



United States
Department of
Agriculture

Forest
Service

July 2005

NON-NATIVE INVASIVE PLANT SPECIES CONTROL PROJECT

**Towns of Berlin and Crawford's Purchase
Coos County, New Hampshire
Low and Burbanks Grant, Thompson and Meserves Purchase, and
Chandler's Purchase
Coos County, New Hampshire
And
Towns of Bethlehem, Franconia, Campton and Woodstock
Grafton County, New Hampshire**



Decision Memo

**Prepared By
White Mountain National Forest**



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Cover Photo: Brown Knapweed on Jefferson Notch Road, White Mountain NF

White Mountain National Forest
Non-Native Invasive Plant Species Control Project

Decision Memo
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I. Summary

As Forest Supervisor of the White Mountain National Forest, I have decided to implement a project to control the spread of non-native invasive plant species within the National Forest by attempting to eradicate specific known and suspected plant populations within Coos and Grafton Counties in New Hampshire through the use of hand pulling, hand cutting and treatment with registered herbicides. The focus of this project is two-fold.

- Treatment of 11 known populations on sites ranging in size from one plant to 1/8-acre, and totaling one acre altogether. The non-native invasive plant species include two sites with brown knapweed, five sites with Japanese knotweed sites, and four sites with Phragmites.
- Three of the 11 known sites are on the Jefferson Notch Road, all located between the Caps Ridge Trailhead and US Highway 2 to the north. This project will also focus on treatment of suspected populations of brown knapweed along the Jefferson Notch Road south of the Caps Ridge Trailhead. There have been reports of knapweed along this stretch of the road, but exact location is being determined as the plants return this summer.

Eradication efforts may include hand pulling or treatment with the registered herbicide Glyphosate using one of the following methods: backpack foliar spray application, stem injection, or a combination of stump cutting and injection. Glyphosate is a non-selective, systemic herbicide with a short-residual life. The Forest Service has safely and effectively utilized herbicides on other National Forests for this same purpose. If these herbicides prove effective at eradicating the non-native invasive plant species in these locations, the White Mountain National Forest may propose to use them on a regular basis to control the spread of these and other species. This Decision Memo documents the rationale for my decision, reasons for categorically excluding the decision, and the relationship to extraordinary circumstances.

II. Decision

A. Background

Non-native invasive species (NNIS) are plants or animals whose origin is generally somewhere other than North America. They may be completely harmless or even beneficial in their native environments, but when introduced elsewhere, they can disrupt the established order and function of the ecosystem and become especially aggressive or difficult to manage. In the United States, NNIS are a primary cause for almost half of the species being listed under the Endangered Species Act (The Nature Conservancy, 1996) and are estimated to cost \$138 billion per year in major environmental damages and losses nationwide (Pimentel et al, 1999)

NNIS on the White Mountain National Forest

NNIS on the White Mountain National Forest pose a serious threat to plant and animal community health and diversity. Because exotic species have been transplanted outside their original range, they often lack natural controls (e.g., disease, predators, parasites, or climate), which allows them to out-compete and eventually replace more sensitive native species. Not only do they compete with native species for resources, but they also cause loss of habitat and food for wildlife, alter soil structure and chemistry, alter fire regimes and plant succession, serve as reservoirs for pathogens, and hybridize with natives to compromise local genetic diversity.

Once NNIS become established, they are extremely difficult to eradicate, and the resulting change in community plant composition can alter ecosystem dynamics and functions over time.

NNIS may spread through a variety of processes, including wind or water dispersal, in forage for wildlife such as birds, or by using barbs that attach to fur or clothing. NNIS tend to be most successful when soil has been disturbed and sunlight levels are high (i.e. open canopy). Management activities that perpetuate open sunlight conditions (e.g. road/trail construction and maintenance, timber sale operations, wildlife opening maintenance, prescribed burning) may be more likely to result in population increases. Other activities, such as hiking, boating, using pack animals, or landscaping can also spread NNIS.

The majority of NNIS locations observed within the vicinity of the White Mountain National Forest have been along roads and highways, and in developed areas (e.g., towns, housing developments, and recreation areas). Roads, as fragmenting agents, increase the amount of forest-edge habitat on the landscape. The resulting “road-effect zone” is subject to alterations of the microclimate (e.g., increases in light and temperature and a decrease in relative humidity), as well as to frequent and intense disturbance activities (maintenance and traffic), the combined effects of which tend to favor the growth of opportunistic NNIS (Parendes and Jones 2000; Forman and Deblinger 2000). Roads also serve as corridors for the dispersal of invasive plants through the spread of seed propagules (e.g., seeds or vegetative fragments) that attach to vehicle hardware (e.g., tires and undercarriages) (Westbrooks 1998; Parendes and Jones 2000; Lonsdale and Lane 1994). NNIS infestations can extend 250 meters or more beyond road’s edge into the adjacent forest (Saunders et al, 1991; Primack 2000; Forman and Deblinger 2000). A Wisconsin study found that NNIS were most prevalent within 15 meters of the road; however, a few species penetrated up to 150 meters into the adjoining hardwood forest (Watkins et al, 2003).

During 2001 and 2002, an invasive plant inventory was conducted by the New England Wildflower Society. It covered approximately 220,000 acres across the National Forest and adjacent lands, and focused on disturbed areas (e.g. roads, timber sale areas), but also included trails, Wilderness, and other sites with a lower probability for occurrence. Almost 40 species were found to occur within or adjacent to National Forest lands. Two-thirds of the invasive plant occurrences were found outside the National Forest on private land. Almost half (47 percent) of all occurrences were individuals that were intentionally planted (i.e. in a garden). Thirty percent of the occurrences were found along roads. All three Ranger Districts contain infestations, with the majority found on the west side of the Forest, along the I-93 corridor. As yet, most of the occurrences are not extensive. Approximately 10% of occurrences include more than 100 individual plants, and 3% include more than 1,000 plants.

Of the 11 known sites identified in this decision, 10 are adjacent to Forest roads and the other is adjacent to a Forest administrative site. Additional suspected sites along the remainder of the Jefferson Notch Road are all adjacent to the road itself. Eradication efforts can prevent a more extensive problem if conducted while all of these populations are still small.

Cost Effective and Environmentally Sound Treatment of NNIS

Any effort to control NNIS populations must account for the following circumstances:

- In disturbed and high use areas (roads, trails and recreation sites), NNIS may out-compete native species, and spread to less disturbed areas (Ferguson et al, 2003, p 1);

- When an area is dominated by NNIS, it does not buffer erosion and runoff as well as native species (Hoffman & Kearns, 1997, p 44);
- Many weed species are allopathic, and change the chemistry of the soil so it is no longer productive for native plants (Hoffman & Kearns, 1997, p 41);
- NNIS spread and establish much faster than native species, as native diseases or pests are not adapted to control them (Tu et al, 2001);
- The economic cost of controlling weeds without the use of herbicides is outpacing available resources.

Literature suggests that controlling Japanese knotweed by manual techniques alone is labor intensive (often requiring weekly or bi-weekly treatments throughout the growing season) and ineffective (Stoll, 2004). Manual techniques have been somewhat more effective at controlling Phragmites; however, if done incorrectly at the wrong time, populations may actually increase (Marks et al, 1993), and cut populations often return in subsequent growing seasons. Manual techniques can also be used with knapweed; but the population would need treatment several times in a growing season to exhaust the root supply. With all but one of the project sites along a road, regular roadside maintenance (i.e. brushing and mowing) can propagate unchecked populations by promoting re-sprouting and seed dispersal. The possibility for spread can be minimized by implementing a management regime that includes treating all of these species and/or the affected areas with registered herbicides approved for specific applications and under specific conditions. The use of any herbicide, and the application method chosen, must be in accordance with an approved risk assessment and minimize environmental consequences.

B. Purpose and Need

The Purpose for this project is to accomplish resource objectives to meet the overall management direction for the White Mountain National Forest, as established in the Forest Plan (USDA 1986a. LRMP, III 30-41). The Forest Plan establishes Forest-wide goals, as well as standards and guidelines for achieving these goals.

The Forest Plan goal applicable to control of NNIS (LRMP, p III-2):

- Conduct all management activities with full recognition of the appearance of the Forest, realizing the importance to society of a natural landscape distinct from the man-made environments otherwise dominant in the East.

The Forest Plan standards and guidelines specific to control of NNIS (LRMP, pp III-20, III-28):

- Forest pest management activities will be conducted to meet the objective of specific management areas.
- Pesticides will be used only after analysis clearly demonstrates that pesticide use is essential to meet management objectives.
- Emphasis will be placed on those pest problems that pose the greatest potential threat to meeting management goals and objectives. Integrated pest management will be practiced to a level commensurate with resource values and management objectives at risk.
- Only EPA approved pesticides will be used according to label directions.

The Need for this project is to manage the existing condition in a manner that moves it towards the “Desired Future Condition” described by the Forest Plan.

C. Description of Decision

To meet the Purpose and Need, my decision is to implement a project to control the spread of non-native invasive plant species at specific locations within the National Forest by attempting to eradicate known plant populations through the use of hand pulling, or treatment with registered herbicides using one of the following methods: backpack foliar spray application, stem injection, or a combination of stump cutting and injection. The 11 known populations (see Table 1) range in size from one plant to 1/8-acre (totaling less than one acre altogether), and include two sites with brown knapweed (*Centaurea jacea*), five sites with Japanese knotweed (*Centaurea jacea*), and four sites with Phragmites (*Phragmites australis*, also called common reed). This decision also includes treatment of additional suspected populations of brown knapweed along the Jefferson Notch Road.

Table 1. Site information for known NNIS populations planned for eradication.

Site	Town	Location	GPS Coordinates	Species	Size and Abundance	Planned Treatment
Ammonoosuc/Pemigewasset Ranger District						
AP 1	Bethlehem	State Hwy. 3 0.1 mile north of overlook/picnic area	N 44.24289 W 71.65319	Japanese Knotweed	200 Sq Ft 10-50 Plants	Cut Stump or Stem Injection with Glypro® or Rodeo®
AP 2	Bethlehem	State Hwy. 3 0.2 mile north of Town line	N 44.23364 W 71.66628	Phragmites	100 Sq Ft 10-50 Plants	Cut Stump with Rodeo®
AP 3	Bethlehem	Gale River Road 1.6 miles south of State Hwy. 3	N 44.23417 W 71.60525	Phragmites	2500 Sq Ft >100 Plants	Cut Stump with Rodeo®
AP 4	Franconia	State Hwy. 3 Near I93 Exit Ramp	N 44.19864 W 71.68092	Brown Knapweed	5000 Sq Ft >500 Plants	Back Pack Spray with Glypro®
AP 5	Bethlehem	Ammonoosuc Ranger Station	N 44.25496 W 71.63221	Japanese Knotweed	50 Sq Ft 1-10 Plants	Cut Stump or Stem Injection with Glypro® or Rodeo®
AP 6	Woodstock	State Hwy. 118 0.9 miles north of Elbow Pond	N 44.00631 W 71.74322	Japanese Knotweed	750 Sq Ft 10-50 Plants	Cut Stump or Stem Injection with Glypro® or Rodeo®
AP 8	Campton	Adams Farm Road (FR 378)	N 43.86642 W 71.69103	Phragmites	1500 Sq Ft >2000 Plants	Cut Stump with Rodeo®
AP 9	Woodstock	State Hwy. 118	N 43.99317 W 71.75656	Japanese Knotweed	100 Ft along both sides of road	Cut Stump or Stem Injection with Glypro® or Rodeo®

Site	Town	Location	GPS Coordinates	Species	Size and Abundance	Planned Treatment
Androscoggin Ranger District						
AN 1, 2 & 3	Low and Burbanks Grant	Jefferson Notch Road	N 44.32460 W 71.36842	Japanese Knotweed	500 Ft along both sides of road	Cut Stump or Stem Injection with Glypro® or Rodeo®
AN 4	Low and Burbanks Grant	Jefferson Notch Road	N 44.30307 W 71.35519	Brown Knapweed	1 Plant	Hand Removal (No Herbicide)
AN 5	Berlin	Bog Dam Road	N 44.28020 W 71.21100	Phragmites	225 Sq Ft 10-50 Plants	Cut Stump with Rodeo®

A variety of treatments may be used to control brown knapweed, Japanese knotweed and Phragmites in the 11 known sites within the Project Area. In addition to hand-pulling, three different techniques of applying registered herbicides are considered feasible and suitable for these species:

1. Backpack Spray Application - Plants are first cut in the spring and allowed to re-grow for several months. The leaves of the re-sprouts are then painted with an appropriate herbicide spray in the late summer/early fall, at which time the leaves are translocating nutrients (and herbicide) to the roots in preparation for winter dormancy. A person carries the spray unit in a backpack, and uses a nozzle head to apply a light spray directly to the leaves of the plant.
2. Cut Stump Injection - Plant stems are cut close to the soil surface in mid-to-late summer (July-September), before flowering or seed set, when root reserves are lowest. This is followed with injection (using a plastic syringe or plastic squirt bottle) of an appropriate herbicide to the exposed stem. Cutting the plant eliminates photosynthetic tissue and energy stores, and applies herbicide closer to the root system.
3. Stem Injection - Individual stems are treated by injecting herbicide directly into the uncut stem near the base of the plant. A hole is made through both sides of the stem using an appropriate tool and herbicide is then injected into this hole.

To eradicate plants from the known and suspected sites included in this decision may require treatment using one or more of these methods over multiple growing seasons.

Glyphosate, a non-selective, systemic herbicide with a short-residual life is considered the most appropriate for use in the Project Area based on current science and management objectives (Sather and Eckardt 1987/2001; Reinartz 1997; Converse 1984). Rodeo® and Glypro® are the recommended formulations for Glyphosate.

Water resource protection was considered in selecting the herbicide for treatment. Glyphosate is an herbicide that binds readily with soil particles, which limits its movement in the environment. Studies have indicated that, since it binds strongly to soils, it is unlikely to enter waters through surface or subsurface runoff. It can reach waters when the soil itself is washed away, but it

remains bound in soil particles and unavailable to plants (summarized by Tu et al, 2001). No soil disturbing activities will occur with this project.

Rodeo® and Glypro®, applied according to their label directions, are recommended for use in this project because they do not contain surfactants. A surfactant is a type of adjuvant, which is a biologically active compound that can be added to an herbicide formulation to facilitate the mixing, application, or effectiveness of that herbicide. Specifically, surfactants reduce surface tension, which ensures that the formulation spreads out and covers plants with a thin film rather than beading up, thus facilitating herbicide absorption into the plant (Tu et al, 2001). Surfactants have the potential to be mobile and pollute surface or groundwater sources and therefore are not recommended for use in this project. Rodeo® is registered for aquatic use (Tu et al, 2001).

The herbicide application methods were selected to minimize potential ecological impacts. Cut stump or stem injection of either Rodeo® or Glypro® is planned for knotweed, because this method would avoid contact with surrounding soil and water, and limit the amount applied. Herbicide treatment of knotweed sites would not occur within 25 feet of standing water. Phragmites typically grows in wet conditions, and, even in late summer could be in standing water. Cut stump or stem injection of Rodeo® only is planned for Phragmites, because this formulation is approved for aquatic application.

Different applications may be used for brown knapweed. Hand removal may be effective where only one plant is known to exist (site AN4) since the root system hasn't spread or sprouted new plants. Backpack spray application of Glypro® is planned for the other known population of brown knapweed (site AP4), where multiple plants exist. Knapweed has a thin stem, and the cut stump or stem injection methods are impractical for this plant. The backpack spray method applies herbicide directly to the foliage of the target plants. This known site is 1200 feet from the nearest surface water (Jordan Brook).

The Forest Service has received reports of additional brown knapweed plants along the Jefferson Notch Road, between the Caps Ridge Trailhead and Mt. Clinton Road to the south. To effectively limit the spread of knapweed along the full length of the road, this decision would also monitor this portion of the Jefferson Notch Road during the course of the summer growing cycle, and any new plants would be identified and flagged for treatment. Treatment of any additional brown knapweed would follow the same protocol and design criteria as that used for the known populations. Herbicide treatment of new sites would not occur within 25 feet of standing water. Single plants would be removed by hand; multiple stems and/or plants would receive a backpack spray application of Glypro®.

Design Criteria

The following design criteria will be followed:

- Notices will be posted near all areas to be treated, and recently treated, with herbicides.
- Herbicide label directions will be carefully followed. This could include temporary closure of treatment areas for public health and safety.
- Herbicides stored on-site will have Material Safety Data Sheets per Forest Service guidelines. Individuals working with herbicides will review MSDS prior to handling.

- Rinse water for cleaning or rinsing actions in conjunction with herbicide treatment will be disposed of according to USEPA and NHDPC regulations.
- Weather forecasts will be obtained prior to herbicide treatment, and treatment activities may not proceed if there is a forecast of rain within 48 hours of application.
- Areas to receive herbicide treatment will continue to be evaluated to ensure protection of threatened, endangered, and sensitive (TES) species. If any TES species are located, then appropriate protective measures will be implemented.
- Aquatic herbicide applications will only proceed with necessary permits from New Hampshire Division of Pesticide Control (NHDPC).
- Areas subject to ground disturbance will be surveyed for cultural resources. Found sites would be avoided, and a Forest Archaeologist or paraprofessional notified to investigate.
- Retain native vegetation and limit soil disturbance as much as possible.
- Equipment, boots, and clothing will be cleaned thoroughly before moving from treatment site to ensure that seeds or other propagules are not transported to other sites.
- NNIS parts capable of starting new plants (seeds, rhizomes, etc.) need proper disposal. Plants may be piled and burned on site or bagged and moved off site. Bagged plants will either be incinerated or disposed of at designated WMNF NNIS disposal sites. For large woody bushes that are difficult to move, treatments may be scheduled prior to seed set.
- All control treatments may be timed to be most effective, based on the species phenology and life history.

The Forest Service completed a Human Health and Ecological Risk Assessment for Glyphosate in March 2003. This 281-page document provides risk assessments for human health effects and ecological effects to support an assessment of the environmental consequences of using Glyphosate in Forest Service vegetation management programs. This document is available for public review at the Laconia office of the White Mountain National Forest, or on CD by request. It is also posted on and can be downloaded from the White Mountain National Forest web page under Projects/Non-Native Invasive Plant Species Control Project.

III. Reasons for Categorically Excluding This Decision

A. Category of Exclusion

This project is categorically excluded from documentation in an Environmental Assessment or Environmental Impact Statement under FSH 1909.15, Chapter 31.12, Paragraph 3, Repair and maintenance of administrative sites; and Paragraph 4, Repair and maintenance of roads, trails, and landline boundaries. These are categories of routine maintenance for which a project or case file and Decision Memo are not required. In this case, because the White Mountain National Forest has not used herbicides for this kind of application in the recent past, I have elected to document the analysis and decision in a Decision Memo, both for public information and for future monitoring. Forest Service regulations for “Notice, Comment, and Appeal Procedures for National Forest System Projects and Activities; Final Rule (36 CFR 215, Code of Federal Regulations)” stipulate that projects qualifying for these categorical exclusions are not eligible for comment and/or appeal following a decision by the Responsible Official.

B. Relationship to Extraordinary Circumstances

B1. Threatened, Endangered, Proposed or Sensitive Species (TES) and/or Their Critical Habitat

The Endangered Species Act requires that federal activities do not jeopardize the continued existence of any species federally listed or proposed as threatened or endangered, or result in adverse modification to such species' designated critical habitat. A Biological Evaluation has analyzed and documented the potential effects of this decision on listed species and their habitat. The U.S. Fish and Wildlife Service has reviewed the Biological Evaluation and has concurred that this project "will comply with the reasonable and prudent measures and associated terms and conditions" as outlined in the programmatic Biological Opinion on the Effects of the Land and Resource Forest Management Plan and Other Activities on Threatened and Endangered Species in the White Mountain National Forest and Incidental Take Statement (see Project File for concurrence letter).

Based on the Biological Evaluation, with concurrence from the U.S. Fish and Wildlife Service, I have determined that gray wolf, eastern cougar, bald eagle and small-whorled pogonia are not documented or suspected to occur within the project area; and that this decision:

- Will have no effect on Canada lynx or Indiana bat

B2. Floodplains, Wetlands, or Municipal Watersheds

Floodplains

There are no management activities planned within floodplains, so this decision should not result in significant floodplain-related impacts.

Wetlands

Phragmites typically grows in areas of poorly drained soils where water may remain standing for several days after a rainfall, or even for several months into the late summer. However, none of the Phragmites sites to be treated in this project are in areas that have the characteristics of wetlands or are delineated as wetlands in the state inventory. Since there are no delineated wetlands within the project sites, this decision should not result in significant impacts to wetlands.

Municipal Watersheds

Herbicide applications are limited by the state of New Hampshire to protect water quality. Standards require that herbicides not be applied within 25 feet of any surface waters (NHDAMF, 2005a). Additional permitting is required if herbicide application sites are within 250 feet of surface waters or their tributaries used for public water supplies or if the herbicide treatment site is within 5 miles of a public water supply intake (NHDAMF, 2005b). Public water supply intake locations were identified for this project through the New Hampshire Department of Environmental Services OneStop GIS Database (NHDES, 2005). This database identified three

surface water intake locations which are within 5 miles of non-native invasive plant species planned for treatment through the use of herbicides. Two of these sites are located in the Gale River watershed, while the other is located in the Headwaters of the Upper Ammonoosuc River watershed. For this project, all standards would be abided by and all permits would be obtained prior to the start of work.

Treatment sites AP1-AP5 are located in the Gale River watershed. This 60,000 acre watershed is used for public water supplies. Treatment site AP1 is located approximately 0.4 miles from the nearest mapped surface water, the North Branch Gale River. Downstream of AP1 in the North Branch Gale River is the surface water intake for Franconia Village Water, which serves a population of 750 people. AP1 is approximately 4.2 miles upstream of this intake. It is the closest treatment site to the Franconia Village Water intake. Treatment site AP2 is located approximately 0.2 miles from the nearest mapped surface water and is approximately 4.8 miles upstream of the Franconia Village Water intake. Treatment site AP3 is approximately 1 mile upstream of a surface water intake for the Littleton Water and Light Department, which serves a population of 5,800 people. Treatment site AP4 is downstream of all surface water intakes in the Gale River watershed. Treatment site AP5 is located approximately 0.2 miles from the nearest mapped surface water and is approximately 6.3 miles upstream from the Franconia Village Water intake and is downstream of all Littleton Water and Light Department water intake sites. There are no treatment sites upstream of the second surface water intake for the Littleton Water and Light Department, which is located on the South Branch Gale River (NHDES, 2005).

Treatment site AN5 is located in the 27,000 acre Headwaters of the Upper Ammonoosuc River watershed. AN5 is located near a tributary to the Upper Ammonoosuc River. This is approximately 4.8 miles upstream of Berlin Reservoir. Berlin Water Works has a surface water intake at the downstream end of this reservoir.

By selecting herbicides without surfactants and applying the herbicide in a way which specifically targets each individual plant, as well as not applying them within 25 feet of surface waters, the risk to water quality should be minimized. The specimen label on Rodeo® indicates that heavy rainfall within 2 hours of application may wash the product off the foliage (Rodeo® Specimen Label, 2002). To ensure that neither herbicide has the potential to be washed off of a plant, herbicides would not be applied when the forecast indicates a possibility of rain in the next forty-eight hours. This mitigation should further minimize the likelihood of the chemical reaching the surface water.

This decision should not result in significant watershed-related impacts to public water supplies.

B3. Congressionally Designated Areas

Neither the 11 known project sites, nor the suspected additional sites located along the Jefferson Notch Road are located within Congressionally-designated Wilderness, Wilderness Study Areas or National Recreation Areas.

B4. Inventoried Roadless Areas

Neither the 11 known project sites, nor the suspected additional sites located along the Jefferson Notch Road are located within the boundaries of Forest Plan Revision Inventoried Roadless Areas.

B5. Research Natural Areas

Neither the 11 known project sites, nor the suspected additional sites located within Research Natural Areas.

B6. Native American Religious or Cultural Sites, Archaeological Sites, or Historic Properties or Areas

This decision complies with Section 106 of the National Historic Preservation Act; the Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act (see Project Record for Cultural Resource Reconnaissance Reports, see Section II-B3 of this document for mitigations). A “no properties affected” determination was made. Consultation on this finding occurred with the State Historic Preservation Officers in Maine and New Hampshire, with each providing concurrence with the measures for cultural resource management for this project (see Project Record for concurrence letters).

IV. Public Involvement

On May 27, 2005, the White Mountain National Forest mailed a scoping report detailing a proposed Non-Native Invasive Plant Species Control Project to over 250 interested and neighboring parties. This scoping report proposed to perform work to eradicate plants from the known and suspected sites using one or more methods, including herbicide treatments, over multiple growing seasons

The White Mountain National Forest received 8 responses to the scoping report, from which 12 comments were generated. Appendix E of this document lists these comments and how they were used in the analysis of this project.

V. Findings Required By and/or Related to Other Laws and Regulations

A. Finding of Legal Compliance

See Section III-B (Relationship to Extraordinary Circumstances) for a discussion of compliance with the Endangered Species Act, the National Historic Preservation Act, The Archaeological Resources Protection Act, the Native American Graves Protection and Repatriation Act, the Wild and Scenic Rivers Act, and Executive Orders 11990 (Wetlands) and 11988 (Floodplains).

A1. Forest Plan Consistency

The White Mountain National Forest Plan was approved in 1986, as required by this Act. It has since been amended 8 times. The amended Plan provides guidance for all natural resource

management activities on the Forest. This Act requires that all projects and activities be consistent with the Forest Plan. The Forest Plan has been reviewed in consideration of this project. This decision is responsive to guiding direction and is consistent with the standards and guidelines contained in the Forest Plan (see Sections I, II and III of this document).

A2. Federal Noxious Weed Act of 1974

This Act requires cooperation with State, local, and other federal agencies in the management and control of NNIS. The Forest has complied with this Act by scoping the appropriate State, local and other federal agencies.

A3. Executive Order 11312

This Act requires all pertinent federal agencies (subject to budgetary appropriations) to prevent the introduction of NNIS;

- Detect and rapidly respond to and control populations of NNIS in a cost effective and environmentally sound manner;
- Monitor NNIS populations;
- Restore native species and habitat conditions in ecosystems that have been invaded;
- Conduct research and develop technologies to prevent introduction and provide for environmentally sound control measures; and
- Promote public education on NNIS.

This decision helps the White Mountain National Forest comply with EO 11312.

In addition, USDA Departmental Regulation 9500-10 promotes integrated management approaches to research and control. Forest Service Manual 2080 provides policy on noxious weed management. The Eastern Region (Region 9) of the Forest Service, which includes the White Mountain National Forest, has developed a strategy for addressing NNIS. The White Mountain National Forest is a designated Weed Management Area.

A4. National Environmental Policy Act

This Act requires public involvement and consideration of potential environmental effects. The entirety of documentation for this decision supports compliance with this Act.

A5. Sensitive Species (Forest Service Manual 2670)

The Biological Evaluation has analyzed and documented the potential effects of this decision on Regional Forester Sensitive Species (RFSS) and their habitat. The Biological Evaluation identifies three RFSS that are suspected to occur within the project area. Based on the Biological Evaluation, I have determined that this decision may impact individuals of the following species, but it is not likely to contribute to a trend towards Federal listing or cause a loss of viability to the population or the species of:

- wood turtle (*Clemmys insculpta*)

- northern bog lemming (*Synaptomys borealis sphangnicola*)
- Bailey's sedge (*Carex baileyi*)
- clustered sedge (*Carex cumulata*)
- Canada mountain-ricegrass (*Orzopsis canadensis*)
- Chilean sweet cicely (*Osmorhiza berteroi*)
- Sweet coltsfoot (*Petasites frigidus sp.*)

Adherence to the Design Criteria and the conditions of the herbicide application permit will protect wetlands, surface water, riparian areas and seeps. The scoping report for this project was sent to the Maine Department of Conservation's Natural Areas Program and the New Hampshire Natural Heritage Bureau. Both agencies responded in writing indicating no known verified documented occurrences.

A6. Clean Water Act

The White Mountain National Forest complies with the Clean Water Act through Forest Plan Standards and Guidelines and the use of Best Management Practices to ensure protection of soil and water resources. None of the project sites include or impact "impaired state waters".

A7. Clean Air Act

Management activities on the White Mountain National Forest are conducted in a manner that does not result in a significant contribution to (1) a violation of National Ambient Air Quality Standards or (2) a violation of applicable provisions in the State Implementation Plan.

A8. Environmental Justice (Executive Order 12898)

This Order requires consideration of whether projects would disproportionately impact minority or low-income populations. This decision complies with this Act. Public involvement did not identify any adversely impacted local minority or low-income population. This decision is not expected to adversely impact minority or low-income populations.

VI. Administrative Review or Appeal

This decision is not subject to a higher level of administrative review or appeal, pursuant to 36 CFR 215.8.

VII. Implementation Date

This decision may be implemented immediately

VIII. Contact Person

The Responsible Official for the Non-Native Invasive Plant Species Control Project is Barnie Gyant, Deputy Forest Supervisor for the White Mountain National Forest. Barnie is located at 719 Main St., Laconia, NH 03246 (phone: 603-528-8774).

For additional information concerning this decision, contact: Rob Fallon at 719 Main St., Laconia, NH 03246 (phone: 603-528-8769), or by FAX (603-528-8783).

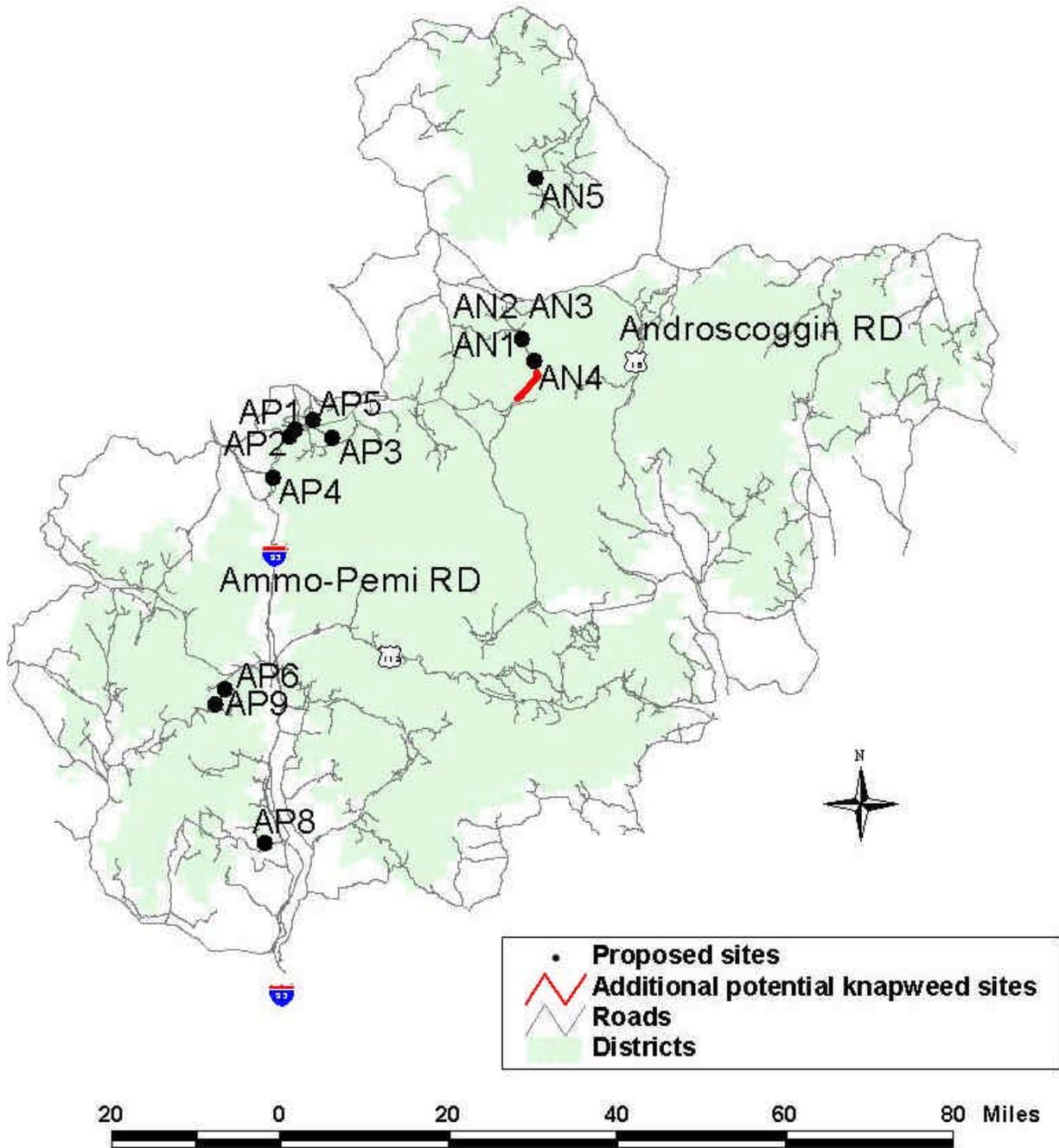
IX. Signature and Date

I have concluded that this decision may be categorically excluded from documentation in an environmental impact statement or environmental assessment, as it is within one of the categories identified by the U.S. Department of Agriculture in 7 CFR part 1b.3 or one of the categories identified by the Chief of the Forest Service in Forest Service Handbook (FSH) 1909.15 sections 31.1b or 31.2, and there are no extraordinary circumstances related to the decision that may result in a significant individual or cumulative environmental effect. My conclusion is based on information presented in this document and the entirety of the Project Record.

/s/ BARNIE T. GYANT
BARNIE T. GYANT
Deputy Forest Supervisor

JULY 14, 2005
DATE

Proposed Treatment Sites NNIS Eradication on the Androscoggin and Ammo/Pemi RDs



APPENDIX A

Summary of Scoping Comments To Proposed Non-Native Invasive Plant Species Control Project

Category One – General Support for Proposed Action

No.	Commenter	Comment	Notation
1-1	Ihrer	“I think it’s great, as I’m concerned about these species getting more established in the White Mountains. I wish the State of New Hampshire was taking this seriously too. I live down here in Boston and know the havoc these species can wreak. (We frequently visit in the Mill Brook area in West Townsend.) In the White Mountains it’ll be a disaster.”	Comment is noted and appreciated.
2-1	Niebling, SPNHF	“We would like to be on record supporting your proposed non-native invasive plant species control project.”	Comment is noted and appreciated.
3-1	Wemyss Mt. Washington Auto Road	“Thank you for your attention to this problem. I believe that your proposed plan of action is appropriate for the problem as outlined in the scoping letter. We are in favor of this proposed action taking place in order to attempt to control these invasive plants.”	Comment is noted and appreciated.
4-1	Burns	“I am pleased to see that the Forest Service is planning to try to eradicate invasive weeds before our native plants are extinct or rare. Please keep up the good work.”	Comment is noted and appreciated.
9-1	Richardson	“...the Forest Service would be breaking the law if it did not pursue and execute a plan that controls and eradicates NNIS. Any contrary public opinion would not be applicable without first changing the law.”	Comment is noted and appreciated.

Category Two – Use of Herbicides

No.	Commenter	Comment	Notation
2-3	Niebling, SPNHF	“We recognize the need to utilize chemical agents as an effective means of controlling invasives. We do not oppose the use of herbicides as one of your treatment protocols as long as you follow all application procedures and design criteria. We have every confidence that you will.”	Comment is noted and appreciated.
5-1	Grey & Bishop	“With regard to the proposed remediation of sites infected by invasive species, we find that, after consultation with Mr. Chris Mattson of the New England Wildflower Society, it appears that the proposed herbicides (Glypro & Rodeo) are fairly innocuous. We, accordingly, have no problem with the proposed approach at this time.”	Comment is noted and appreciated.
6-1	Rotman	“Once you start the use of Glyphosate for Knapweed, Knotweed, and Phragmites, for certain it will be used in other areas and circumstances.”	If, as a result of this project, Glyphosate is proven effective in the control or eradication of knapweed, knotweed and Phragmites, then it may be included as part of an integrated approach to NNIS control in the future.
6-3	Rotman	“I fear that there is no quick fix even with the use of chemicals ... In our teaching horticulture, we always stress patience as usually it will take at least three years to get most things established. It will certainly take at least that amount of time to get these problems under control. In fact, I do not know if it is even possible to completely eradicate these things. As you well know, seeds can lay dormant for years and years and spring to life when conditions warrant.”	The use of herbicides in this project will help to control the spread of the known and suspected populations being treated. Eradication may take more time. As stated on Page 5 of the Decision Memo, “To eradicate plants from the known and suspected sites included in this decision may require treatment using one or more of these methods over multiple growing seasons.”

Category Two – Use of Herbicides (Continued)

No.	Commenter	Comment	Notation
6-4	Rotman	<p>“We have used some Round-up on cut shrubs and stumps where we do not want new sucker growth, but this is usually applied with a small brush to the cut areas. With our raising of beef animals in the past, we have of course stayed away from the use of chemicals. We never had any problems controlling things with this limitation. Of course some growth, like Poison Ivy is relished by cattle, and that pretty much took care of the problem all by itself.”</p>	<p>Comment is noted and appreciated.</p>
6-5	Rotman	<p>It will be interesting to see where this leads as you move to try and control this situation within the forest boundaries. In talking with forest and environmental folks here in Connecticut, folks lean towards the use of chemicals ease and best success. Perhaps that is the way to go, but I sure would like to see several experimental methods used first and see how it goes.</p>	<p>As stated in the Summary on Page 1, “If these herbicides prove effective at eradicating the non-native invasive plant species in these locations, the White Mountain National Forest may propose to use them on a regular basis to control the spread of these and other species.” If effective, Glyphosate (and other herbicides) would be only one facet of an integrated approach to control of invasives. Monitoring the effectiveness of all control treatments is a part of the non-native invasive species program. Note that a separate project is using biological control to control purple loosestrife at this time.</p>
7-1	Beij	<p>“Thanks for the careful study of effective, low impact procedures (including avoidance of surfactants), for controlling invasive species. The Need for control is recognized by everyone from the Chief down – and it is a continuing need with cumulative effects and requires a long term effort.”</p>	<p>Comment is noted and appreciated.</p>

Category Three – Alternatives to Herbicide Use

No.	Commenter	Comment	Notation
5-2	Grey & Bishop	“Generally, however, we are enthusiastic about utilization of those species for which commercially-viable uses have, or can be, found. Japanese Knotweed and Phragmites are, in fact, such species, but the commercial markets need much more development. We continue to work energetically on alternative methods for remunerative disposal in a manner harmless to the ecology.”	Comment is noted and appreciated.
6-2	Rotman	“Perhaps you might try other methods such as attempting to smother these plants under a layer of solid black plastic, after having mowed them down, so they and their root systems are cooked in the sun. Perhaps they could be covered simply with materials that will eventually break down. We have found that when aerated plastic is used as mulch, and topped with too much mulch, the plant will start to grow roots above the plastic and eventually die.”	The White Mountain National Forest is currently using this method in other locations, and monitoring its effectiveness. Part of the objective with this project is to gage the effectiveness of Glyphosate in controlling and eradicating NNIS. Information gathered from monitoring of these and other methods will be incorporated into a Forest-wide integrated approach to controlling and eradicated NNIS.
7-3	Beij	“Roadside mowing (page 3) can be a useful tool for discouraging, rather than spreading, unwanted species, if it can be carefully scheduled for suitable times which will exhaust plant resources without spreading seeds.”	Mowing can be an effective tool for some invasive plants; however, Japanese knotweed is often spread by mowing roadsides.

Category Four – Reporting Results

No.	Commenter	Comment	Notation
2-2	Niebling, SPNHF	“We at the Forest Society are developing protocols for controlling NNIS on our 38,500 acres of forest reservations as well. We stand to learn much from your project experience. We hope that you will report on the results of monitoring the effectiveness – both in terms of cost and impact – of the various treatments you are proposing.”	Monitoring information on this and other treatment methods will be incorporated into a Forest-wide integrated approach to controlling and eradicating NNIS. If you are interested in monitoring data specific to this project, or in being part of the planning process for a future Forest-wide proposal, contact Leighlan Prout (lprou@fs.fed.us , 603-528-8744).
6-6	Rotman	“I would appreciate having a periodic report sent to all respondents about this challenge. We will all learn and profit by your efforts.”	See above response.

Category Five – Public Education and Involvement in Control Efforts

No.	Commenter	Comment	Notation
7-2	Beij	“The Proposed Action is only a small step toward meeting the Need. To be “cost effective” the WMNF should “promote public education,” and also emphasize volunteers and cooperation with organizations such as trail clubs.”	Public education is one element of an integrated approach to NNIS control, which will be developed for the White Mountain National Forest upon completion of the Forest Plan revision.
8-1	Parker	“I agree completely with this project, but to make it successful shouldn’t private landowners and towns around the (National Forests) be given material to identify these plants and maybe even help in their eradication? Local organizations can be very helpful if they have information on how to help.”	See above response.

Category Six – Environmental Analysis

No.	Commenter	Comment	Notation
9-2	Richardson	<p>“...by initiating this scoping report and potential follow on environmental analysis, the Forest Service is already violating Point 2 of the “Direction for Managing NNIS” which states “rapidly respond to” the NNIS infestation. Conducting scoping report surveys and environmental analysis often require months and years to complete and clearly do not represent a “rapid response”. Particularly when the law already provides the authority to proceed.”</p>	<p>The direction for rapidly responding to an NNIS infestation is contained in Executive Order 11312. Implementation of EO 11312 still requires that the Forest Service follow the requirements of the National Environmental Policy Act and other applicable laws.</p>
9-3	Richardson	<p>“I feel that this effort is a complete waste of Forest Service resources and tax payer money. The Forest Service should simply follow the intent of the law and carry out its Forest stewardship responsibilities.”</p>	<p>The Forest Service is following the requirements of the National Environmental Policy Act by seeking public input to the proposed action, developing and considering alternatives, and conducting analysis of potential environmental effects.</p>

APPENDIX B

References

To Proposed Non-Native Invasive Plant Species Control Project

Converse, C. K. 1984. Element Stewardship Abstract for *Rhamnus cathartica*, *Rhamnus frangula*. The Nature Conservancy. Wildland Invasive Species Team. Arlington, Virginia. Web: <http://tncweeds.ucdavis.edu/esadocs.html>.

Executive Order 13112 of February 3, 1999. Federal Register Vol. 64, No. 25. Web: <http://www.invasivespecies.gov/>.

Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW). 1997. Pulling Together: The National Strategy for Invasive Plant Management. Web: <http://ficmnew.fws.gov/>

Ferguson, Leslie, C.L. Duncan, and K. Snodgrass. 2003. Backcountry Road Maintenance and Weed Management. Technical Report 0371-2811-MTDC. Missoula, MT. USDA-Forest Service, Missoula Technology and Development Center, 22 pgs.

Forman, R. T. and R. D. Deblinger. 2000. The Ecological road-effect zone of a Massachusetts (U.S.A) suburban highway. *Conservation Biology* 14(1):36-46.

Glypro® Specimen Label, D02-077-002 EPA accepted 12/03/02. Web: <http://www.cdms.net/ldat/ld0AU008.pdf>

Glypro® Supplemental Labeling, Injection Method for control of Japanese knotweed (*Polygonum cuspidatum*) & Giant knotweed (*Polygonum polystachyum*), R-077-002 EPA accepted 11/10/99. Web: <http://www.cdms.net/ldat/ld03JC004.pdf>

Hoffman, R. and K. Kearns, 1997. Wisconsin Manual of Control Recommendations for Ecologically Invasive Plants. Bureau of Endangered Resources, Wisconsin DNR. Web: http://www.dnr.state.wi.us/org/land/er/invasive/manual_toc.htm

Lonsdale, W. and A. Lane. 1994. Tourist vehicles as vectors of weed seeds in a Kakadu National Park, northern Australia. *Biological Conservation* 69:277-283.

Marks, M., Lapin, B., and J. Randall. 1993. Element Stewardship Abstract for *Phragmites australis* (Common Reed). The Nature Conservancy. Arlington, VA. Web: <http://tncweeds.ucdavis.edu/esadocs/documnts/phraaus.pdf>

Nature Conservancy. 1996. America's Least Wanted: Alien Species Invasions of US Ecosystems. Arlington, VA: The Nature Conservancy.

New Hampshire Natural Heritage Inventory. 1992-2000. Various authors. Ecological Inventories of Project Areas on the White Mountain National Forest. New Hampshire Department of Resources and Economic Development.

Parendes, L. and J. Jones. 2000. Role of light availability and dispersal in exotic plant invasion along roads and streams in the H.J. Andres Experimental Forest, Oregon. *Conservation Biology* 14(1):64-75.

Pimentel, D., Lach, L., Zuniga, R., and Morrison, D. (2000). Environmental and economic costs of nonindigenous species in the United States. *Bioscience* 50:53-65.

Primack, R. 2000. A Primer of Conservation Biology. Sinauer Associates, Inc., Sunderland, Massachusetts. xiii + 319 pp.

Reinartz, J. A. 1997. Controlling glossy buckthorn (*Rhamnus frangula* L.) with winter herbicide treatments of cut stumps. *Natural Areas Journal* 17:38-41.

Rodeo® Specimen Label, D02-148-002 EPA accepted 05/15/02. Available:
<http://www.cdms.net/ldat/ld4TN002.pdf>

Sather, N. and N. Eckardt. 1987. Element Stewardship Abstract for *Eleagnus umbellata* (Autumn olive). The Nature Conservancy. Web:
<http://tncweeds.ucdavis.edu/esadocs/documents/elaeumb.html>

Saunders, D., R. Hobbs, and C. Margules. 1991. Biological consequences of ecosystem fragmentation: A review. *Conservation Biology* 5(1):18-32.

SE-EPPC. Date unknown. Southeast Exotic Pest Plant Council Invasive Plant Manual- Autumn Olive. Web: <http://www.se-eppc.org/manual/autolive.html>

Stoll, J. 2004. Controlling knotweed (*Polygonum cuspidatum*, *P. sachalinense*, *P. polystachum* and hybrids) in the Pacific Northwest. The Nature Conservancy. Web:
<http://tncweeds.ucdavis.edu/moredocs/polsp01.pdf>

Tu, M., C. Hurd, and J. M. Randall. 2001. Weed Control Methods Handbook: Tools and Techniques for Use in Natural Areas. Pages 3.3, 7d.1, 7j.1. The Nature Conservancy Wildland Invasive Species Team. Web: <http://tncweeds.ucdavis.edu/handbook.html>.

USDA. 1990. DR9500-010 (01/18/90). Policy of Noxious Weed Management. Web:
<http://www.ocio.usda.gov/directives/index.html#3000link>

USDA Forest Service. 1986a. Land and Resource Management Plan, White Mountain National Forest. Laconia, NH.

USDA Forest Service. 1992. Forest Service Handbook 1909.15 – Environmental Policy and Procedures Handbook. Chapter 30. Web: <http://www.fs.fed.us/im/directives/>

USDA Forest Service. 1995. Forest Service Manual 2080 – Noxious Weed Management. Web: <http://www.fs.fed.us/im/directives/>

USDA Forest Service. 1998. Stemming the Invasive Tide: Forest Service Strategy for Noxious and Nonnative Invasive Plant Management. USDA Forest Service, Washington Office. Web: http://www.fs.fed.us/r6/weeds/fs_strat_doc.pdf

USDA Forest Service. 2001. Guide to Noxious Weed Prevention Practices. Washington Office. Web: <http://www.fs.fed.us/rangelands/ecology/invasives.shtml>.

USDA Forest Service. 2003. Glyphosate – Human Health and Ecological Risk Assessment Final Report. Prepared by Syracuse Environmental Research Associates, Inc. by contract. March 1, 2003. Web: <http://www.fs.fed.us/r9/white>.

Watkins, R.Z., J. Chen, J. Pickens, and K.D. Brosofske. 2003. Effects of forest roads on understory plants in a managed hardwood landscape. *Conservation Biology* 17(2):411-419.

Westbrooks, R. G. 1998. Invasive Plants: Changing the Landscape of America. Federal Interagency Committee for the Management of Noxious and Exotic Weeds. Washington, D. C. Web: <http://www.denix.osd.mil/denix/Public/ES-Programs/Conservation/Invasive/intro.html>.