilities with respect to hazardous trees.

Park Responsibilities:

1. Annually inspect all trees which stand within falling distance of public use areas for flaws, etc. which would constitute a hazard to the public or significant property. The nature of the inspection will depend on the type of visitor use areas (which will be defined later).

2. Where extensive risk may exist from falling trees, but the trees are not classified as hazardous in and of themselves, then some public warning/advising notification is in order (ie., drivers using Rock Creek Parkway and Beach Drive). This situation appears analagous to a falling rock zone in that even though there are no detectable flaws in the trees, any one of them could be blown on to a passing vehicle during a wind event. The concern may be due to the steep slope, slow moving traffic pattern, exposure to unpredictable wind patterns, etc. Such areas might even be closed in advance if predictions of sufficiently hazardous weather conditions exist. To reemphasize , in these situations the trees themselves are not hazardous but the nature of the area itself imparts the risk to the public from a falling tree. The warning is really in terms of a dangerous area not hazardous trees. Another example might be the risk to campers from falling trees (limbs) during an ice or snow storm. This situation normally can be dealt with in the permit process where the camper is notified that he may be asked to vacate the campsite in the advent of adverse weather conditions.

3. Any tree characterized as hazardous should be promptly cared for using best arboriculture techniques to eliminate the hazardous status of the tree. If it cannot be made safe then it may be removed.

4. Depending on the location of the tree and solidity of trunk structure, etc. the Park should well consider leaving the main trunk of the tree for wildlife habitat in areas where the wildlife is considered an important element. This means that a dead tree is not necessarily a hazardous tree and that it is possible to convert a hazardous tree into a

unit which may still be able to play a positive environmental role without any particular risk. Part of the decision-making process must include the extra manpower (time commitment) to topping a tree as opposed to dropped it.

5. Each park should have at least one designated and trained person for hazardous tree inspections. This responsibility should be explicit in the individual's performance standards. There is must to be said for having as many park personnel as possible on the lookout for hazardous trees.

The following types of inspections may be carried out with the one (s) selected depending on the nature (land use categorization) of the site.

Types of inspections:

1. Hand-check: all trees in the specified areas will receive a 360 degree visual inspection. This means close visual inspection with hands-on checking, including various instrument tests as warranted.
2. Walk-through: includes hand checking of suspected hazardous trees.
3. Drive-by: involves deliberate visual scans at slow speed followed by hand-checks of all trees noted or suspected of possessing hazardous characteristics.
4. Any combination of the above:

Whatever type of inspection is chosen, it is imperative that written documentation of the inspection be kept. A "hazardous tree log" should include the date(s) of inspection, the area, land use classifications, noted or suspected hazardous trees (include size and species of tree), notes on inspections of hand-checked trees, recommendations,

characterization of follow-up actions, etc. The record of inspected trees from year to year can be useful to document whether a tree is declining, stable or regaining vigor. Photographs may also be used to supplement documentation. To repeat, inspections to cover appropriate areas of each park as defined later should be performed at least annually. Park areas that are closed for a season(s) would best be inspected just prior to reopening. Such areas and possibly others should remain closed or be closed until hazardous tree conditions are eliminated.

The Regional Tree Advisory Committee may be contacted to facilitate any inspection, diagnosis, or make recommendations. However, the final decision on the disposition of a tree rests with the park unit.

It should be pointed out that once a tree has been cited to be hazardous or have flaws the Region becomes strongly liable if it fails to take prompt action to correct the situation. In terms of liability it is probably better not to have been aware of a hazardous tree condition than be aware of one and not do anything about it. This means that inspections ought to be strongly coupled with remedial action.

Unsupported inspections or inspections without followup may place the system in a more tenuous posture than it deserves in the event of an accident.

It is suggested that the following listed land use types be inspected according to the given procedures, however, the park should always feel free to use its best judgement particularly if there is good cause for more thorough inspections. The categories as given are keyed for hazardous tree inspections, to the ways the areas are used and may not coincide with definitions found in Management Policy.

Inspection types keyed to use areas:

A. Natural areas

1. Wilderness or undeveloped areas: ordinarily no inspections are called for. The visitor is expected to know how he/she is responsible for his/her own self, etc., in such areas. Certainly, public education and/or warning procedures should be considered.
2. Trails or informal activity areas: walk through. Common sense dictates that long horse trails, bike trails or areas like the C & O Canal towpath might involve some form of inspection transportation other than by foot.

B. Developed areas.

1. Campgrounds, picnic areas, visitor centers, interpretative areas: hand-check possibly in combination with walk-through. Certainly all trees within falling distance of marked use space should be hand-checked. In buffer, transition areas or perimeter zones, inspections might well be accomplished by walk-through procedures.
2. Transportation corridors: drive-by. Such deliberate visual inspections should include all trees that could impact the roadway. Areas that may be screened or otherwise difficult to view from the road should be given a walk-through type inspection. It is a given that a drive-by inspection may not catch all flaws, etc., in the trees along roadways. However, it is generally recognized that it may not be realistically possible to walk by all trees along miles of roadways and under these conditions a documented drive-by inspection should be considered satisfactory. Usually the calibre of notations of suspected hazardous trees will reflect the adequacy of the drive-by inspections.

2. There may be areas along roadways where traffic may be predictably and repetitively slowed such as near controlled intersections. Such areas would best be handled by walk-through inspections.

C. Landscape and/or historic areas.

1. Trees within areas of landscape zones where the public is specifically invited to move should be hand-checked.

2. More informal areas where the public may simply feel free to wander should come under walk-through type inspections.

3. Parking lots and parking areas along roadways should be hand-checked.

D. Park boundary

Inspection of trees along park boundaries for threats and damage of adjoining properties (or people) might well be performed in conjunction with other border line activities. Seriously, since park neighbors are not invited to be neighbors as such, in most actual damage cases the park would not be held responsible. Regardless, the park always has a moral obligation and thus should periodically (every year or two) make a deliberate effort to check for hazardous trees primarily near public activity areas such as homes or roadways. Parks should be knowledgeable of state and county rights of way as the basis for determining whether a park tree could fall on a non-park roadway. Whenever, the park is notified of a presumed hazardous tree by a citizen, a prompt inspection should be made and corrective action taken as warranted. Remember, once a park has been made ware of a potentially hazardous tree the likelihood of the park being held responsible for an ensuing tree failure increases dramatically.

It is not the intention of this policy paper to technically define or characterize all of the various sorts of hazardous tree conditions. Such information is to be gleamed through training, experience and references. However, the following list names many of the most common types of hazardous tree conditions to be looked for.

Types of hazardous tree conditions:

1. Decay
2. Cavities
3. Dead limbs (overhangs)
4. Splits and shakes
5. Weak crotches
6. Heavy horizontal limbs
7. Basal or crown rot; root decay
8. Termite and carpenter ant infestations
9. Wind and vehicle damage
10. Construction damage
11. Leaning trees
12. Soil slippage areas
13. Tree declines: insect pest and disease situations
14. Heavily-used areas-compactd soil and injured roots
15. Etc.

The following factors should be considered when trying to evaluate the risk of a potentially hazardous tree.

Evaluation of hazardous trees:

1. Probability of failure. Estimate the likelihood that under critical weather situations or through predictable decline that the tree (branch) will fall during the year.
 2. Probability of target impact.
 - a. Analyze the potential that a falling tree (limbs) will strike a given visitor use area.
 - b. Estimate the likelihood (seasonal or otherwise) that a given area will be occupied.
 3. Estimate the target value where property is involved or the numbers of visitors that might be injured (killed).
 4. Where meaningful, derive a total risk involving combination of factors 1-3 above in terms of dollars or chance of personal injury (life).
- Even though the above factors can to some extent be quantified more so in some cases than others, best emphasis should be placed on using verbal justifications based on these categories. A numerical risk should certainly be obtained whenever they are meaningful. It is to be understood that every tree represents some degree of hazard during a given period of time. The job of park personnel is to take appropriate action as justified in terms of the given categories.

An important way to avoid hazardous tree conditions is to ensure that new and replacement plantings utilize trees that will perform well on the site. The site itself may need modification to improve the opportunity for successful tree growth. This holds true whether the site is landscape, natural or otherwise.

These Hazardous Tree Guidelines are intended to provide direction to the Parks for effective tree management of their hazardous tree program. Each park is encouraged to incorporate the intent of these guidelines into their own Hazardous Tree Policy. The Regional Tree Advisory Committee should review such park plans before they are submitted to the superintendents for approval.

A vigorous Hazard Tree Program is vital to provide protection to the visitor and property while also avoiding time consuming, as well as possibly costly lawsuits. Therefore, each park must fully support the actions necessary to fulfill the obligations defined in these Guidelines or the Park's own plan.