



**File Code:** 1950-1

**Date:** January 30, 2007

Dear Interested Citizen:

The National Forests in North Carolina are proposing a multi-year project to control infestations of non-native invasive plants (NNIP) in the Pisgah National Forest and a portion of the Nantahala National Forest. The program will integrate manual, mechanical, cultural, and chemical control methods over a five-year period. The objective of the project is to reduce or eliminate infestations of the most aggressive NNIP across the Pisgah National Forest. The project is proposed to begin in the spring of 2007. Infestation areas will be prioritized for treatment based on the following criteria: NNIP species, threat to natural areas, threat to rare species, location, practicality of control, and degree of infestation.

I have attached a detailed description of the proposed action, purpose and need for action, and maps of proposed treatment areas. To assist us in determining issues and environmental effects associated with the proposal, I am asking for your comments or recommendations regarding the proposal.

Please note I am requesting your comments at this time as part of the 30-day comment period pursuant to 36 CFR 215. I am conducting this 30-day comment period simultaneously with the initial scoping under the National Environmental Policy Act (NEPA). You only need to submit one set of comments. If you wish your comments to be considered as part of the 30-day legal period in 36 CFR 215, please insure your comments are submitted within 30 days of the date the legal notice is published in the Asheville Citizen-Times newspaper.

You may mail your written comments to: Forest Supervisor, National Forests in North Carolina, 160 Zillicoa Street, Suite A, Asheville, North Carolina 28801-1082. You also may hand deliver your comments to the above address between the hours of 8:00 a.m. and 4:30 p.m., Eastern Standard Time.

Electronic comments are welcome also and can be submitted in a common digital format to [comments-southern-north-carolina@fs.fed.us](mailto:comments-southern-north-carolina@fs.fed.us). Oral comments may be provided during normal business hours; please contact Carol Milholen at (828) 257-4860 to set up an appointment if you wish to provide oral comments.

If you have any questions or would like more information about this project, please contact Gary Kauffman, project team leader, at (828) 257-4861. I appreciate your continued interest in the management of the Nantahala and Pisgah National Forests.

Sincerely,

/s/ Monica Schwalbach (for)  
MARISUE HILLIARD  
Forest Supervisor



**PROPOSED ACTION**  
**NON-NATIVE INVASIVE CONTROL**  
**National Forests in North Carolina**

**PROPOSED ACTION**

The Proposed Action is to treat non-native invasive plant (NNIP) infestations across the Pisgah National Forest and within four sites on the Nantahala National Forest using an integrated combination of manual, mechanical, cultural, and chemical control treatment methods over a five-year period. The treatments would begin in the spring of 2007 and are estimated to occur over a 5-year period.

Infestation areas would be prioritized for treatment based on the following criteria: threat to rare species, threat to natural areas, NNIP species, location, practicality of control, and degree of infestation. An invasive plant inventory across the forests identified sites with outbreaks of invasive exotic species impacting either rare species or rare habitats (see Table 1) and areas for control of specific NNIP species (see Table 2). The attached maps display the proposed treatment areas shown in Tables 1 and 2.

**Project-Specific Forest Plan Amendment:** The Proposed Action includes a project-specific forest plan amendment to the Land and Resource Management Plan for the Pisgah and Nantahala National Forests. The proposed amendment specific to this action would apply to the management requirement and mitigation measure #82 (listed on page I-13 of the forest plan); measure #82 would be changed to read as follows:

“No herbicide is aerially applied within 300 feet of any known threatened, endangered, proposed, or sensitive plant. Buffers are clearly marked before treatment so applicators can easily see and avoid them.”

The change to this requirement removes the wording “nor ground-applied within 60 feet” from this requirement. This amendment is needed to accomplish the objectives of the proposed action, specifically the need to protect rare, sensitive habitats and threatened, endangered, proposed, or sensitive plants (PETS) from NNIP. Due to the current conditions, NNIPs already are within or immediately adjacent to these habitats and individual PETS. We could not meet the objective of protecting these plants and habitats without treating NNIPs inside of the 60-foot buffer.

Pisgah National Forest Invasive Plant Control Project

**Table 1. Highest priority treatment areas within the Pisgah & Nantahala National Forests.**

District	Site	Species/Community At Risk	Control Species	Acreage
Appalachian RD	Nolichucky Gorge	Virginia Spiraea	Japanese Knotweed	20
Appalachian RD	Roan Mountain	Grassy Bald	Bittersweet, Coltsfoot	20
Grandfather RD	Linville Rim east of Wilderness	Mountain Heather	Princess Tree	10
Pisgah RD	Pink Beds	Swamp Pink	Privet	5
Pisgah RD	Foster Creek Bog	Southern Appalachian Bog	Japanese Stilt Grass	3
Cheoah RD	Cheoah River	Virginia Spiraea	Kudzu, Oriental Bittersweet	10
Tusquitee RD	Buck Creek Serpentine Barrens	Serpentine Barren Community	Kudzu	5
Wayah RD	Whiteoak Creek	Virginia Spiraea	Japanese Knotweed	5
Wayah RD	Nantahala River	Noonday Snail	Kudzu	10

**Table 2. Second priority treatment areas within the Pisgah National Forest.**

District	Site	Control Species	Acreage
Appalachian RD	French Broad River/Spring Creek Corridors	Japanese Knotweed	30
Appalachian RD	Upper South Toe Area	Autumn/Thorny Olive, Oriental Bittersweet, Japanese Knotweed	35
Appalachian RD	Hurricane Creek Area	Japanese Spiraea, Princess Tree	100
Pisgah RD	Parker Creek Area	Oriental Bittersweet	18
Pisgah RD	Davidson River Corridor	Oriental Bittersweet, Japanese Knotweed	60
Grandfather RD	Steels Creek, Upper Creek watersheds	Princess Tree	244
Grandfather RD	Frankum Creek Watershed	Princess Tree	60

Executive Order 13112 directs all federal agencies to detect and respond rapidly to control NNIP populations. To fulfill the goals of Executive Order 13112, this invasive treatment proposal is intended to be adaptive in nature and allow the use of integrated methods for the future treatment of invasive plant infestations. Therefore, other proposed treatment areas that serve as vectors for non-native invasive species include regularly disturbed sites (roadsides, trails, & wildlife openings) and prescribed burns; these areas are included in the proposal for treatment and are listed in Table 3 with an estimate of potentially treated acres. This table also includes special interest areas (Forest Plan Management Area 13), areas with known rare species, or areas with high quality or rare plant communities. These specific areas have a relatively high potential for infestation of NNIP; however, the level of infestation has not been inventoried. Pending an inventory that verifies type and intensity of infestation, these areas are the lowest priority for treatment.

**Table 3. Other proposed NNIP treatment areas within the Pisgah National Forest.**

Treatment Area Types	Sites	Miles	Affected Forest %	Acreage
Roads with 100 foot buffer	----	1134	2.7%	13489
Trails with 50 foot buffer	----	625	0.7%	3717
Wildlife Openings	405	----	0.1%	678
SIAs*/Rare Species/Rare Communities	26	----	3.3%	16846
Prescribed Burn Areas	10	----	1.8%	8879
<b>Totals</b>			<b>8.6%</b>	<b>43609</b>

\*Special Interest Areas as designated in the Pisgah and Nantahala Forest Plans.

All proposed treatment areas are located outside of congressionally designated Wilderness areas. The acreages for control were derived by overlaying known infestations with modeled suitable habitat; as such, the proposed acreages are approximate. Actual control acreage is difficult to determine since the density of an infestation varies. Most of the targeted NNIP outbreaks are restricted to more mesic portions of the landscape provided it is not densely covered with *Rhododendron* species. Intersecting these potential treatment areas with modeled suitable habitat (mesic plant communities) indicates less than 30% of the areas have high potential for outbreaks. An exception to NNIP infestations within mesic communities is within recently burned areas. Two invasive plant species, princess tree and spotted knapweed, have been detected within the driest portions of the landscape. These high potential infestation areas within burn sites average about 21% of prescribed burn areas.

Treatments would be implemented incrementally on infestation sites on National Forest System lands over the next 5 years and would be limited to:

- Approximately 200 acres of manual or mechanical treatments per year (such as hand-pulling, hand-cutting, digging, or mowing).
- Approximately 50 acres of spot treatments with a propane weed torch per year.
- Approximately 300 acres of land-applied, licensed herbicide application per year.

**Proposed Manual and Mechanical Methods:** Manual or mechanical methods would be the principle method for controlling small spot infestations. Examples of hand tools that might be used include shovels, saws, axes, loppers, hoes, or weed-wrenches. Mechanical methods could include cutting with a string trimmer, chain saw, brush blade, or mower.

**Proposed Spot Treatments Using Propane Weed Torch:** A propane weed torch would be used to spot-burn specific invasive plants. The weed torch works not by starting a ground fire but by using the torch's flame to burn the target plant. The weed torch would only be used during times of low fire danger. There use will primarily be within plant communities, such as Southern Appalachian Bogs or Rich Cove Forest communities, which have a low potential to carry a fire. The weed torch is known to be effective with some invasive shrubs but would be tested on more high-priority invasive plants as an alternative to herbicide use.

**Proposed Chemical (Herbicide) Methods:** The objectives of herbicide use would be to control NNIP infestations where manual or mechanical means would be cost-prohibitive or result in excessive soil disturbance or other resource damage. All herbicides would be used according to manufacturer's label direction for rates, concentrations, exposure times, and application methods. Herbicides would be directly applied to the target plants (*i.e.*, the NNIP species) using spot treatment. Spot treatment would consist of various techniques for applying herbicides to target plants without impacting desirable vegetation and other non-target organisms, including humans. Herbicide drift would be greatly reduced with spot treatment (relative to broad-scale application). Techniques that could be used include spraying foliage using hand-held wands or backpack sprayers, basal bark and stem treatments using spraying or painting (wiping) methods, cut surface treatments (spraying or wiping), and woody stem injections. No herbicides would be applied aerially. Only formulations approved for aquatic-use would be applied in or adjacent to wetlands, lakes, and streams, in accordance with label direction.

Specific herbicides that could be used in the project area include the following:

- Glyphosate (Roundup™, Accord™, Rodeo™) is a non-selective, broad spectrum, systemic herbicide that is used to control many grasses, forbs, vines, shrubs, and trees.
- Triclopyr (Garlon 3A™, Garlon 4™) is a selective herbicide that controls invasive, broadleaf herbaceous and woody plants, but does not harm certain monocots (grasses).
- Clopyralid (Transline™) is a selective herbicide affecting broadleaf herbs, primarily legumes, composites, and smartweeds.
- Fluazifop-P-Butyl (Fusilade™) is a monocot specific herbicide primarily affecting grasses, sedges, and lilies.
- Fenoxaprop-ethyl (Acclaim™) is a selective herbicide primarily used to control grasses.
- Imazapic (Plateau™) is a selective herbicide primarily used to control cool season grasses.
- Metsulfuron methyl (Escort™) is a selective herbicide used to control specific woody species and broadleaf plants.
- 2,4-D (xx™) is a selective herbicide that controls invasive broadleaf herbaceous plants and woody seedlings, but does not harm certain monocots (including grasses).

### **Treatment protocol**

The current proposal is intended to be adaptive in nature and allow the use of integrated methods for the future treatment of invasive plant infestations. Based on the above prioritization, forest staff would determine which NNIP infestations would be treated, and which control method(s) to be used at each infestation site. This determination of treatments will follow these guidelines:

1. The priority species listed in Table 4 would be the usual priority for treatment. For these high-priority species, order of site treatment and methods would be determined by infestation size, location sensitivity, potential for spread, treatment urgency, and other factors.
2. Herbicide use would occur for infestations where manual or mechanical means would be cost-prohibitive or result in excessive soil disturbance or other resource damage.
3. Prior to any treatments, actions covered by this EA would be reviewed by Forest staff in the areas of wildlife biology, botany, aquatics, soils, and heritage resources. A checklist of required reviews will be developed for the treatment areas. Treatments would be designed

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so as to minimize effects to associated resources. Treatment action pursuant to this EA would be approved by the District Ranger for the corresponding sites.

4. Herbicide formulations approved for aquatic-use would be applied in or adjacent to (within 30 feet) wetlands, lakes, and streams, following label direction.

### **Monitoring**

Follow-up monitoring to evaluate the success of the treatment will be necessary to successfully implement the control program. Portions of the areas will require monitoring and follow-up treatment extending beyond the 5-year treatment period. This will principally be in control areas treated during the fifth year of this proposal.

### **PURPOSE AND NEED FOR ACTION**

The Chief of the U.S. Forest Service (USFS) has identified non-native invasive plants (NNIP) and other species as one of the four critical threats to USFS ecosystems. Non-native plants are known across the southern Appalachian as well as within the Pisgah National Forest, accounting for 15-20% of the documented flora. Not all non-native plant species are known to disrupt native ecosystems. Of particular concern are those non-native invasive plants (NNIPs) that are successful at invading and rapidly spreading through natural habitats. As defined in Executive Order 13112 issued February 3, 1999, an invasive species must meet the following two criteria: “1) It is nonnative to the ecosystem under consideration and 2) its introduction causes or is likely to cause economic or environmental harm to human health”.

A list of the most invasive plant species has been developed across the Nantahala and Pisgah National Forests both from botanical surveys completed during the past 15 years and a NNIP inventory across selected watersheds (Table 1). Most of the 17 species are known to be prevalent across the region, continuing to spread and actively impacting biodiversity. Other species, such as oriental bittersweet (*Centaurea biebersteinii*) or coltsfoot (*Tussilago farfara*), are less widespread but recently documented with evident impacts and are suspected to threaten more biodiversity based on information from other regions. Thousands of acres are known to have some outbreaks of these 17 species; however the exact acreage infested within the Pisgah National is unknown and can change annually. The NNIP inventory recorded spot occurrences of the 17 species in more than 70% of plots along roadside edges. Table 1 prioritizes the 17 species regarding treatment based on known infestations, threats to native ecosystems, potential rate of spread and management ease across the mountain forests in North Carolina. Oriental bittersweet is ranked highest because of its ability to spread and persist in an intact plant community, its spread in more mesic plant communities with greater diversity, and its relative restricted distribution thus facilitating control on outlier infestations.

Given the current distribution of NNIP infestation sites on the Pisgah National Forest, there is a need to implement an integrated program of NNIP control to protect the integrity of natural plant communities. The purpose of the program would be to conserve and enhance native populations of animals and plants through the timely removal of NNIP infestations and to prevent or reduce the spread of NNIP infestations to high quality natural habitats. The integrity of natural communities on the Pisgah National Forest could be compromised if NNIP infestations are allowed to continue to spread and to invade previously unaffected areas. Management of NNIP

infestation sites will help prevent the Pisgah National Forest from becoming a source of infestations for surrounding lands, both public and private, and slow the spread of the 17 NNIP in the southern Appalachians.

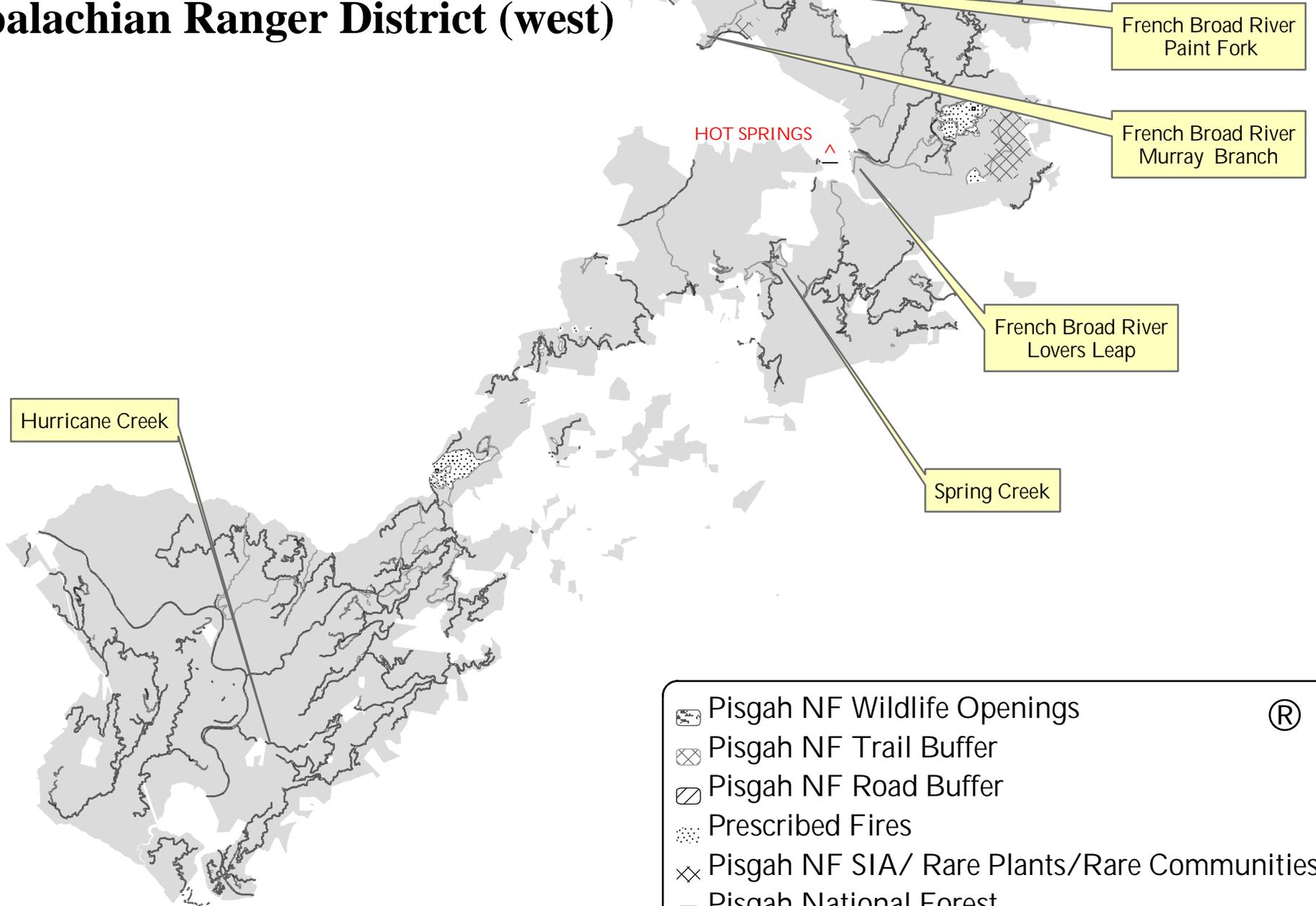
**Table 4. Non-native invasive plants of concern on the Pisgah & Nantahala National Forests**

Scientific Species	Threat	Priority Treatment	Common Name
<i>Celastrus orbiculatus</i>	1	High	Oriental Bittersweet
<i>Paulownia tomentosa</i>	2	High	Princess Tree
<i>Spiraea japonica</i>	3	High	Japanese Meadowsweet
<i>Polygonum cuspidatum</i>	4	High	Japanese Knotweed
<i>Microstegium vimineum</i>	5	High	Japanese Stilt Grass
<i>Ligustrum sinense/vulgare</i>	6	High	Chinese/European Privet
<i>Miscanthus sinensis</i>	7	High	Chinese Silver Grass
<i>Rosa multiflora</i>	8	High	Multiflora Rose
<i>Elaeagnus umbellulata/pungens</i>	9	Medium	Autumn/Thorny Olive
<i>Lonicera japonica</i>	10	Medium	Japanese Honeysuckle
<i>Alliaria petiolata</i>	11	Medium	Garlic Mustard
<i>Centaurea biebersteinii</i>	12	Medium	Spotted Knapweed
<i>Tussilago farfara</i>	13	Medium	Coltsfoot
<i>Albizia julbrissin</i>	14	Medium	Silk Tree
<i>Ailanthus altissima</i>	15	Medium	Tree-of-heaven
<i>Pueraria montana var. lobata</i>	16	Medium	Kudzu
<i>Dioscorea oppositifolia</i>	17	Medium	Chinese Yam

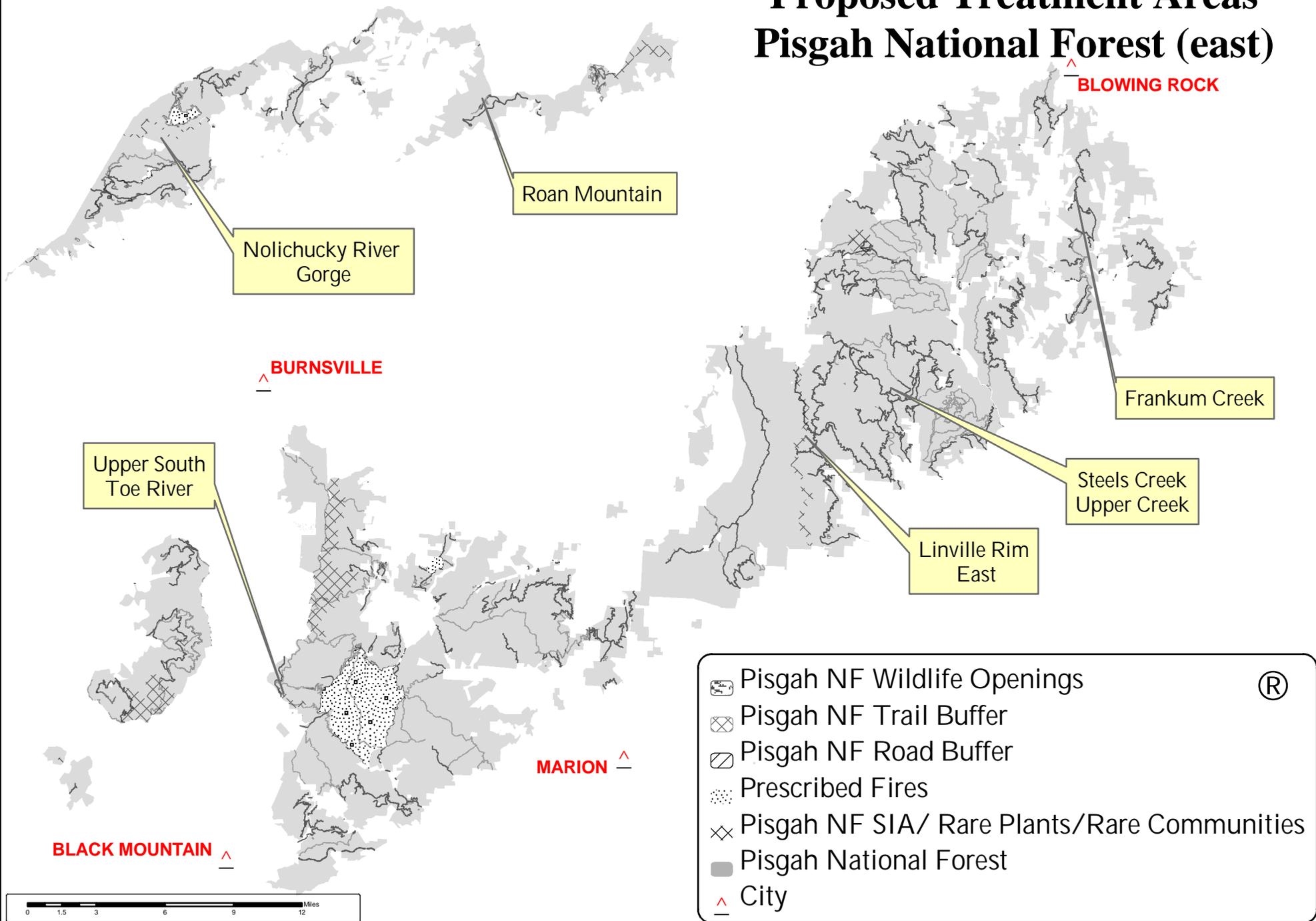
**DECISION TO BE MADE**

Following review of public comments and the environmental analysis, a decision will be made on whether the National Forests in North Carolina should implement this proposed action or an alternative approach to control the NNIP within the areas proposed across the Pisgah National Forest and the Nantahala National Forest.

# Non-Native Invasive Plant Proposed Treatment Areas Appalachian Ranger District (west)



# Non-Native Invasive Plant Proposed Treatment Areas Pisgah National Forest (east)



-  Pisgah NF Wildlife Openings
-  Pisgah NF Trail Buffer
-  Pisgah NF Road Buffer
-  Prescribed Fires
-  Pisgah NF SIA/ Rare Plants/Rare Communities
-  Pisgah National Forest
-  City



# Non-Native Invasive Plant Proposed Treatment Areas Nantahala National Forest

Cheoah River

Nantahala Gorge

Whiteoak Creek

Buck Creek Serpentine Barren

WAYNESVILLE

ROBBINSVILLE

SYLVA

FRANKLIN

MURPHY

HAYESVILLE

HIGHLANDS



City ®

Nantahala National Forest

# Non-Native Invasive Plant Proposed Treatment Areas Pisgah Ranger District

WAYNESVILLE



Pink Beds

Foster Creek Bog

Parker Creek Dismal Falls

Davidson River

BREVARD



-  Pisgah NF Wildlife Openings
-  Pisgah NF Trail Buffer
-  Pisgah NF Road Buffer
-  Pisgah NF SIA/ Rare Plants/Rare Communities
-  Pisgah National Forest
-  City

