United States Department of the Interior

National Park Service
Blue Ridge Parkway
199 Hemphill Knob Road
Asheville, North Carolina 28803

IN REPLY REFER TO:

L7617
PIN 18306

FINDING OF NO SIGNIFICANT IMPACT

HEMLOCK WOOLLY ADELGID CONTROL STRATEGIES
BLUE RIDGE PARKWAY

INTRODUCTION

The National Park Service (NPS) has prepared and made available for public review the Environmental Assessment (EA) for Hemlock Woolly Adelgid (HWA) Control Strategies at the Blue Ridge Parkway (BLRI). The EA documented the potential environmental impacts from implementing four different control alternatives. The EA was completed in September 2007 and placed on public review for 30 days. During this review period, the park received 71 comments. The comments were overwhelmingly supportive of the NPS Preferred Alternative, ***Alternative D: Both Chemical and Biological Control.***

In providing for the protection of natural, cultural, and recreational resources in BLRI, the primary decision to be made is whether to treat hemlocks, either with insecticides or biological-control agents, throughout the park in response to the damage caused to the trees from hemlock woolly adelgid. The alternatives have been fully evaluated and the public has had the opportunity to review and provide comments on the proposed action. The purpose of this document is to record selection of an alternative and a finding of no significant impact pursuant to the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (43 CFR 1500).

HWA is a non-native insect pest that is rapidly causing decline and mortality in eastern hemlocks, (*Tsuga canadensis*) and Carolina hemlock (*Tsuga caroliniana)*, in the eastern United States in as few as 3-5 years after initial infestation. HWA was discovered in BLRI in 1984 in Virginia. Spread by winds and migratory birds and mammals, the adelgid has decimated most hemlock stands on the Blue Ridge Parkway in Virginia and now threatens the old growth hemlock forests of Linville Falls, Moses H. Cone Memorial Park, and Julian Price Memorial Park. The NPS is proposing to implement control strategies in BLRI to suppress HWA infestations and reduce hemlock mortality. The proposed treatments include the use of insecticidal soap, horticultural oil, systemic insecticides, and biological control agents including several species of predatory beetles. The EA outlines proposed alternatives that will best protect and preserve hemlock communities in BLRI.

BLRI is mandated to protect the natural resources in the park. The "fundamental purpose" of the National Park System, established by the NPS' Organic Act (1916) and reaffirmed by its General Authorities Act (1970), begins with a mandate to conserve park resources and values, provide for the enjoyment of these resources and values by the people, and leave them unimpaired for future generations. As stated in NPS Management Policies 2006, "the NPS will strive to understand, maintain, restore, and protect the inherent integrity of the natural resources, processes, systems, and values of the parks." The purposes for which BLRI was established under 16 U.S.C.§460 a-2 (June 30, 1936), include the preservation and perpetuation of the natural resources of the park in an undisturbed natural condition. NPS Management Policies state that management of exotic (nonnative) species, up to and including eradication, will be undertaken whenever such species threatens park resources or public health and when control is prudent and feasible. In summary, park managers have three main objectives concerning the protection of hemlock forests in BLRI:

- Minimize losses in hemlock old-growth forests
- Protect trees in high-use developed areas
- Minimize losses in hemlock-dominated forests

PREFERRED ALTERNATIVE

The EA contains detailed descriptions of the proposed plan and alternatives considered. The NPS identified *Alternative D: Both Chemical and Biological Control* as the preferred treatment alternative and has selected this alternative for implementation. Under this alternative BLRI will use a combination of chemical and biological controls to best treat individual hemlock sites throughout the park. Using a combination of chemical and biological controls will allow more areas throughout the park to be treated. The use of biological controls allows the treatment of remote backcountry trees and those along waterways. The use of chemical controls allows the treatment of trees in areas accessible from the road. While some chemical control can be used in the backcountry, it is not feasible for widespread use. By using a combination of treatments, park managers can more effectively use limited funds and resources to treat a greater area across the landscape.

OTHER ALTERNATIVES CONSIDERED

The EA analyzed the NPS Preferred Alternative described above, a No-Action Alternative, and two other action alternatives.

Alternative A (No Action)

Under the No Action Alternative, BLRI would apply no treatments to prevent the spread of HWA throughout the park. HWA populations would be allowed to increase and decrease naturally without intervention. Extensive and very noticeable losses of hemlock in all associated forest types would be expected with this alternative and HWA populations in the park could affect hemlocks outside the boundary.

Alternative B (Chemical Control Only)
Under Alternative B, resource managers would use IPM techniques to manage HWA. BLRI would use insecticidal soap, horticultural oils, and systemic insecticides to control HWA. The pesticides proposed for chemical control of HWA in BLRI are the same that have been used by private landowners, states, national forests and other national parks that are managing HWA.

Chemical control alone cannot be relied on indefinitely to control HWA. Costs are high, access to treatment areas is limited and in some backcountry areas access difficulty may limit control capabilities. Chemical control does however provide relatively rapid control.

Alternative C (Biological Control Only)
Under this alternative, BLRI would introduce insect predators of HWA to control HWA populations. Currently two beetle species are available for release into BLRI, with several more expected to be available in the future. Biocontrol insects cannot control HWA fast enough in the short term to keep infested hemlocks alive. Populations of biocontrols need time to increase and thoroughly cover an infested area. Biocontrols often require ten years to show positive results in agricultural settings, and more time may be required in forests.

Rationale for Selection
Impacts to resources were determined using a combination of reference materials and consultation with park staff, subject matter experts in the Forest Health section of the US Forest Service, university entomologists, and State and Federal agencies. The reference materials include manufacturer product information, peer-reviewed journal articles, Federal and non-profit agency reports and publications.

The rationale for the selection of the preferred alternative (Alternative D) takes into consideration the comments that were received during the review process. Overwhelmingly, the comments were supportive of the proposed control strategies. Many indicated that the park would be remiss in not managing HWA as aggressively as possible. Only three public comments were not in support of the preferred alternative. One of these was in favor of biological controls only, using native predator beetles for the Japanese-origin adelgids that were introduced in Virginia, and the third was a chemically sensitive individual who discouraged the use of any chemicals.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The environmentally preferred alternative is determined by applying the criteria suggested in NEPA, which is guided by the Council on Environmental Quality (CEQ). The CEQ provides direction that "the environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA (Section 101(b))." The six NEPA goal statements include:

(1) Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
(2) Assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

(3) Attain the widest range of beneficial uses of the environment without degradation, risk to health and 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 which 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.

Following environmental analysis, the environmentally preferred alternative is the alternative that causes the least damage to the biological and physical environment or that best protects and enhances the natural, historic, and cultural resources of the site. As evaluated against the CEQ regulations, Alternative D (Chemical and Biological Control) is the Environmentally Preferred Alternative.

Under this alternative BLRI will use a combination of chemical and biological controls to best fit individual hemlock sites throughout the park. This environmentally preferred alternative promotes the national environmental policy by meeting the following criteria:

- Alternative D best protects park resources for future generations. More hemlock communities will be safely treated following Alternative D, including those forests found in the backcountry, in high-use areas, areas near water, and old-growth communities. By using a combination of techniques, managers have the flexibility to best address specific habitat concerns by individual site allowing the treatment of diverse communities across the park protecting a wide array of sites for the future.

- Alternative D best ensures that park employees and visitors enjoy a safe, healthful, productive, and esthetically and culturally pleasing surrounding. Being able to use both chemical and biological controls assures that heavily used areas will be treated as aggressively as possible while still protecting the safety of employee applicators.

- Biological and chemical controls, used in combination as described in Alternative D, allow managers to tailor treatments to areas that best protect water resources, non-target species, and threatened and endangered (T&E) species.

- The impending loss of hemlocks without treatment threatens the unique cultural and natural resources at BLRI. Alternative D best allows protection of our natural heritage and hemlock environments that support diversity throughout the park.

- Alternative D ensures that the visiting public will be able to continue to enjoy park campgrounds, overlooks, roads, and picnic areas with little disruption.

- Hemlock dominated forests and the communities that have developed within them will be best protected under Alternative D. Specific site treatments will be developed ensuring that the maximum number of hemlocks are treated across the park.

- By using environmentally sensitive chemicals and biocontrol agents, the quality of resources within hemlock forests will be best protected and enhanced for future generations.

WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined by 40 CFR 1508.27, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse and which on balance may be beneficial, but that may still have significant adverse impacts, which require analysis in an Environmental Impact Statement (EIS).
No major adverse or beneficial impacts were identified that will require analysis in an EIS. Resource topics that were addressed in the EA were botanical resources, terrestrial wildlife, aquatic wildlife, threatened and endangered species, cultural resources, and recreational and visual resources. All other resource topics were dismissed from further evaluation in the document because the associated impacts will be negligible or less.

The Preferred Alternative will have short-term, minor to moderate beneficial impacts to the park's vegetation community from the use of chemical controls and no impacts to these resources will result from the use of biological controls. There will be short-term minor to moderate adverse impacts to terrestrial insects from chemical use, but not to any other terrestrial wildlife. Biological control will have negligible impacts to terrestrial insects and no impacts to other terrestrial wildlife. There will be no impacts to threatened and endangered species, aquatic wildlife and cultural resources. In chemical treatment areas, there will be short-term, negligible adverse impacts to recreational resources, in the form of area closures. Biological treatments will likely have no impact to recreational resources. There will be long-term beneficial impacts to aesthetics under this alternative. Long-term beneficial impacts to visitor safety due to the reduction in hazardous dead and dying hemlock trees will be realized, as well as beneficial impacts to park maintenance staff responsible for hazardous tree removal.

Degree of effect on public health and safety.
Chemical treatments would have little impact on public health and safety for several reasons. Foliar treatments are targeted for areas that closed to the public for seasonal closures or have a temporary area closure. Systemic treatments are made into the soil at the base of trees so contact with imidacloprid by humans or non-target animals would be difficult. When used according to label instructions, imidicloprid does not translocate into aquatic systems. Human contact with biocontrol beetles is unlikely (the beetles reside on branches that are usually out of reach) and the biocontrol insects do not show interest in humans. The NPS selected alternative will have a beneficial impact on overall public health and safety. When hemlocks are treated, decline and mortality will likely decrease creating considerably reduced public safety hazards from dead trees.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
As discussed in the EA, there are no prime farmlands, wild and scenic areas or ecologically critical areas that would be affected by implementation of the Preferred Alternative.

As described in the EA, BLRI has 12 landscapes and component landscapes listed on the CLI. These include both landscapes that are documented or certified as cultural landscapes and those that have been identified for further study as cultural landscapes. Some of these landscapes have a hemlock component, but to date the hemlock component has not been determined to be significant. The one exception to this is the hemlock hedge at the Moses H. Cone Memorial Park. Although the hedgerow has been fragmented by the construction of roads on and off the park, the remaining hedge has been determined to be a contributing element to the overall landscape.

As the EA states, chemical treatments would not be conducted near aquatic areas unless in a closed system (trunk injection). Predator beetles would have no impact on the aquatic community as they are terrestrial and feed only on terrestrial prey.

Degree to which effects on the quality of the human environment are likely to be highly controversial.
HWA control efforts effects on the human environment should pose little controversy. Treatments are out of contact with the public and chemical controls do not pose unacceptable public health risk. Public comment on the proposed action has been supportive. The integrity of hemlock forests is important ecologically, aesthetically and economically.

Degree to which the possible effects on the quality of the human environment are highly uncertain, or involve unique or unknown risks.
Imidacloprid, horticultural oil, and insecticidal soap are toxic to aquatic invertebrates, so appropriate precautions would be taken to avoid water contamination. Foliar and soil treatments are not to be administered within 20 meters of a waterway and spray operations will be stopped in windy conditions likely to cause drift. Mature riparian hemlocks can be stem injected and, thereby, avoid water contamination. BLRI will not conduct any soil drenching or soil injections within 20 meters of ground surface water. When pesticides are used according to label specifications by trained personnel, no unique or unknown risks are anticipated.

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 Preferred Alternative may indicate feasibility for landscape level control of a non-native forest pest. Other non-native insect species could infest BLRI in the future, but each species would likely have very different specific control options. Future NPS actions will be evaluated through additional, project-specific planning processes that incorporate the requirements of NEPA and NPS policies. No decision in principle about future considerations can be made from the proposed action.

Whether the action is related to other actions with individually but cumulatively significant impacts.
Impacts of the NPS selected alternative to vegetation, terrestrial insects, recreational resources, and aesthetics were identified. As described in the EA, cumulative impacts were determined by combining the impacts of the NPS Preferred Alternative with other present and reasonably foreseeable future actions. However, the action is not part of a larger action. It is a stand alone initiative; therefore, the NPS Selected Alternative will not contribute or result in significant cumulative impacts.

Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.
Under the Preferred Alternative, there will be no adverse effect to sites listed by the National Register of Historic Places. In accordance with Section 106 of the National Historic Preservation Act, the North Carolina and Virginia State Historic Preservation Offices (SHPO) were consulted and comments solicited. As discussed in the EA, no historic properties, cultural resources or cultural landscapes will be adversely affected by implementation of the Preferred Alternative.

After applying the Advisory Council on Historic Preservation's criteria of adverse effects (36 CFR Part 800.5, *Assessment of Adverse Effects*), the NPS concludes that implementation of the Preferred Alternative will have no adverse effect on cultural resources. The North Carolina and Virginia SHPO concurs with the Parkway's finding of No Adverse Effect on cultural resources.

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat.
No T&E species of non-target invertebrates are known to occur on hemlock. Further, none of the invertebrate species that *Sasajiscymnus tsugae* or *Laricobius nigrinus* are known to feed on are threatened or endangered. No adverse impacts to T&E species are expected.

Whether the action threatens a violation of Federal, State, or local environmental protection law.
The implementation of the Preferred Alternative violates no Federal, State, or local environmental protection laws.

PUBLIC INVOLVEMENT

Prior to this review period, scoping letters soliciting public input on the park's use of insecticides and biological releases of predatory beetles to treat HWA were distributed to an extensive mailing list of interested parties, such as conservation groups, city and county officials, congressional representatives and other state and federal agency officials,. The scoping letter described in detail the combination of insecticides and biocontrol options that are suggested for hemlock stands. Additionally, the scoping letter was posted on the NPS planning website (PEPC) as well as the park's website. During this process, the park received 60 comments from the targeted group of park neighbors. All of these comments expressed support for developing strategies to control HWA. Several of the respondents expressed a sense of urgency and approval of a plan to pursue control of HWA.

Public review and comments did not result in any changes to the information and findings presented in the EA or to the NPS Preferred Alternative. A summary of issues raised is included in Attachment A.

The following agencies and organizations provided written comments during this phase:

- Conservation Concepts
- Mount Rogers Planning District Commission
- National Parks Conservation Association
- North Carolina Department of Administration, State Clearinghouse
- North Carolina Department of Environment and Natural Resources
- North Carolina Wildlife Resources Commission
- US Fish and Wildlife Service (Asheville Field Office)
- Virginia Department of Conservation and Recreation, Division of Natural Heritage
- Virginia Department of Environmental Quality, Office of Air Data Analysis
- Virginia Department of Environmental Quality, Office of Environmental Impact Review
- Virginia Department of Environmental Quality, Office of Water Resources Management
- Virginia Department of Environmental Quality, Waste Division
- Virginia Department of Forestry
- Virginia Department of Game and Inland Fisheries
- Virginia Department of Health, Office of Drinking Water
- Virginia Department of Transportation
- Western North Carolina Alliance

These comments helped shape the treatment alternatives and evaluate proposed treatments. All comments voiced full support of the park's efforts to combat the spread of HWA. Some concern was expressed regarding pesticide use near water, protection of listed threatened and endangered species, and careful consideration of biological control agents. Park managers addressed these concerns in the EA and they are summarized in this document.

IMPAIRMENT

In addition to reviewing the list of significance criteria, the NPS has determined that implementation of the Preferred Alternative will not constitute an impairment to the Blue Ridge Parkway's resources and values. This conclusion is based on a thorough analysis of the environmental impacts described in the EA, relevant scientific studies, and the professional judgment of the decision-maker guided by the direction in NPS Management Policies 2006. As described in the EA, implementation of the Preferred Alternative 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 or proclamation of Blue Ridge Parkway; (2) key to the natural or cultural integrity of the Blue Ridge Parkway or to opportunities for enjoyment of the Blue Ridge Parkway; or (3) identified as a goal in the BLRI's General Management Plan or other relevant NPS planning documents.

CONCLUSION

With guidance from NPS Management Policies 2006, natural and cultural resources information, professional judgment, consideration of agency and public comments, the NPS has decided to implement the Preferred Alternative (Alternative D – Both Chemical and Biological Control) to control Hemlock Woolly Adelgid on the Blue Ridge Parkway.

The Preferred Alternative does not constitute an action that normally requires preparation of an EIS. The Preferred Alternative will not have a significant effect on the human environment. Negative environmental impacts that could occur are negligible or minor and temporary in effect. There are no unmitigated adverse impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the NRHP, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any Federal, State, or local environmental protection laws. Based on the foregoing, it has been determined that an EIS is not required for this proposed project on NPS lands, and thus, will not be prepared. Implementation may take place immediately after the date of this decision.

Recommended: _____ Date: 11/19/07

Philip A. Francis, Jr.
Superintendent
Blue Ridge Parkway

Approved: _____ Date: 12/03/07

Paul Anderson
Acting Regional Director
Southeast Region

ATTACHMENT A

PUBLIC COMMENTS CONTENT ANALYSIS REPORT
for the
HEMLOCK WOOLLY ADELGID CONTROL STRATEGIES EA

Code	Description	Number of Comments
AL4000	Alternatives: New Alternatives Or Elements	0
WH4000	Wildlife And Wildlife Habitat: Impact Of Proposal And Alternatives	0
AL0001	Alt A: No Action	2
M0001	Mitigations: recommended mitigations	35
UP1000	Short Term/Long Term Use and Productivity: General Comments	0
VE0001	Vendors: recommendation for vendor	0
AL0004	Alt D: Preferred	18
AL0003	Alt C: Biological Control Only	1
MT1000	Miscellaneous Topics: General Comments	4
AE12000	Affected Environment: Wildlife And Wildlife Habitat	1
VR4000	Vegetation And Riparian Areas: Impact Of Proposal And Alternatives	0
WQ4000	Water Resources: Impact Of Proposal And Alternatives	1
CR4000	Cultural Resources: Impact Of Proposal And Alternatives	2
V0001	Visitor Use and Experience-Recreational: Impact Of Proposal And Alternatives	0
P0001	Park funds: financial impacts of proposed action	0
UI1000	Unavoidable Impacts: General Comments	0
CC1000	Consultation and Coordination: General Comments	37
V0002	Visitor Use and Experience-Visual Resources: Impact Of Proposal And Alternatives	0
AE8000	Affected Environment: Visual Quality	0
TE4000	Threatened And Endangered Species: Impact Of Proposal And Alternatives	4
AH0001	Aquatic Habitat: Impact Of Proposal And Alternatives	1
AE6000	Affected Environment: Marine And Estuarine Resources	1
AL0002	Alt B: Chemical Control Only	0
S0001	Insects: Source for insects	0

Comment Distribution by Status

Status	Number of Comments
Coded	71
Total	**71**

Correspondence Distribution by Correspondence Type

Type	Number of Correspondences
Web Form	4
Letter	18
Total	**22**

Correspondence Signature Count by Organization Type

Organization Type	Number of Correspondences
County Government	1
Federal Government	1
State Government	14
Unaffiliated Individual	6
Total	**22**

Correspondence Distribution by State

State	Percentage	Number of Correspondences
VA	50.00%	11
NY	4.55%	1
NC	45.45%	10
Total		**22**

Correspondence Distribution by Country

Country	Percentage	Number of Correspondences
United States of America	100.00%	22
Total		**22**