United States Department of Agriculture **Forest Service** **National Forests in North Carolina Supervisor's Office**
160A Zillicoa Street
P.O. Box 2750
Asheville, NC 28802
828-257-4200

File Code: 1950/3400
Date: January 27, 2004

Dear Interested Citizen:

I am proposing limited research activities to study a possible way to control the non-native insect pest Hemlock Wooly Adelgid, which is currently attacking native Eastern Hemlock trees and native Carolina Hemlock trees across Nantahala and Pisgah National Forests. Sites at risk include the old growth hemlocks in Joyce Kilmer Memorial Forest and in the Linville Gorge. This research would study the release of the predatory beetle *Pseudoscymnus tsugae* (*P. tsugae*) on specific infested trees and groups of trees at up to 39 possible locations on the Forests over the next three to five years. Releases would be monitored by Forest Health Protection staff to determine if the predator beetle is effective in reducing HWA population densities and protecting hemlock health.

The USDA Forest Service has statutory responsibility to take steps to preserve the diversity of tree species in the forest. The Hemlock Wooly Adelgid (HWA) (*Adelges tsugae*) is a catastrophic introduced pest of hemlock trees in the eastern United States. Without a viable method for long-term control of HWA there may be devastating impacts to southern Appalachian ecosystems as eastern and Carolina hemlocks are lost throughout their range. The adelgid sucks plant sap at the base of the needles. The needles fall off and twigs often die back, preventing trees from producing new growth. Eventually, the tree dies. After a forest has become heavily infested with the HWA, tree death may occur in as little as three to five years. HWA began attacking hemlock along the east coast in the 1950's and has spread to where it currently infests about one-half of the area where hemlocks grow in the eastern U.S. Eighty percent of the hemlocks in Virginia's Shenandoah National Park are now dead. It was found in North Carolina in the mid-1990's, but not known to occur on Nantahala or Pisgah National Forests until 1999. A promising approach to long-term control would be to establish reproducing populations of one or more biological control agents (such as host-specific predatory beetles that eat HWA).

The predatory beetle *P. tsugae* is from Japan as is HWA. Dr. Mark McClure of the Connecticut Agricultural Experiment Station discovered the beetle in 1992 while in Japan hunting for HWA predators. It is a tiny black ladybird beetle about the size of a poppy seed. It was studied in a laboratory setting for several years and determined to have excellent potential as a biological control agent for HWA. It specifically attacks adelgids and both the larvae and adult beetles feed voraciously on all life stages of HWA. Its life cycle is well synchronized with that of the adelgid, and it completes at least two generations each year in the field. The beetle shows no undesirable traits that would cause it to be a nuisance or otherwise poor candidate for release. The USDA granted a permit for its release in 1995.

Experimental releases of the beetle *P. tsugae* began in 1995 in Connecticut. Releases there and in Virginia have demonstrated the potential for *P. tsugae* to control HWA densities on trees. Releases have occurred in other states as well. Limited releases on three Nantahala/Pisgah districts took place last year with no negative impacts and have sparked interest in another study

across more sites. Use of *P. tsugae* remains experimental, in part because beetle production is difficult and large numbers of beetles have only recently become available for study. At the same time, infestations of HWA on Nantahala and Pisgah National Forests are still limited, which provides an opportunity to study the effectiveness of the beetle in controlling HWA in areas where hemlock death has not yet occurred.

Beetles would be released at up to 39 locations on Nantahala and Pisgah National Forests over the next five years. It is anticipated that each year, a small subset of release sites would be selected for study. Possible release sites were chosen based on the ecological value of the hemlock stands as determined by the North Carolina Natural Heritage Program and USDA Forest Service. Each year, release sites will be selected based on the degree of infestation, the condition of the hemlock trees at the site, and the availability of beetles. The optimum time for releasing beetles appears to be early spring and we hope to begin implementation of this project in March and April of 2004. Possible release sites are shown on the enclosed map and listed below:

Ecologically Significant Hemlock Stands Within Special Interest Areas[1] or Wilderness Areas

Site Names	*District*	*County*	*Map #*
Joyce Kilmer Wilderness	Cheoah	Graham	35
Santeetlah Creek Bluff	Cheoah	Graham	34
Standing Indian	Wayah	Macon	27
Kelsey Tract	Highlands	Macon	22
Chattooga River/Ellicott Rock	Highlands	Jackson/Macon	19/21
Black Mountains	Appalachian	Yancey	6
Craggy Mountains	Appalachian	Buncombe	10
Linville Gorge Wilderness	Grandfather	Burke	3
Linville Falls	Grandfather	Burke	2
Shinning Rock Wilderness	Pisgah	Haywood	15

Ecologically Significant Hemlock Stands Outside of Special Interest Areas and Wilderness Areas

Site Names	*District*	*County*	*Map #*
Beartree Ridge	Grandfather	McDowell	4
Buckeye Knob/Curtis Creek	Grandfather	McDowell	5
Steels Creek	Grandfather	Burke	1
Looking Glass Rock Watershed	Pisgah	Haywood	16
Rock Branch/Big Creek	Appalachian	Madison	13
Hickey Fork	Appalachian	Madison	14
Walker Falls	Appalachian	Buncombe	9
Mineral Creek	Appalachian	Buncombe	12
Carter Creek	Appalachian	Buncombe	11
South Toe River	Appalachian	Yancey	8
Middle Creek	Appalachian	Yancey	7
Siler Creek	Wayah	Macon	28
Nantahala River Gorge	Wayah	Macon	30
Alarka Laurel	Wayah	Swain	29
Panthertown	Highlands	Jackson	17
Whitewater River	Highlands	Jackson/Macon	18
East Fork/Blue Valley	Highlands	Macon	25
Chinquapin Mt./Glen Falls	Highlands	Macon	24
Skitty Branch Cove	Highlands	Macon	23
Webb Branch/ Blue Valley	Highlands	Macon	26
Horse Cove	Highlands	Macon	21
Brooks Cove/ Rhymers Ferry	Cheoah	Graham	38
Rattler Ford	Cheoah	Graham	39
Bear Creek Watershed	Cheoah	Graham	36
Snowbird Creek Watershed	Cheoah	Graham	31
Wright Creek	Cheoah	Graham	32
Indian Creek	Cheoah	Graham	33
Cheoah River	Cheoah	Graham	37

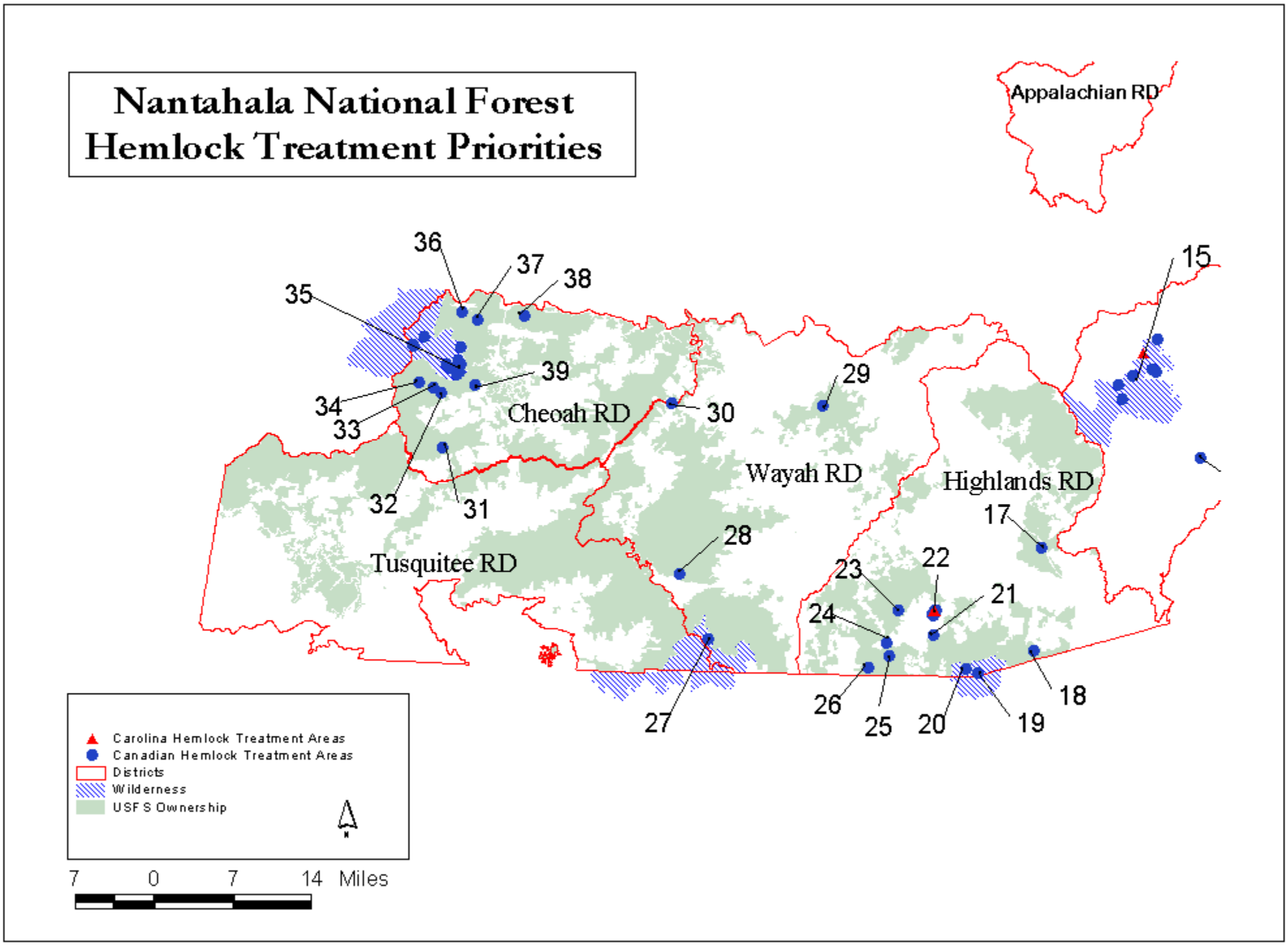
I would like to hear from you regarding this proposal. The actions in this proposal appear to fall into a category of actions that may be excluded from documentation in an environmental impact statement or environmental assessment. This determination, however, will not be finalized until after considerations of your comments and concerns. The Regional Forester would be the responsible official for this project. Comments, including names, become part of the project record and are available for public review. We would appreciate receiving your comments by February 20th, 2004. Send your comments to:

Planning
National Forests in North Carolina
P.O. Box 2750
Asheville, NC 28802

Comments may also be sent by e-mail to: comments-southern-north-carolina@fs.fed.us. If you have questions about this project or need further information, contact Ruth Berner at (828) 257-4862 or Mark Robison at (828) 479-6431. I appreciate your continued interest in Nantahala and Pisgah National Forests.

/S/ Monica Schwalbach, for
JOHN F. RAMEY
Forest Supervisor

Enclosure


Nantahala National Forest
Hemlock Treatment Priorities
Appalachian RD
Cheoah RD
Wayah RD
Highlands RD
Tusquitee RD
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21
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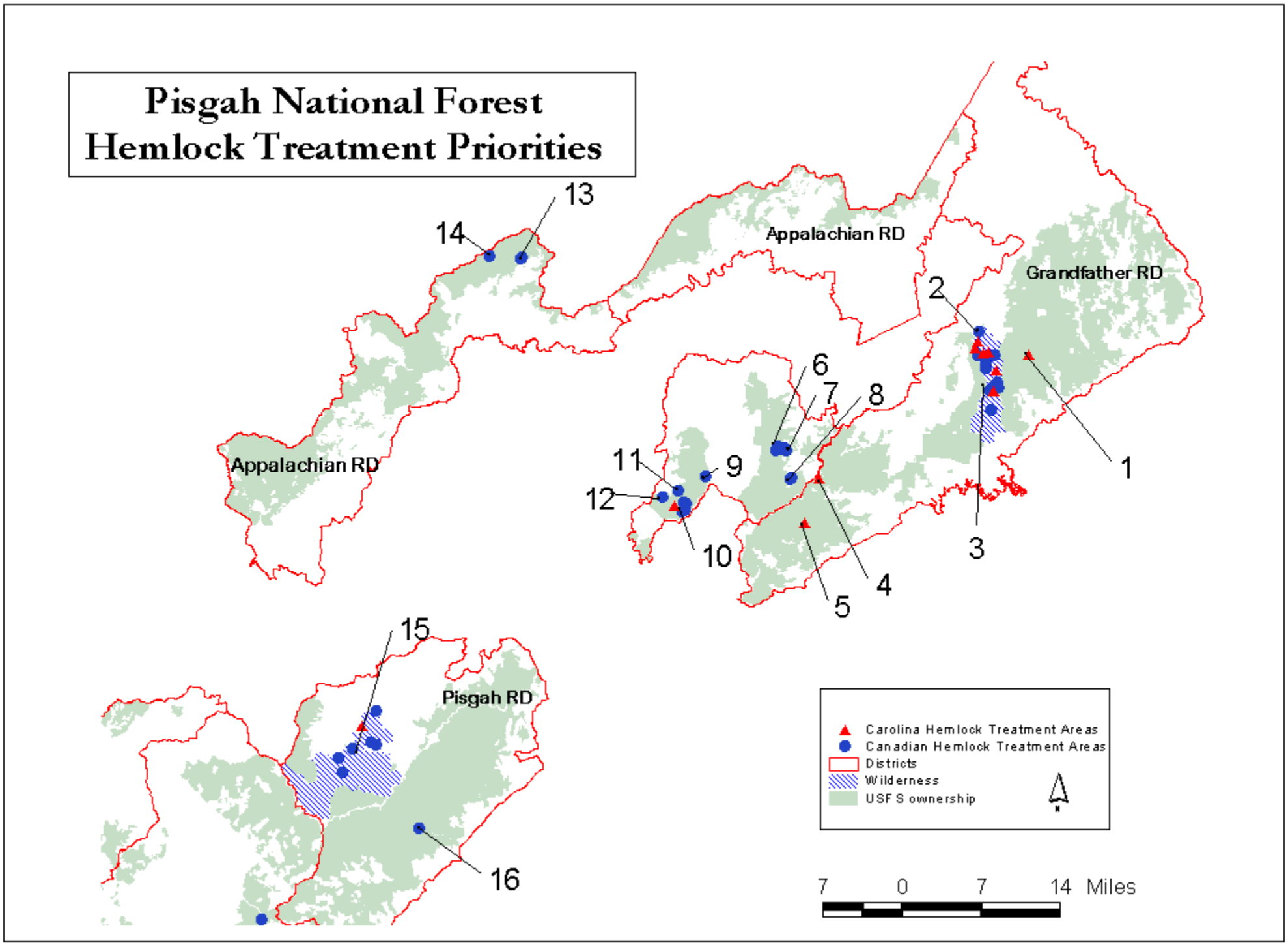
Carolina Hemlock Treatment Areas
Canadian Hemlock Treatment Areas
Districts
Wilderness
USFS Ownership
7 0 7 14 Miles


Pisgah National Forest
Hemlock Treatment Priorities
13
14
Appalachian RD
Grandfather RD
2
6
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8
11
9
12
10
1
3
4
5
Appalachian RD
15
Pisgah RD
16
Carolina Hemlock Treatment Areas
Canadian Hemlock Treatment Areas
Districts
Wilderness
USFS ownership
7 0 7 14 Miles