Mount Rainier National Park

FINDING OF NO SIGNIFICANT IMPACT
Hazard Tree Management Plan Environmental Assessment

Pierce and Lewis Counties, Washington

April 2010

This Finding of No Significant Impact (FONSI) documents the decision of the National Park Service (NPS) to adopt and implement a new Hazard Tree Management Plan at Mount Rainier National Park, pursuant to the National Environmental Policy Act (1969), consistent with the Mount Rainier National Park General Management Plan (2002). The selected alternative was identified in the Mount Rainier National Park Hazard Tree Management Plan EA as the management and environmentally preferred alternative.

The Plan, which is Alternative 2 in the EA, will implement the methodology of hazard tree evaluation consistent with PW-062, Hazard Tree Management (DOI NPS 2009). PW-062 supersedes the previous Directive dated May 17, 1993 and the "1993 Western Region Guidelines for Managing Hazardous Trees" and any subsequent guidelines. Up to two hundred trees would be treated per year, in addition to a backlog of approximately 450 trees that are identified in this EA. The new Mount Rainier National Park Hazard Tree Management Plan is designed as a ten-year plan.

Purpose and Need for Federal Action

A systematic, well-documented approach to hazard tree management is needed. The identification and management of hazard trees in National Parks is an important component of the maintenance and preservation of park resources accessed and enjoyed by visitors. In Mount Rainier National Park, this means maintaining components of forest ecosystems adjacent to developed sites to the extent possible, while minimizing unacceptable risk to visitors.

The objectives for this project include the following:

- Reduce the risk of tree hazards to park visitors, employees and property;
- Integrate, refine and document reliable and highly defensible standards for hazard tree identification, evaluation and mitigation;
- Maximize the benefit/cost ratio of the hazard tree program, both in terms of property damage prevented and money expended for inspection and implementation;
- Maintain a balance between mitigating hazard trees, preserving park ecosystems and cultural landscapes; and
- Maintain individual trees and forest stand values to the maximum extent possible.

The goal of the plan is to systematically evaluate and treat hazardous trees to provide a stronger margin of safety for visitors and employees, as well as protection of facilities and property, than would be available with no hazard tree management program. The systematic identification and removal of hazard trees in parkwide developed areas, such

as at Longmire, Ohanapecosh, White River, within public campgrounds, and along park roads, will decrease the potential risk to visitors and employees from falling trees. Courts have determined that agencies are obligated to conduct a hazard tree management program when visitors are invited to recreate in forested areas. Mount Rainier's program includes the description, assessment and routine monitoring of potential hazard trees based on documentation of defects or other conditions that contribute to tree failure.

Range of Alternatives Considered

The environmental assessment analyzed two alternatives. Under Alternative 1, the No Action Alternative: *Continue to Conduct Parkwide Hazard Tree Removal in Developed Areas According to the Mount Rainier National Park Hazard Tree Plan (1991)*, a process for systematic analysis and documentation of hazard trees would continue to be in place, using a rating system that emphasizes the removal of trees in major developed areas; would continue to utilize two types of survey methods - "Complete" and "As Needed"; provide several options for disposition of felled trees; and replant as determined appropriate (case by case).

Selected Alternative

The Preferred Alternative is described in the environmental assessment (EA) as Alternative 2: *Conduct systematic evaluation of trees in developed areas and in/near backcountry and wilderness trailside camps and structures* (including campgrounds, picnic areas, administrative, maintenance and housing areas, roads, pull-outs, nature trails, and backcountry cabins, shelters and fire look-outs). This alternative is also identified as the Environmentally Preferred Alternative in the EA. The selected action is the same as that described in the EA, and no substantive changes have been incorporated into the FONSI as a result of public comments. The selected action does not include hazard tree management activities adjacent to closed facilities in the Carbon River area, which will be considered pending completion of the Carbon River Public Access Plan EA.

Under the selected alternative, trees would be identified and treated in approximately twenty frontcountry areas, at wilderness campsites and along park roads as needed. As part of the program, up to 200 trees would be treated each year, typically distributed throughout the park. In addition, initial treatment would include backlog treatment of approximately 450 trees. Treatment methods would vary, but would emphasize moving or removing the target and other actions that would minimize tree removal. To minimize the number of total trees removed, alternate methods of treatment such as topping trees and removing limbs would be used when possible. The removal of hazard trees would primarily consist of individuals in widely dispersed areas within the park. Removal of more than ten percent of the trees in an area at one time or over time will require separate environmental analysis to determine consistency with the effects concluded in the EA. Concurrent with the removal will be the replacement of trees with seedlings or the release of existing understory trees if present, with the goal of maintaining or slightly increasing stand density. Under the Hazard Tree Management Plan, individual interdisciplinary analysis and documentation will be required for hazard tree treatments. Proposed treatments will be reviewed to ensure that the treatment meets certain criteria outlined in the plan.

The Plan minimizes impacts to vegetation, threatened and endangered species, historic structures, cultural landscapes and other park resources. Mitigation of potential effects to listed species would include timing of treatment, especially for felling of trees. Heavy snows and strong winds that often occur during winter create a need to remove newly damaged or fallen trees that block road access, or pose an immediate risk to facilities. These actions, along with emergency removal of hazard trees are not considered part of the Park hazard tree program.

Monitoring and treatment

1. Annual lists of trees recommended for treatment would be prepared by the Hazard Tree Management Coordinator and the best treatment option selected based on a systematic evaluation of the advantages and disadvantages of the various options. Decisions regarding the appropriate treatment would be made individually (per tree). The following evaluation criteria are encompassed in this step-down process *(Appendix 3*: Hazard Tree Mitigation Flowchart*)* to decide on the appropriate treatment(s):
    a. Aesthetic value of the tree(s);
    b. Ecological value of the tree(s) (including consideration of contribution to riparian environments);
    c. Forest community structure;
    d. Number of trees to be removed from the area forest community;
    e. Feasibility of closing the site temporarily until the hazard abates;
    f. Feasibility of permanently closing the site;
    g. Feasibility of moving the target (based on the presence of movable or permanent structures and administrative or visitor use value as well as long-term plans for the site);
    h. Feasibility of mitigating the hazard by removing limbs or topping the tree;
    i. Feasibility of installing tree supports (for specimen trees);
    j. Number of trees removed during the preceding year(s);
    k. Long-term plans for the site; and the
    l. Potential for damage that may result from topping or felling.

2. The first treatment choice will be to move the target if possible; second will be to close the site. If neither of these options is appropriate, then topping will be considered. The final choice will be to fell the tree. The Hazard Tree Management Plan flowchart is intended to show all possible considerations; however the majority of trees will fall into the top or remove category without requiring further decision-making steps.

3. Usually, topping or felling would be accomplished with a chain saw or cross cut saw. However, in cases where use of a chain saw is thought to be hazardous due to instability of the tree, then blasting may be used to accomplish the treatment.

4. There will be a greater emphasis under the selected alternative, on topping trees – where it is possible to convert hazard trees to “habitat trees” by removing the unstable top portion of the tree and leaving the bottom portion as a standing dead tree (snag).

5. Where large numbers of trees receive high ratings, alternative actions, such as closure of that portion of the developed area (until the hazard abated) will be considered.

6. Wherever possible, a treatment action that involves removal of the target will be considered for tree removal.

7. In most cases during treatment, trees and/or portions of trees will be felled, where possible, into the forest and left in place.

8. The annual list of hazard trees would be reviewed each year by an interdisciplinary team to ensure that proposed treatments do not adversely affect park resources and are in conformance with agency consultation (USFWS, SHPO) on the Hazard Tree Plan.

9. The following treatment situations will require additional interdisciplinary analysis and/or individual documentation:

    a. Permanent or long-term (more than one season) closure of park administrative or visitor facilities;
    b. Proposed relocation of targets, such as buildings, requiring extensive cost and/or planning;
    c. Removal of more than 10 percent of the total number of trees from a specific location (at one time or over time);
    d. Treatments that do not meet the terms of the determination of either *no effect* or *may affect, but is not likely to adversely affect* for northern spotted owls or marbled murrelets as a product of this consultation;
    e. Removal of known nesting site of a rare, threatened or endangered species; and/or
    f. Removal of specimen trees or trees with a DBH of 40 or more inches.

10. Upon analysis of these factors, a separate decision will be made for each tree. If certain conditions are exceeded, such as actions that cause more environmental impact or exceed the parameters provided in the mitigation measures (for example, timing of hazard tree removal relative to spotted owl nesting time periods), then individual analysis under the National Environmental Policy Act and/or the Endangered Species Act may be required.

Summary of Alternatives Considered and Fully Analyzed in the EA

Alternative 1, No Action: Continue to Conduct Parkwide Hazard Tree Removal in Developed Areas According to the Mount Rainier National Park Hazard Tree Plan (1991). This alternative would have continued to result in the systematic analysis and documentation of hazard trees using a rating system that places emphasis on removing trees in major developed areas, two types of survey methods including “Complete” and “As Needed”; several options for disposition of felled trees; replanting as determined appropriate (case by case), and NEPA performed on a case by case basis (the 1991 plan was programmatic).

Environmentally Preferred Alternative

In accordance with Director's Order 12, *Conservation Planning, Environmental Impact Analysis, and Decision-making* and Council on Environmental Quality (CEQ) requirements, the NPS is required to identify the "environmentally preferred alternative" in all environmental documents, including Environmental Assessments. The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act (NEPA) of 1969, which is guided by the CEQ. The CEQ (46 FR 18026-46 FR 18038) provides direction that the "environmentally preferable alternative is the alternative that would promote the national environmental policy as expressed in NEPA's Section 101," including the criteria to:

1) Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2) Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3) Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
4) Preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
5) Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
6) Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources (NEPA Section 101(b)).

Generally, these criteria mean the environmentally preferable alternative is the alternative that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historic, cultural, and natural resources (46 FR 18026-46 FR 18038).

While Alternatives 1 and 2 would meet these criteria, Alternative 2 is considered the most environmental preferable alternative because of the following factors: an emphasis on the treatment of trees in the highest hazard categories; a preference for managing targets before considering the treatment of trees; the expansion of a tree and vegetation replacement strategy; and the initiation of a long-term ecological analysis. Alternative 2, the preferred Alternative has a stronger emphasis on restoration.

Alternatives Considered But Dismissed From Further Review

During the early scoping process, the park's interdisciplinary planning team considered a range of options suggested by park staff and the public to address the need for managing and treating hazard trees in developed areas. In addition to the No Action and preferred Alternatives, which were considered and fully analyzed in the EA several alternatives were discussed but dismissed from further review.

Under the National Environmental Policy Act (NEPA) alternatives may be eliminated from detailed study based on the following reasons [40 CFR 1504.14 (a)]:

- Technical or economic infeasibility;
- Inability to meet project objectives or resolve need for the project;
- Duplication of other less environmentally damaging alternatives;
- Conflicts with an up-to-date valid plan, statement of purpose and significance, or other policy; and therefore, would require a major change in that plan or policy to implement; and
- Environmental impacts too great.

The following alternatives or variations were considered during the design phase of the project, but because they did not meet one of the above criteria, they were dismissed.

Do Not Conduct Systematic Hazard Tree Evaluation in Developed Areas
Under this Alternative, the park would not undertake a comprehensive program of hazard tree identification, assessment and monitoring. Potentially hazardous trees would remain in place, posing a potential threat to visitors and historic structures in developed areas. This Alternative could give the park an unacceptable degree of liability for injuries, damage or death that resulted from the park's not managing hazard trees. Selection of this Alternative would violate NPS Management Policies and the Natural Resources Management Guideline (NPS-77).

Do Not Conduct Systematic Hazard Tree Evaluation along Roads
This alternative was rejected because the four fatalities that have occurred in the park related to trees falling have been along roads and because of the liability incurred similar to #1 above.

Do Not Conduct Systematic Hazard Tree Evaluation in Wilderness
NPS-77 directs parks to evaluate hazard trees in wilderness trailside camps and near occupied wilderness historic structures. This alternative would not comply with that guideline.

Conduct Complete Evaluations along Roads and Pullouts
This alternative was rejected because of the significant increase in the amount of staff that would be required to implement the hazard tree program during the park's short snow-free season. It was also rejected because it is generally accepted among land management agencies that hazard tree management does not include complete evaluations along roads. This alternative would also require the park to conduct surveys and to remove trees between the wilderness and non-wilderness boundary, including affecting trees located in wilderness (the wilderness boundary is generally located 200 feet from the centerline of paved roads and 100 feet from the centerline of unpaved roads and park trees are often over 200 feet tall). Systematic removal of trees adjacent to roads would also result in an adverse effect on the Mount Rainier National Historic Landmark District and likely in nearby wilderness tracts as well. In addition, many known activity areas associated with endangered bird species are located alongside roads. As a result, this alternative would likely have resulted in adverse effects on endangered species and wilderness.

Conduct Systematic Evaluation of Trees along Wilderness Trails
This alternative was rejected because of the immense amount of staff time that would be required to systematically evaluate trees along 260 miles of trails, most of which are in wilderness, and because it is not essential to the management of park wilderness and therefore would not meet the intent of the Wilderness Act.

Increase Frequency of Monitoring
This alternative was rejected because of the significant increase in the amount of staff and therefore cost of the program that would be required to implement the hazard tree program during the park's short snow-free season. There is a slow rate of change in hazard rating unless there is an unusual event. Most agencies do not conduct more frequent monitoring because it simply would be cost ineffective.

Evaluate Only Trees Reported by Park Staff or Visitors
This alternative would result in a non-systematic hazard tree program that would significantly increase the liability of the National Park Service (see # 1 above). This alternative would also leave the judgment to untrained staff unlikely to detect most hazards and too often report trees that are not hazards.

Treat Every Tree Rated 5 or Higher
This alternative would result in a large number of trees being treated and/or removed that currently contribute to wildlife habitat and forest structure. This alternative was rejected because it would not meet the Hazard Tree Management Program goal of maintaining a balance between mitigating hazard trees and ecosystem preservation. Many trees rated 5 or 6 are stable despite some defects, and may never progress to a 7 or 8 rating and therefore may continue (with annual monitoring) to contribute to the park's ecosystem for decades.

Measures to Minimize Environmental Harm

The following section identifies treatment methods, mitigation and conservation measures documented and discussed in the Environmental Assessment. All measures described in this section will be provided to responsible staff and division chiefs for implementation, in addition to forms and tables that outline the process in the appendices of the EA. The measures identified below are designed to ensure that impacts to park natural and cultural resources, visitor use/experience, and park operations are avoided, minimized, or mitigated.

Hazard Tree Monitoring and Treatment Measures

The following monitoring and treatment guidelines presented here are excerpted from the EA as part of the project description and may be considered mitigation or project design criteria, which are also intended to minimize environmental impacts (EA Chapter 2, pages 20-23).
Consultation with other agencies

11. Under this Alternative as part of the hazard tree treatment decision process, the U.S. Forest Service, Wenatchee National Forest District Pathologist or an equivalent expert would be consulted when large numbers of trees have been rated as 7 or 8 in an area, to verify the ratings.

12. In addition, as appropriate, consultation with other park staff (including the park wildlife ecologist, plant ecologist, historical architect and historical landscape architect or equivalent experts) and other agencies, such as the USFWS and SHPO would occur to ensure that proposed treatments do not have effects on park resources not disclosed in this Environmental Assessment.

Backcountry/Wilderness

13. When cutting trees in Wilderness is determined necessary, the minimum tool necessary to accomplish the task will be employed. If mechanized equipment is proposed, then Office Order 87-1: *Use of Mechanized Equipment in Wilderness* would be followed, including completion of the *Minimum Tool Justification* process. Through the identification and review process of proposed hazard tree removal in Wilderness, a determination would be made as to whether the proposed activity (and minimum tools required) is adequately described in the EA. If it is not, further analysis, public disclosure and documentation would be completed.
14. Extra care will be taken to lessen the visual impacts of the cuts. Whenever possible, stumps would be flush cut, naturalized and logs arranged with cuts facing away from view. All trees *cut in Wilderness would be left in place* to decay naturally. Small limbs and debris would be p*laced away from the immedia*te vicinity of camps to deter campfires (illegal in park Wilderness). Appendix 7 contains the Minimum Tool Requirement Justification form and background information.

Hazard tree treatment coordination and implementation

15. Upon completion of inspections and decision-making, the Hazard Tree Management Coordinator will work with the park's Contracting Officer or Roads Supervisor to coordinate treatments. Park felling operations will also take place using road crew staff as available.

16. The Hazard Tree management Coordinator, as the Contracting Officer's Technical Representative, will be present during contracted or park felling operations to ensure that the trees to be felled have been properly identified and are removed in a safe and appropriate manner and that the requirements of the contract and other park mitigation measures are fulfilled.

Timing of hazard tree activities

17. Hazard Tree treatment activities will generally be accomplished during late fall (after September 30) after closure of most visitor facilities. Fall removal is necessary to minimize potential noise disturbance to northern spotted owls or marbled murrelets during their nesting season.

18. Fall removal also has the benefit of minimizing the potential to disrupt visitor experience because visitation typically drops off significantly after Labor Day weekend, in the frontcountry and Wilderness.

19. Trees that have fallen across roads in winter will be removed as noted above.

20. Campgrounds will be reassessed for hazard trees prior to spring opening to document any winter damage. If new hazard trees are identified, treatment options will be evaluated as noted above.

21. If a tree requires immediate treatment during spring opening (March to June) the park Wildlife Ecologist, and other staff consultation will occur as appropriate.

Disposition of Felled TreesManagement and use of felled hazard tree woody material

22. All hazard trees felled within the park will be recycled into the ecosystem, except where leaving them in place would inhibit use of the area, create unacceptable fuel loads, or when they have been approved for use in maintenance or cultural resources projects.

23. Felled trees would be left on site and will not be cut into sections, unless it is necessary to move the logs.

24. Sections of a tree creating an obstacle within a campsite or developed area will be moved to the edge of the site.

25. In situations where large numbers of trees have been felled, the Plant Ecologist and the Hazard Tree Management Coordinator will determine an appropriate number of trees to be left on site.

26. Removed trees and other natural forest residue (limbs, slash, plants and logs) not left in place, will be treated consistent with Mount Rainier National Park Office Order 83-2 (revised 2002) and with the DOI *Utilization of Woody Biomass,* CFR Title 48, Chapter 14, Part 1437 (2004).

    a. Leave natural forest residue in place (preferred);
    b. Use of natural forest residue for park purposes (compost, chipping, revegetation, historic structure rehabilitation, trail maintenance, campfire programs, heating public buildings, engineered log jams), etc.;
    c. Locate road/trail fallen trees or limbs and brush back into forest;
    d. Placement of appropriate surplus wood for sale or provided as an exchange to contractors (for firewood or construction, respectively) (according to 48 CFR 14.1437);
    e. Use for alternative technology (chipping, revegetation, plant nursery, and haul to composting facility);
    f. Dispose of through agreement with other state, federal or tribal governments (as approved by the Superintendent). Appropriate surplus wood may be made available for use by Native American Tribes traditionally affiliated with the park.

Site Rehabilitation/Monitoring/Revegetation

27. For each tree felled in frontcountry areas, generally a new tree (appropriate to the site conditions and forest community) will be planted from source genetic material. Revegetation may initially occur at larger ratios than one to one to compensate for previous hazard tree removal in developed areas where replanting has not occurred or succeeded. With few exceptions trees will be replaced in-kind with respect to species and general location.

28. The park Horticulturist will be consulted to obtain replacement specimens for areas where large numbers of trees have been felled. Only species appropriate to the impacted area will be used. Species may be selected for disease resistance and structural stability; however, a variety of species will be planted to maintain biodiversity. Generally a minimum one-to-one replacement would be used; for each tree felled, a new tree will be planted. No replanting is currently planned for wilderness trailside camps, where human disturbance is less frequent (often seasonal) and fewer trees are expected to be removed.

Ecological Analysis

29. Most park developed areas occupy less than one percent of the total forest community type for a given watershed (EA, Table 14). To further ensure that park hazard tree management activities do not result in significant alteration of forest community types, an ecological study has been initiated and will continue. Better understanding of the relationship between forest conditions in developed versus undeveloped areas will result in better management of the park hazard tree program, particularly as it relates to management of potential cumulative effects in park forests.

Conservation Measures

The following conservation measures were specifically identified in the environmental consequences section of the EA (Chapter 4, page 69), and are intended to minimize potential effects of hazard tree treatment activities on old-growth dependent species including the northern spotted owl and marbled murrelet, and other wide-ranging mammals.

1. The removal of backlog hazard trees primarily consist of individuals in widely dispersed areas within the park.

2. Treated trees will be those that will be likely to fall, without treatment, within about five years.

3. Removal of more than ten percent of the trees in an area at one time or over time will require separate environmental analysis to determine consistency with the effects concluded in this analysis.

4. Every effort will be made to consider options other than tree removal in the decision-making process.

5. Trees targeted for removal will be surveyed by wildlife and/or cultural resource staff, as appropriate, prior to treatment to determine unique characteristics such as favorable conditions for northern spotted owls or marbled murrelets and/or other wildlife habitat or cultural characteristics.

6. No habitat trees will be removed from campgrounds between March 15 and September 30. If hazard trees are present after the winter and cannot be treated before March 15, the site will be closed for the summer and the tree treated after September 30. There may be downed trees that need to be removed from the campgrounds between March 15 and September 30. If this occurs then this will be done between two hours after sunrise and two hours before sunset.

7. Trees will not be felled between March 15 and September 30 unless a no effect determination can be supported.

8. Downed trees and hanging trees will be removed during spring opening (May to June). If chainsaws are used, this activity would occur between 2 hours after sunrise and 2 hours before sunset and would be greater than 65 yards from any northern spotted owl 0.7 mile activity circle.

9. Although no northern spotted owl nests/activity sites have been found in any of the developed areas affected by the Hazard Tree Management Plan, there is the potential to remove suitable northern spotted owl habitat within these areas. The extent of the removal will be small, and will occur outside the activity sites.

U.S. Fish and Wildlife Recommended Conservation Measures
The following additional measures were recommended by the U.S. Fish and Wildlife Service in the Biological Opinion (BO) issued in response to the project proposal, and will be implemented as part of this decision. The USFWS will be notified of implementation of any conservation recommendations as requested in the BO, in order to be informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats.

10. Felled tree use: If the hazard tree is within a riparian corridor but at a distance from the floodplain that is greater than the height of the tree, the felled tree should be left on site. If the tree to be felled is within a distance equal to or less than the height of the tree from the active floodplain, the tree should be felled toward the aquatic habitat and left on site unless leaving the tree will pose additional danger to human health such as to cause injury, pose a high risk to downstream facilities or prevent the intended use of the facility from occurring.

11. Outreach efforts: Continue to design future projects that reduce incidental take of murrelets, and impacts to other listed species and their habitat. This will include incorporating into the public-outreach program messages concerning dropping/leaving food, food wrappers, trash, and garbage on the trail, the subsequent attraction of corvids, and the consequential risk of predation on murrelet eggs and nestlings. This will be in addition to existing outreach messages that discourage visitors from feeding animals.

Why the Selected Plan Will Not Have a Significant Effect on the Human Environment

The National Park Service has determined that the selected alternative can be implemented with no significant adverse effects on air quality, geology and exposure to geologic hazards, soil and vegetation, water resources, wetlands and floodplains, wildlife, special status species and designated critical habitat, prehistoric and historic archeology, ethnographic resources, cultural resources, designated wilderness, soundscapes, visitor experience, and park operations and safety. The National Environmental Policy Act requires that decision-making regarding the analysis of significance be based on analysis of the proposed action with respect to the following factors:

Degree of beneficial and adverse effects: The selected alternative has a wide range of beneficial and adverse effects. These short- and long-term negligible to moderate effects will not reach the level of significance triggering an EIS.

- *Soils*: Implementation of the Plan will be negligible to minor, and would not impair park soil resources or values. Some soil disturbance is expected to occur in the immediate vicinity of individual trees, including compaction, disturbance or removal of plant cover, and soil mixing. However, the degree of impact is

considered minor compared to existing impacts of ongoing activities adjacent to trees that are removed, which in some cases may be hazardous due to decline related to adjacent development and human activity.

- *Vegetation:* Over time, treatment of individual hazard trees will result in localized negligible to moderate and cumulative minor to moderate changes to plant community structure and functions, value to wildlife, and aesthetic values, depending on the location, number and size of trees that are removed. Under a worst-case scenario, approximately one acre per year may be removed, scattered throughout the developed areas of the park. The cumulative effects of long-term treatment of hazard trees in administrative areas can, and has resulted in changes in the size and number of large trees in some areas. The decision-making process outlined under the selected alternative emphasizes preservation of forest communities, and the maintenance of ecological integrity through revegetation and restoration activities designed to protect natural communities within developed sites. Because of potential and localized direct, indirect, and cumulative effects, implementation of the Plan will result in minor to moderate impacts.

- *Wildlife:* The removal of hazard trees from park administrative and developed visitor use areas will continue to result in a localized loss of trees that contribute to cover, forage, roosting and nesting areas for wildlife. Short-term noise disturbance will affect wildlife in areas affected by human use. Hazard tree removal that has occurred in the past has contributed to the decline of quality habitat in developed areas; however under the new Plan, additional tools will be considered for removing hazards such as topping or branch removal, which will retain snag and wildlife habitat where opportunities exist. Most trees that are selected to be felled will be left in place, which will contribute to localized increases in large down wood. Because of these factors the potential effects of hazard tree removal is expected to be negligible to minor.

- *Special status species*: While some sensitive plants do occur in developed areas, the analysis has indicated that there will be no effect to special status plants due to hazard tree removal practices as guided by the Plan. Direct effects of implementation of the Plan on special status species including species listed under the Endangered Species Act would be related to noise disturbance and potential loss of individual habitat trees, and considered to be localized and negligible to moderate. The project *may affect, but is not likely to adversely affect* the northern spotted owl; *may affect, but likely adversely affect* the marbled murrelet; and have *no effect* on other listed species.

- *Archaeology*: There will be no effect on known archaeological resources. Because surveys have not been conducted for archaeological resources in all developed areas and because survey methodology has changed, there is a possibility for previously unknown resources to be discovered in the activity of surveying and treating hazard trees. However, the risk of impacting additional archaeological resources in developed areas is considered low. The State Historic Preservation Officer (SHPO) concurred with the park's determination of no adverse effect on November 19, 2007.

- *Ethnography:* There will be no effect on or impairment of any known ethnographic resources. Implementation of the Plan would not occur where Native American use would be affected. If areas of use are later identified in the vicinity of hazard tree management activities, consultation with the affected tribe(s) and, as appropriate, the Washington State Office of Archaeology and Historic Preservation would occur to determine how to proceed.

- *Historic Structures/Cultural Landscapes:* Implementation of the plan has the potential to affect six historic districts, five National Historic Landmark buildings, one eligible Mission 66 district, and the broadly defined cultural landscapes of the Mount Rainier National Historic Landmark District. Systematic surveys and better analysis of defects and other features is expected to result in somewhat improved protection of historic structures by increasing the frequency with which defects are detected where most historic structures are located, in the front country. An emphasis on restoration of sites where hazard trees are removed will contribute to the mitigation of the loss of trees important to cultural and historic landscapes. The Plan will result in no adverse effects on historic structures or cultural landscapes.

- *Visitor Experience:* The Plan will result in a minor to major beneficial effect on visitor enjoyment resulting from the removal of known hazard trees, a negligible to moderate impact on visitor access associated with the treatment of trees depending on the season, and a negligible to moderate effect on aesthetic characteristics associated with the visitor use area in question, depending on the size and number of trees treated at one time or over time. Noise and activity associated with tree felling operations may also result in negligible to moderate disruption of visitor use enjoyment and activities, particularly when visitors are present in campgrounds or other park areas during more intensive operations during the fall.

- *Wilderness*: There should be only exceptional circumstances where tree removals may be considered in designated Wilderness. Treatment of hazard trees under the Plan in Wilderness will result in a series of short and long-term negligible to minor or moderate adverse effects, and negligible to minor cumulative impacts with the potential for moderate localized impacts from the implementation of the hazard tree program. Leaving trees on-site, actively minimizing visual impacts, and the relatively small number of targets in Wilderness will limit potential for the disruption of visitor wilderness experience related to the closure of sites before and during treatment, potential visual impacts and short-term noise that may be produced during treatment activities.

- *Park Operations:* Full implementation of the plan will increase the need for surveys and documentation, and the possibility of the removal of more hazard trees or treatment of trees left in place will add to the workload of park staff, resulting in a long-term minor adverse effect on park operations. Systematic treatment of trees is expected to reduce the occurrence of unexpected failures, which may result in a small beneficial effect on operations by reducing operations related to the repair of facilities due to unmitigated hazards. Reducing the number of felled trees will reduce work associated with cleanup and restoration, with the possibility of having a beneficial effect on park operations.

Degree of effect on public health or safety: The treatment of hazard trees will have a beneficial long-term effect on public safety by providing a systematic and proactive process for the identification, documentation and implementation of hazard tree management guidelines. During hazard tree treatment activities, such as branch removal, topping, tree felling or blasting, visitor access will be controlled to prevent public exposure to hazards within the work area.

Unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, wetlands, wild and scenic rivers, or ecologically critical areas: The selected alternative will not have an adverse effect on park lands, wetlands, wild and scenic rivers, ecologically critical areas, or the historic or cultural resources in the within the park.

Degree to which effects on the quality of the human environment are likely to be highly controversial: The project and impact analysis have not been highly controversial. Comments received by state and federal agencies and the public during consultation and public review did not raise highly controversial issues (see *Public Engagement* section below for a summary of comments).

Degree to which the potential impacts are highly uncertain or involve unique or unknown risks: The effects on the human environment are known and have been described in the environmental assessment. No highly uncertain, unique, or unknown risks were identified during preparation of the Environmental Assessment or during the public comment period.

Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration: The selected alternative neither establishes a National Park Service precedent for future actions with significant effects nor represents a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant effects: A cumulative impact analysis was completed for each impact topic discussed in the EA. No significant cumulative effects were identified during the environmental analysis process.

Degree to which the action may adversely affect districts, sites, highways, structures or objects listed on the National Register of Historic Places or may cause the loss or destruction of significant scientific, cultural, or historic resources: The ecosystem and landscape is a contributing feature to the Mount Rainier National Historic Landmark District. The State Historic Preservation Officer concurred with the park that there would be *no adverse effect* on cultural resources in a letter dated November 19, 2007. The project will not result in the loss or destruction of significant scientific, cultural, or historic resources.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat: The project *may affect, but is not likely to adversely affect*, the northern spotted owl, and *may affect, likely adversely affect* marbled murrelet. The project will have *no effect* on other listed species. Formal consultation was conducted with the U.S. Fish and Wildlife Service (FWS) and concluded on January 27, 2006 in a

Biological Opinion. FWS concurred with the park's determination of *may affect, not likely to adversely affect* the northern spotted owl, and *may affect, likely adversely affect* the marbled murrelet. Under the Hazard Tree Management Plan, Mount Rainier National Park will remove up to 236 trees over 20 inches DBH in 366 acres of frontcountry sites and 35 trees at four backcountry campsites in the next two years. This will equal about three acres of trees spread out over all the developed sites and backcountry camps. Only 12 of the 271 hazard trees to be treated in the next two years are suitable marbled murrelet habitat (five percent of trees). Over the next ten years there may be the removal of an additional 205 suitable marbled murrelet trees. In addition, the plan may also result in the removal of about 579 suitable northern spotted owl nesting trees over the next ten years (Table 18).

Whether the action threatens a violation of federal, state or local environmental protection law: The selected alternative will not violate any federal, state, or local environmental protection laws.

Public Engagement and Agency Coordination

Mount Rainier National Park began internal scoping in 2002 with an interdisciplinary team of NPS staff to determine the range of issues to be discussed in the environmental assessment. This interdisciplinary process helped the NPS define the purpose and need, identify potential actions to address the need, determine the likely issues and impact topics, and identify the relationship of the proposed actions to other planning efforts in the park.

To initiate the public scoping process, a press release dated June 27, 2003 was sent to a variety of individuals and organizations on the park's environmental analysis mailing list. Responses were received from the Squaxin Island Tribe and Northwest Ecosystem Alliance. These concerns were integrated into the Environmental Assessment and Hazard Tree Plan:

- Define what constitutes a hazardous tree;
- Identify the level of acceptable risk for park visitors;
- Identify the purpose and need for revision to the plan;
- Ensure thorough analysis and sound science when identifying hazardous trees;
- Conduct independent and systematic evaluation of trees (not as a cluster or stand);
- Consider indirect impacts such as wind throw and sunscald;
- Use mitigation that focuses on removing the target rather than the tree or trees;
- Use treatments that reduce the hazard but save the tree;
- Avoid indirect impacts to adjacent trees;
- Prevent impacts by design of recreation facilities;
- Restore areas where hazard trees are removed by replanting;
- Use trees removed for on or off-site restoration;
- State the relationship to fire suppression measures to hazard tree management; and
- Consider Medicine Creek Treaty tribe issues.

The original Hazard Tree Management Plan EA was drafted in 2007, and finalized in 2009. The EA was released for a 30-day public comment period (January 15 – February

14, 2010). A press release and letters were mailed to more than 250 individuals, agencies, libraries, newspapers and other media, state and federal legislators, and American Indian tribes affiliated with Mount Rainier. CD copies of the EA were available to those who requested them, and hard copies of the EA were sent to the following libraries: Enumclaw Public Library, Buckley Library, Eatonville Library, and Tacoma Public Library. During the public review period, the EA was linked to the park's website located at http://www.nps.gov/mora and was posted on the Planning, Environment and Public Comment (PEPC) website located at http://www.parkplanning.nps.gov/mora. The press release was published in the Eatonville News, and on the NWHiker's blog. In addition to distributing copies of the EA to agencies, libraries, and affiliated tribes, the park responded to two individual requests for printed or CD copies of the EA (Washington Department of Ecology and the Puyallup Tribe), and one hard copy to the Department of Ecology. A total of one printed copy and two CD copies were distributed.

The park received three responses from individuals during the public review period. The comments did not generate revisions to the proposal nor did they change the determinations of significance for potential impacts. A blog discussion regarding hazard tree management ensued following publication of the notice on NWHiker.net.

Of the three comments, two respondents supported the preferred alternative to implement the new Hazard Tree Management Plan. One respondent expressed concern about the removal of hazard trees, and potential effects to the resource, but did not include substantive comments. One of the supportive respondents had several suggestions and edits for the EA and plan regarding terminology and methods, and suggested that potential effects to Park Operations would be greater than indicated in the EA.

The comments noted above did not result in changes to the alternatives, impact analysis, or determination of significance already described in the EA because 1) issues raised in the comments were already fully addressed in the EA, and 2) the issues raised in the comments were suggestive in nature and would not change the effects analysis, or the outcome of the EA**.**

Letters were sent to the following Native American Indian tribes on January 15, 2010, formally inviting the tribes to comment on the proposed actions: Muckleshoot Indian Tribe, Puyallup Tribe of Indians, Nisqually Indian Tribe, Yakama Nation, Squaxin Island Tribe, and Cowlitz Indian Tribe. No Native American Indian tribes submitted comments on the EA during the public comment period. Because of comments received during the scoping period, a measure was added to consider donation of trees to tribes as a possible method of disposal when trees need to be removed from a site.

In accordance with local implementing procedures for Section 7 of the Endangered Species Act, a species list was downloaded from the FWS website and crosschecked with species that may occur in the project area. Because the proposed project may affect northern spotted owls and marbled murrelets, consultation with the FWS was necessary. A Biological Assessment was prepared by the park and sent to the FWS Western Washington Fish and Wildlife Office on May 11, 2005. In a Biological Opinion dated January 27, 2006, the FWS concurred with the park's determination that the

proposed action *may affect, but is not likely to adversely affect* northern spotted owl, and *may affect, likely adversely affect the* marbled murrelet. It was determined that there would be *no effect* on other listed species.

In accordance with local implementing procedures for Section 7 of the Endangered Species Act, a species list was downloaded from the NMFS website and crosschecked with species that may occur in the project area. Because the NPS determined that the proposed project would have *no effect* on Chinook salmon and steelhead or Essential Fish Habitat, consultation with the NMFS was not necessary. NMFS was invited to participate during the scoping and public comment periods, however the agency does not respond to 'no effect' determinations..

The NPS initiated consultation with the State Archaeologist at the Department of Archaeology and Historic Preservation on November 16, 2007. In a response letter dated November 19, 2007, the State Historic Preservation Officer (SHPO) concurred with the park's determination of *no adverse effect* on archeological resources, historic structures, historic districts, or the National Historic Landmark District. In addition, the SHPO requested that if archaeological materials are discovered during project activities, the park would halt work in the area of discovery and contact appropriate Native American tribes and the Department of Archaeology and Historic Preservation for further consultation.

Impairment Disclosure

The NPS has determined that implementation of the selected action will not constitute an impairment to Mount Rainier National Park resources and values. This conclusion is based on a thorough analysis of the environmental impacts described in the project's environmental assessment, relevant scientific studies, public comments received, and the professional judgment of the decision maker guided by the direction in NPS *Management Policies 2006*. As described in the environmental assessment, project implementation will not result in major adverse impacts to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the establishing legislation, (2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or (3) identified as a goal in the park's general management plan or other relevant National Park Service planning document.

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Finding

It is the determination of the National Park Service that the proposed project as described in the selected alternative is not a major federal action that would significantly affect the quality of the human environment. Nor is it an action without precedent or similar to an action that normally requires an Environmental Impact Statement. The conclusions of non-significance are supported by the conservation planning and environmental impact analysis conducted, and the capability of listed mitigation measures to reduce or eliminate impacts. No adverse effects to cultural or historical resources will occur; there are no unacceptable impacts, nor will any impairment of cultural or natural resources or park values occur. This determination also included due consideration of minimal public comment. Therefore, in compliance with the National Environmental Policy Act, an Environmental Impact Statement will not be prepared, and the selected plan will be implemented immediately.

Recommended:

/s/ Roger Andrascik for	4/9/10
Randy King, Acting Superintendent Mount Rainier National Park	Date

Approved:

/s/ Scott Wannek for	4/15/10
George Turnbull, Acting Regional Director Pacific West Region	Date