



Forestwide Non-Native Invasive Plant Species Treatment

UNITED STATES
DEPARTMENT OF
AGRICULTURE

FOREST
SERVICE

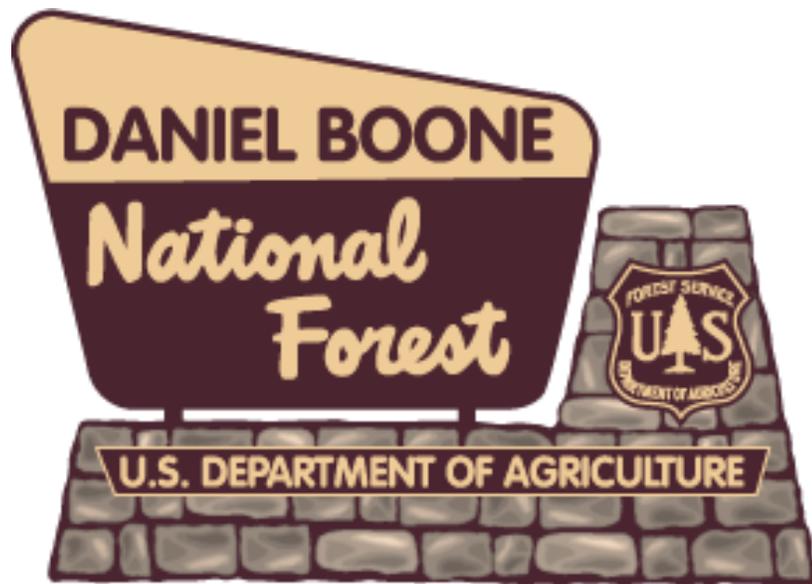
SOUTHERN REGION

DANIEL BOONE
NATIONAL FOREST

KENTUCKY

SCOPING REPORT

July, 2009



For Information Contact:
David Taylor
1700 Bypass Road
Winchester, KY 40391
859-754-3100

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Table of Contents

1.0	Where are we in the Forest Service planning process?	1
2.0	What is the proposed action?	2
2.1	Adaptive Management & Decision Tree	3
2.2	Treatment Methods	8
2.3	Design Criteria	10
3.0	Where will these treatments occur?	11
4.0	Why do we need to control non-native invasive plants?	13
4.1	Background information	13
4.2	Forest Plan Direction	14
4.3	Non-native invasive and native invasive plant species	16
5.0	What decisions will the Responsible Official make?	19
6.0	What do we know from preliminary analysis?	19
7.0	How to comment?	19

Acronyms used:

DBNF	Daniel Boone National Forest
NFS	National Forest System
NNIP	Non-Native Invasive Plant
NIP	Native Invasive Plant
NEPA	National Environmental Policy Act

1.0 Where are we in the Forest Service planning process?

The **National Environmental Policy Act (NEPA)** of 1969 is the Forest Service project planning process that provides opportunities for interested parties to give their ideas and opinions about project proposals (40 CFR 1500 and 36 CFR 220).

The **Appeals Reform Act** is the Forest Service process for providing notice, comment and appeal procedures for National Forest System projects and activities (36 CFR 215).

Jointly, these two Acts provide the Forest Service with direction related to project planning. Your participation is important in helping the Forest Service to identify resource needs, which will shape the alternatives evaluated and lead to the formation of a decision. The following explains the steps of the planning process, and where the attached proposal is in that process.

Step One–Need for a Project - The Forest Service or some other entity may identify the need for a project. *YOU* may bring the need for a project to the attention of the Forest Service.

Step Two–Develop Project Proposal - The Forest Service or a project proponent develops detailed, site-specific proposal. *YOU* may be a proponent who develops a proposal or *YOU* can share input and ideas.

→ **Step Three–Scoping (Public Input)** - The Forest Service solicits public input on the site-specific proposal to define the scope of environmental analysis and range of alternatives to be considered. *YOU* provide site-specific input on resources you believe would be impacted by the proposal. You might suggest alternative methods or actions to protect a resource.

Step Four–Identify Significant Issues – An interdisciplinary team of Forest Service resource specialists analyze the comments received during scoping (step three) and identify issues. The Responsible Official determines the issues that are “significant” to the proposal and warrant further investigation. *YOUR* comments on the proposal are used to identify issues.

Step Five–Develop Reasonable Range of Alternatives – Issues (step four) are used to modify the proposal or to identify alternative actions to the proposal. Alternative actions are consistent with the purpose and need for action (step one). *YOU* suggest alternatives to the proposed action during the scoping process.

Step Six–Formal Public 30-Day Comment Period – Forest Service summarizes the results of scoping and request a public review of the proposal and alternatives to receive consideration. *YOU* review the information and comment on the scope of environmental analysis to be conducted.

Step Seven–Environmental Analysis & Decision – Forest Service finalizes the Environmental Assessment and makes a decision to implement one of the alternatives. *YOU* can review the environmental assessment and the decision. *YOU* can contact the forest Service with questions.

Step Eight–Appeal – Forest Service allows public review for 45 days following a legal notice of decision. *YOU* may file a formal *Notice of Appeal*.

Step Nine–Appeal Decision - Forest Service Appeal Deciding Officer makes a decision on the appeal. *APPELLANT(S)* will receive a copy of the Appeal Decision.

Step Ten–Implementation - Forest Service implements the project. *YOU* may contribute labor, equipment, or funding to implement the project.

2.0 What is the proposed action?

The Daniel Boone National Forest (DBNF) proposes to control and/or eradicate known and new occurrences of non-native invasive plant (NNIP) species infestations on National Forest System (NFS) lands. Treatment would consist of applying one or more of the treatment methods described below and in Table 2.2.1. Treatment activities would be subject to available funding and resources. Treatment activities resulting from this proposal would be scheduled on a yearly basis and would not exceed the area (acres) shown in table 2.2.1. Annually, Forest Service personnel would determine which NNIP infestations would be treated and the treatment method(s) to use.

The definition of non-native invasive plant species is based on Executive Order 13122 (EO 1999). A species is considered a non-native invasive species if:

- It is not native to the ecosystem under consideration, AND
- Its introduction causes or is likely to cause economic or environmental harm or harm to human health.

The treatment of specific native species with invasive tendencies is also included in this project when the following conditions are met:

- The native species is threatening a federally listed species, a Regional Forester's sensitive species, or a species with fewer than 25 known locations on the DBNF, AND
- The native species is weedy in nature with the ability to crowd out other more desirable species, interfere with reproduction, or actually cause harm to another species.

The DBNF will consider cooperative agreements with adjacent landowners to treat NNIP infestations on private, nonprofit entity, state or other federal lands when there is a clear benefit to resources on NFS lands in doing so, and the project meets one of the following:

- Protection, restoration, and enhancement of fish and wildlife habitat and other resources,
- Reduction of risk for natural disaster where public safety is threatened, or
- A combination of both.

The Forest Service currently has authority to enter into these agreements through Public Law 105-277, Section 323 as amended by Public Law 109-54, Section 434 (commonly called the Wyden Amendment). The current authorization is through September 31, 2011. Any acres treated on NFS lands would count toward the maximum treatment acres shown in Table 2.2.1. Any acres treated on private, nonprofit entity, state or other non-NFS federal lands would not contribute toward the maximum treatment acres shown in Table 2.2.1.

This proposal does NOT include treatment of fescue fields and wildlife openings to convert them to warm season grasses or other vegetation, the treatment of food plots to

reduce competition for crop plants, or the release of planted trees. Additionally, this proposal does NOT include treatment in either Beaver Creek Area or Clifty Wilderness Area.

2.1 Adaptive Management & Decision Tree

In general, the presence of NNIP species listed in Table 4.3 on NFS lands or on adjacent non-NFS lands where an agreement under the Wyden Amendment, as explained in Section 2.0 above, is in place constitutes reason to consider a control or eradication action listed in Section 2.2. Priority areas for treatment are shown in Table 3.0. Area to be treated is subject to funding, personnel and the following.

Two decision trees are used to address species and treatment method. The first addresses species listed in Table 4.3 as well as species that may be found that were not known to be on NFS lands or nearby. It provides a way to assess whether a species can be treated. The second decision tree addresses the application of treatment methods listed in Section 2.2 and monitoring for effectiveness. Figures 1, 2 and 3 display this same information as flowcharts.

Decision Tree for Species

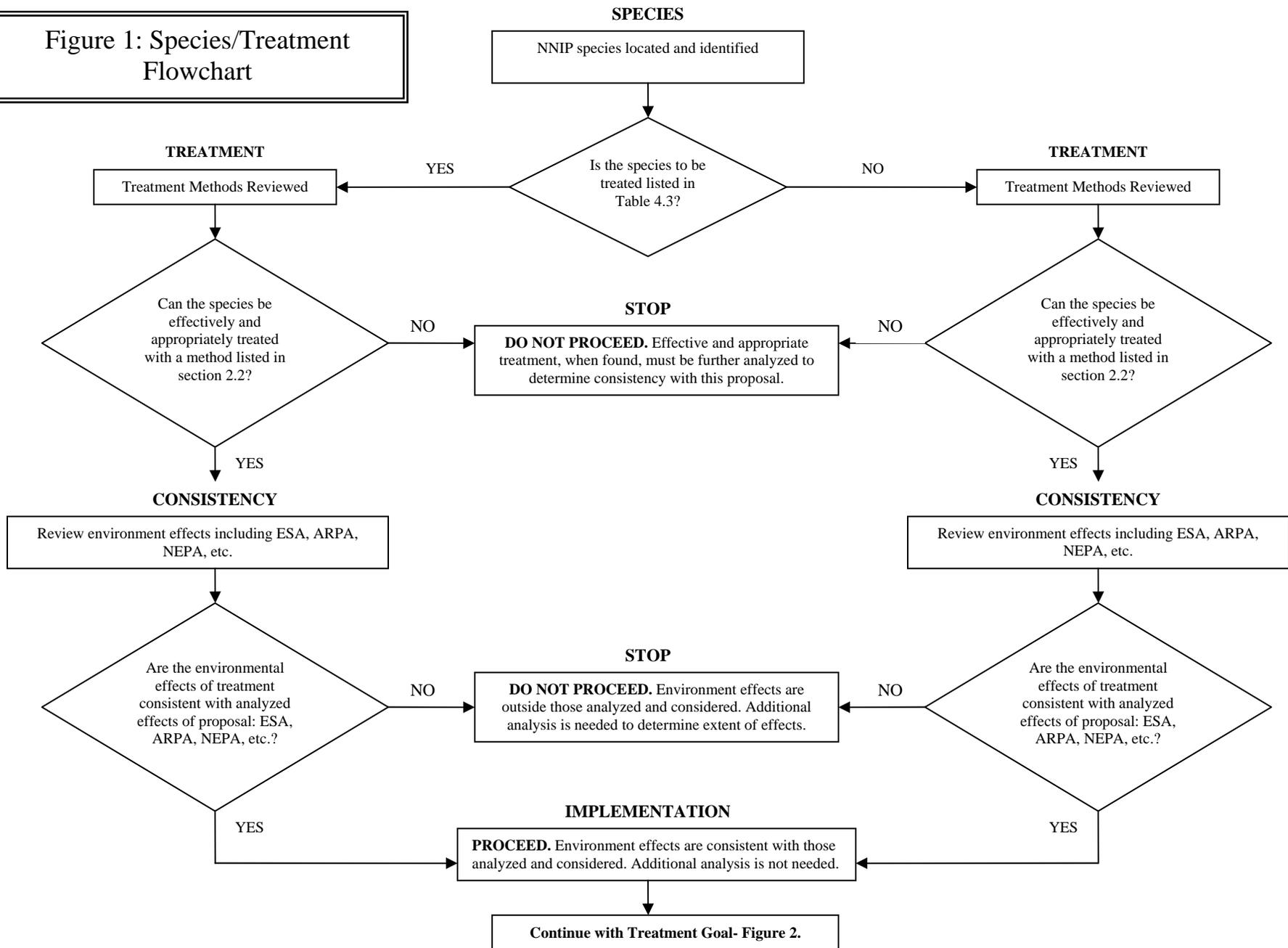
- | | |
|--|---|
| A. Target species is listed in Table 4.3---> | go to: B. |
| A. Target species is NOT listed in Table 4.3 ---> | go to: C. |
| B. Target species can be controlled or eradicated with one or more of the methods listed in Section 2.2 ---> | Conduct consistency check, document, and implement |
| B. The target NNIP species cannot be controlled or eradicated with the methods listed in Section 2.2 ---> | Do not implement. Additional analysis needed. |
| C. The target NNIP species can be controlled or eradicated with methods listed at Section 2.2---> | Conduct consistency check, document, and implement |
| C. The target NNIP species cannot be controlled or eradicated with methods listed at Table 2.2.1 & 2 ---> | NO ACTION TAKEN |

Decision Tree for Treatment

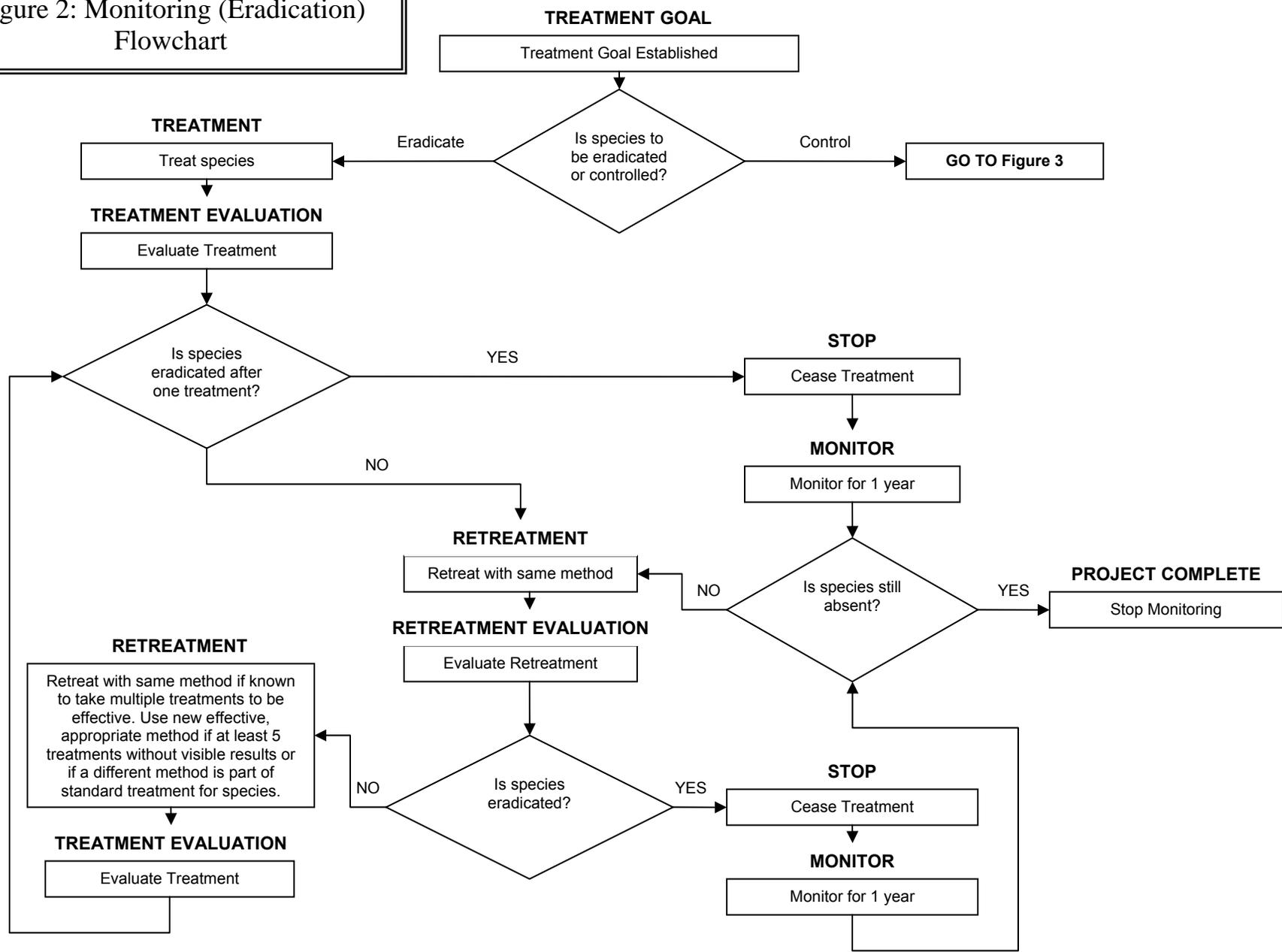
- | | |
|---|--------------------------|
| A. Objective of treatment is ERADICATION ---> | go to: B. |
| A. Objective of treatment is CONTROL ---> | go to: F. |
| B. Target NNIP species is NOT present after one treatment ---> | go to: C. |
| B. Target NNIP species is present one year after treatment ---> | go to: D. |
| C. Monitor: target NNIP species not present after one year ---> | Project Complete. |

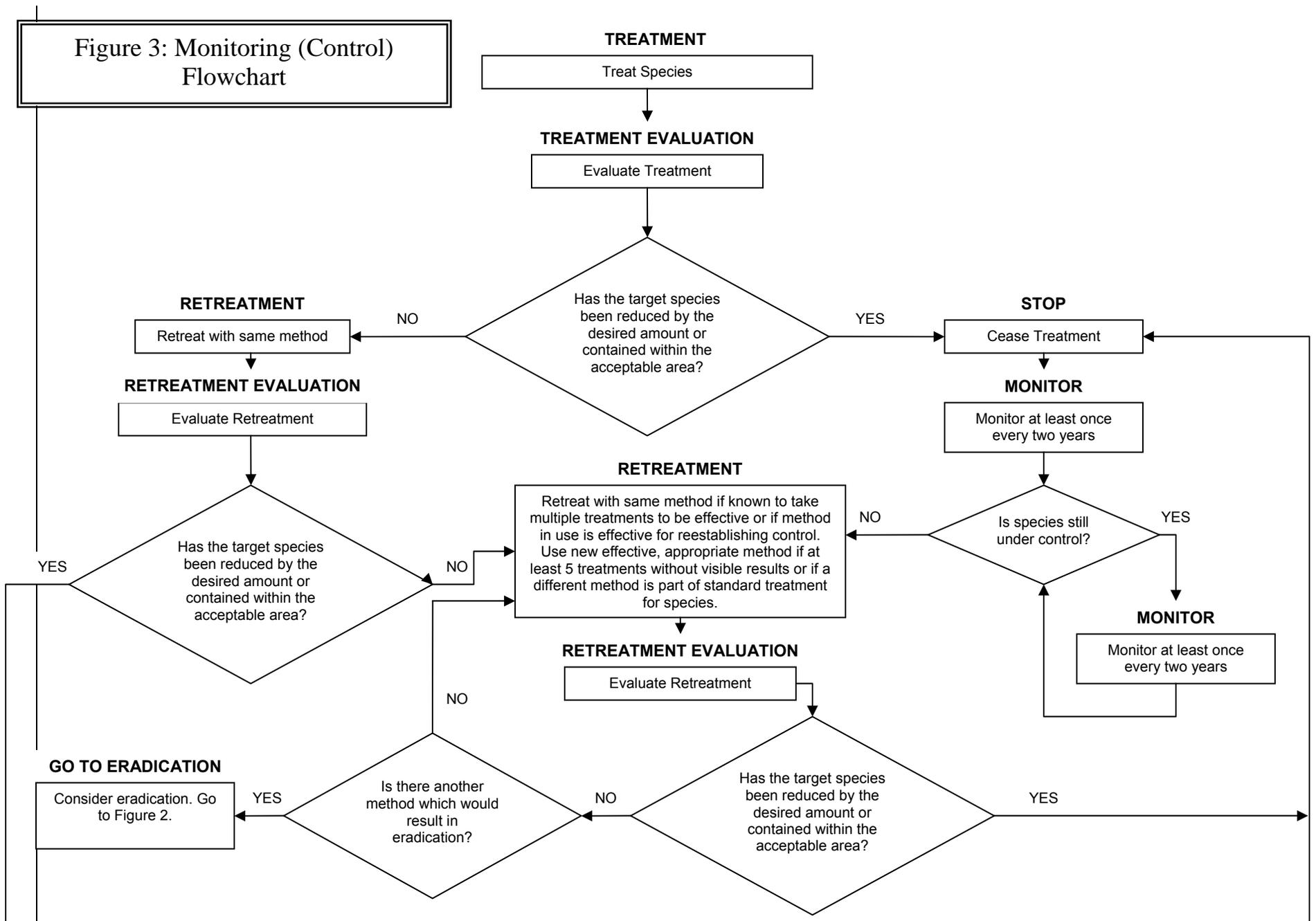
- C. Monitor: target NNIP species present after one year ---> **go to: D.**
- D. Target NNIP species is present, but reduced following first treatment
---> **Re-treat, then go to: C.**
- D. Target NNIP species is present and NOT reduced following first treatment
---> **Re-treat, then go to: E.**
- E. Target NNIP species is NOT present following treatment ---> **go to: C.**
- E. Target NNIP species is present and NOT reduced ---> **go to: F.**
- F. Another is considered effective against the target NNIP species
---> **Implement different treatment, then go to: B.**
- F. Another treatment is not considered effective against the target NNIP species for
eradication ---> **Switch to control; go to: G.**
- G. Target NNIP species is NOT present after one year OR has been reduced to an
acceptable amount OR is contained within an acceptable area ---> **go to: H.**
- G. Target NNIP species has not been reduced to an acceptable amount OR is not
contained within an acceptable area after one year ---> **go to: I.**
- H. Monitor: target NNIP species not present OR has been reduced to an acceptable
amount OR is contained within an acceptable area after two years ---> **go to: H.**
- H. Monitor: target NNIP species has not been reduced to an acceptable amount OR is
not contained within an acceptable area after two years ---> **Retreat, then go to: I.**
- I. Treatment method known to take multiple treatments ---> **go to: J.**
- I. Treatment method not effective ---> **go to: K.**
- J. Fewer than 5 treatments have been applied ---> **Retreat, then go to: G.**
- J. Five treatments have been applied ---> **go to: J.**
- K. Another method would result in eradication ---> **Treat, then go to: B.**
- K. Another method should result in control ---> **Treat, then go to: G.**

Figure 1: Species/Treatment Flowchart



**Figure 2: Monitoring (Eradication)
Flowchart**





2.2 Treatment Methods

MANUAL treatment method (pulling, grubbing, cutting, and digging) – Manual methods would be the principle method for controlling or eradicating small spot infestations, typically less than 0.10 acres) when the method is effective and efficient. Manual methods may be used in conjunction with herbicide application in some locations. Examples of manual methods include, but are not limited to, shovels, saws, axes, loppers, hoes, weed-wrenches, string trimmers, chain saws, brush saws, aquatic harvesters, and push mowers.

MECHANICAL treatment method (mowing, tree/brush shearing, uprooting, seeding, disking, and plowing) – Mechanical methods would employ the use of tractors or other heavy equipment such as dozers and backhoes. Normally, this method would be applied to larger, relatively, open areas suitable for equipment access. These areas are usually grown up fields, pastures, roadsides, and other open lands. Mowing or shearing may be used in conjunction with herbicide application. Plowing or disking would be used to restore heavily infested areas or to help establish desirable vegetation before infestation begins.

CONTROLLED FIRE treatment method – Controlled fire can be used to weaken or destroy some NNIP species. In some cases, such as with Chinese silverplume or kudzu, prescribed fire can be an effective pre-treatment by reducing the size or vigor of the plant prior to a herbicide application, thereby increasing the efficacy of the herbicide treatment and reducing the amount applied.

WEED TORCH treatment method – A propane weed torch would be used to spot-burn specific invasive plants. The Michigan chapter of The Nature Conservancy has used propane weed torches to kill seedlings of woody plants where the adult plants have already been removed (Tu et al., 2001, p. 3.3). The weed torch works not by starting a ground fire, but by using the torch's flame to burn the target plant's above ground parts and possibly the root collar.

HOT FOAM treatment method – This system employs hot foam to deliver and trap superheated steam onto foliage to kill weeds. The surfactant foam is a biodegradable mixture of corn and coconut sugar extracts, and the foam is an “organic,” naturally-occurring compound. As such, it is not regulated (or labeled) as a herbicide product by the U.S. EPA. The hot foam system is comprised primarily of a diesel-powered boiler and foam generator, which deliver hot water with a foam surfactant to target weeds via a supply hose and a treatment wand. The superheated hot foam is applied to the targeted vegetation at a precise temperature (93 degrees C, 200 degrees F) and pressure; the foam traps the heat, killing the above-ground vegetation and generally damaging the root collar. Both annual and perennial weeds are killed by starving their root systems (although for some perennials, repeat treatments may be necessary). See <http://www.waipuna.com/> and <http://www.invasive.org/gist/tools/hotfoam.html> for information. This application is limited to use along roads accessible to a 4-wheel drive van or truck.

CULTURAL treatment methods- Where patches of NNIPs have been removed by some method, there is a high likelihood that the same or other NNIPs will invade the spot. Planting these areas in either or both native species and short lived, fast growing annual cereal grasses such wheat, rye or oats can significantly reduce reestablishment of NNIPs in those. Native species would be used for restoration of a habitat while annual cereal grasses would be used for temporary cover. Native species and annual grasses would be planted by hand or by machine.

APPLICATION OF BARRIERS treatment methods (black plastic or similar impervious materials): This would involve the laying down of sheet material to block light and/or water to specific plants. Generally this would be put down in small pieces to cover discrete clumps or individuals of targeted plants. It might in some instances be applied in strips where infestation is at or close to 100%. Edges of the material would be covered with soil to maintain adverse conditions under the barrier.

HERBICIDE treatment methods – The objectives of herbicide use would be to control NNIP infestations where other methods would be cost-prohibitive, ineffective, 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, using the lowest effective application rate and concentration. In most cases, herbicides would be directly applied to the target plants (*i.e.*, the NNIP or targeted native invasive 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 hack and squirt or injections of woody stem. 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.

Table 2.2.1 – Herbicides to be considered for use for treatment of NNIP and invasive native species, DBNF

<u>Herbicide Name</u>	<u>Terrestrial or Aquatic Use</u>
Glyphosate	Both
Sethoxydim	Terrestrial
Triclopyr amine	Both
Triclopyr ester	Terrestrial
Clopyralid	Terrestrial
Impazapic	Terrestrial
Dicamba	Terrestrial
Endothall	Aquatic
Imazapyr	Terrestrial
Sulfometuron-methyl	Terrestrial

BIOLOGICAL treatment methods: Insects, and Fungal, and Bacterial or Viral Disease Agents – For some NNIP species, control agents in the form of insects, fungi, and bacterial or viral disease have been released into North America. Early introductions were often not screened well and have caused damage to native species. More recent introductions are better screened. This method involves the release of one or more of these agents into a population of a NNIP species. Control is the usual goal as eradication is difficult with biological agents. This method is most effective on large contiguous infestations (10 acres or more) of NNIP species, and generally does not take on smaller infestations.

BIOLOGICAL treatment methods: Grazing/Browsing treatment methods – For some NNIP species, repeated grazing or browsing pressure over one or more years is effective alone or in conjunction with another method. Most domestic livestock have some utility in NNIP species control/ eradication, but goats and sheep are most effective because of their more eclectic tastes in vegetation. For this proposal, only goats and sheep will be considered.

Table 2.2.2 – Treatment methods and maximum acres treated per year, Forestwide NNIP and invasive natives Species Treatment, DBNF

<u>Treatment method</u>	<u>Area treated annually (acres)</u>
Manual	50
Mechanical	150
Prescribed fire	300
Weed torch	50
Hot foam	50
Cultural	100
Application of Barriers	25
Herbicide	600
Biological- Insects/Disease	50
Biological- Grazing/Browsing	50
TOTAL	1,425

Successful control or eradication of a particular species in a particular area may require multiple deployments of one or more treatments listed above at 2.2. If multiple treatments of one or more kinds occur on an area within a single fiscal year, the acres of each treatment count towards the totals in Table 2.2.2.

2.3 Design Criteria

Any action taken will be consistent with the Forest Plan(USDA, FS 2004), the decision document, and will comply with applicable laws and regulations such as the Endangered Species Act and the Archaeological Resources Protection Act, and herbicide labeling. Additional measures to be implemented follow.

1. Measures outlined in Forest Service Manual 2150, *Pesticide-Use Management and Coordination*, and Forest Service Handbook 2109.14, *Pesticide Use Management and Coordination Handbook*, would be followed.
2. Equipment, boots, and clothing would be inspected and cleaned to remove seeds or other propagules following treatment to prevent their spread to other sites.
3. Fueling or oiling of mechanical equipment would occur away from aquatic habitats.
4. Only herbicides labeled for aquatic use would be used within 30 feet of a stream, pond, lake, or wetland area.
5. Plant parts capable of starting new plants, such as seeds, rhizomes, or roots, will be bagged and removed from the site for burial or garbage disposal, piled and burned on site, or placed on site in a manner to ensure the parts die. When possible, larger woody plants that are difficult to move would be treated prior to seed set.
6. Any NNIP species within 10 feet of a federally listed or R8 Regional Forester's sensitive species would be treated in the least disruptive manner practical. Any use of herbicides would involve the deployment of an appropriately sized sheet of cardboard, stiff plastic or other material between the NNIP species and the federally listed or sensitive species.
7. The application method for herbicide that provides the least exposure to workers and non-target species while maintaining effectiveness will be preferentially used.
8. When mowing or other cutting is used as a control measure, it is timed to prevent spreading seeds (i.e., before seed set).
9. Native vegetation should be retained whenever possible and soil disturbance will be limited to the extent practicable.
10. Any treatment projects developed through this proposal would be subject to review by forest resource specialists in the areas of wildlife biology, botany, aquatic species, recreation, and heritage resources. An implementation checklist will be used to document the review.
11. Soil exposed by projects would be revegetated with either annual cereal grasses (wheat, rye, oats, barley) for temporary cover or native species when seeding directly for permanent vegetation.
12. Weed torch treatments would proceed only after consultation with the Forest or District Fire Management Officer to determine fire danger and protection measures.

3.0 Where will these treatments occur?

Treatments to eradicate or control NNIP species or NIP species would occur on NFS lands, and could potentially occur on adjacent private, nonprofit entity, state or other federal lands if an agreement has been reached under the terms of the Wyden Amendment or interagency agreements. All of the Forest's districts, Cumberland, London, Stearns, and Redbird, have infestations of NNIP species and treatment projects are expected to occur on all districts. Treatment of invasive native species is

expected to occur on the London and Stearns districts, and may occur on the Cumberland and Redbird districts. Portions of Bath, Clay, Estill, Harlan, Jackson, Knox, Laurel, Lee, Leslie, McCreary, Menifee, Morgan, Owsley, Perry, Powell, Pulaski, Rockcastle, Rowan, Wayne, Whitley, and Wolfe Counties, Kentucky are included in the approximately 709,700 acres that make up the DBNF. The proclamation boundary of the DBNF encompasses approximately 2,042,600 acres.

Treatments may occur on any portion of NFS lands and other lands within the proclamation boundary of the DBNF. Most treatment is expected along roads, trails and other Priority A and B areas listed in Table 3.0. The actual order of treatment would depend on funding and staffing considerations. While the choice of treatment for a particular area will be in part driven by the species and the location, professional knowledge and judgment of Forest Service personnel will also be employed.

Priority A areas are either areas highly sensitive to invasion by NNIP/NIP species or areas in which NNIP/NIP species are likely to invade and from which they can spread. Also included are wilderness areas as there is a national effort to enhance wilderness by removal of NNIP species. Because early eradication is much less expensive in terms of dollars and effort than later treatment, any location with a watch species is also a Priority A area.

Priority B areas are somewhat sensitive to invasion by NNIP/NIP species or are areas that receive concentrated use where the potential for input of propagules by visitors is high. Also included are disturbed areas that are without Priority 1 species, but which have populations of Priority 2 species.

Priority C areas are less sensitive to invasion by NNIP/NIP species or are areas of low density use by visitors. Included are disturbed areas that are without Priority 1 or 2 species, but which have populations of Priority 3 species.

Priority D areas are any areas that do not fit in one of the categories above.

Table 3.0. Priority Areas for Treatment of NNIP and NIP Species

Priority	Rare Communities
A	Cliffline Communities
A	Rare Communities
A	RNAs and Proposed RNAs
A	Wild and Scenic River Corridors
A	Any area in which ground or vegetation disturbing management is taking place and there is also an existing population of a Priority 1 species (including roadsides and trails)
A	Any area in which natural causes have left ground or vegetation disturbance and there is also an existing population of a Priority 1 species
A	Any area with a new infestation of a Priority 1 or a Watch species
B	Old Growth Areas
B	Riparian Areas
B	Significant Bat Cave Areas
B	Developed Recreation Areas
B	Red River Gorge
B	Natural Arch Scenic Area
B	Any area in which ground or vegetation disturbing management is taking place and there is also an existing population of a Priority 2 species (including roadsides and trails)

B	Any area in which natural causes have left ground or vegetation disturbance and there is also an existing population of a Priority 2 species
B	Any area with a new infestation of a Priority 2 species
C	Habitat Diversity Emphasis Areas
C	Large Reservoir Areas
C	Ruffed Grouse Emphasis Areas
C	Any area in which ground or vegetation disturbing management is taking place and there is also an existing population of a Priority 3 species
C	Any area in which natural causes have left ground or vegetation disturbance and there is also an existing population of a Priority 3 species
D	Other areas not listed above

4.0 Why do we need to control non-native invasive plants?

4.1 Background information

The Chief of the USDA Forest Service (USDA FS) has identified non-native invasive species, including plants, as one of the four critical threats to USDA FS ecosystems. Invasives species, including plants, are reported to be the second-most critical threat to conservation of biodiversity (Wilcove et al. 1998). Of particular concern are those NNIP species that are successful at invading natural habitats. Invasive plants can alter natural ecosystems by displacing native species, inducing changes in water or fire regimes, causing changes in soil characteristics, adding a new or displacing an existing wildlife food source, and altering erosion and sedimentation processes (Westbrooks 1998, p. 57). Non-native plants are known to occur in every state in the union (USDA, NRCS 2009). About 22% of the plant species that occur in Kentucky are not native (Jones 2005), about the same as found on the forest. Not all are considered serious threats or even threats to the ecosystem and not all will be addressed in this document.

The southern Regional Framework for NNIP species provides an interdisciplinary framework to strategically plan the management of NNIP species on NFS lands. The framework identifies the goal, vision, and program elements for NNIP species strategic management. The goal is to reduce, minimize, or eliminate the potential for introduction, establishment, spread, and impact of NNIP species across all landscapes and ownerships with the vision of preventing and controlling NNIP species through appropriate and successful measures. Program elements include

- Protect native ecosystem and biodiversity and help restore native plants and animals;
- Involve coordination between the National Forest System, State and Private Forestry, and the Southern Research Station; and
- Utilize cooperative partnerships with other Federal agencies, state and local governments, tribes, non-governmental organizations, neighboring landowners and others to achieve the stated goal.

The DBNF contributes to this goal and vision by controlling, eradicating and preventing infestations of NNIP species and restoring ecological function.

4.2 Forest Plan Direction

Forest Plan direction is general in nature applying to all non-native invasive species, not just plants. This direction applies to all portions of the DBNF unless otherwise superseded by prescription area direction.

Goal 2.3. Reduce outbreak populations of invasive species, or eradicate isolated infestations of invasive species from becoming established.

Objective 2.3.B. Manage isolated occurrences of invasive species to avoid outbreak conditions.

Objective 2.3.C. Reduce the risk of damage from native and non-native invasive species through integrated pest management strategies.

Two prescription areas, Riparian and Large Reservoirs, specifically address non-native invasive species through objectives:

1.E-Objective 2.F. Prevent, control, or eradicate populations of non-native invasive species. (Riparian)

3.B-Objective 1.B. As soon as possible after their discovery in a reservoir, take actions to eradicate non-native, invasive flora and fauna. (Large Reservoirs)

The following prescription areas state either that non-native invasive species are not found as part of the desired condition or treatment of non-native invasives species is allowed within the prescription area:

- Rock Creek Research Natural Area; Tight Hollow, and Right Fork of Elisha Creek Proposed Research Natural Areas
- Cliffline Community
- Rare Community
- Significant Bat Caves
- Habitat Diversity Emphasis

Vegetation management to protect against non-native species that threaten to negatively impact the Outstandingly Remarkable Values will only occur within the following Forest Plan Prescription Areas:

- Proposed Wild and Scenic River: Marsh Creek Wild River Segment (Forest Plan Standard 3.C.2-VEG-1(b))
- Red River National Wild and Scenic River: Recreational River Segment (Forest Plan Standard 3.C.3-VEG-1(b))
- Proposed Wild and Scenic Rivers: Cumberland River Segment, War Fork Creek Segment, Rockcastle River Segment - Scenic Rivers (Forest Plan Standard 3.C.4-VEG-1(b))
- Proposed Wild and Scenic Rivers: Rock Creek Segment and Marsh Creek Segment - Recreational Rivers (Forest Plan Standard 3.C.5-VEG-1(b))

Vegetation management to protect against invasive species that threaten to negatively impact the area's resource values will only occur within the Red River Gorge Geological Area Prescription Area (Forest Plan Standard 3.E-VEG-1(b))

4.3 Non-native invasive and native invasive plant species

A list of NNIP species and one NIP being considered in this document is provided in Table 4.3. Species have been divided into five groups as defined below. All of the species except those on the Watch List are known to occur on at least one district of the forest.

Priority 1 Highly invasive - Plants in this list are to be treated when found in habitats in which they are likely to spread. An exception to this is when *Microstegium* is found. To the extent practicable, this species is to be controlled to prevent spread, but eradication in many areas is impractical.

Priority 2 Moderately invasive and or localized infestations - Plants in this list will be treated as part of any Priority 1 treatment project when they are in the same treatment area. Independent projects to treat these species in other areas are subject to funding constraints.

Priority 3 Weakly invasive and or in limited habitat - Plants in this list will be treated as part of any Priority 1 or Priority 2 treatment project when they are in the same treatment area. Independent projects to treat these species in other areas are subject to funding constraints.

Watch List - Plants in this list are variously invasive, and are found near, but not currently on, the Forest. If any of these are found on the Forest, they will be treated as Priority 1 species with the goal of preventing establishment on the Forest. This list in particular is expected to change frequently based on new introductions to the state.

Invasive Natives - Plants in this list are native species that under some conditions become invasive. Species in this list would be treated only if negatively affecting federally proposed threatened or endangered species, federally listed threatened or endangered species, Region 8 Regional Forester's sensitive species or associated habitat, or species with 25 or fewer populations known on the DBNF or their habitat.

Table 4.3. - List of Species Considered for Treatment with DBNF Priority and NRCS Plants Database¹ Uniform Species Code

Common Name	Species	DBNF Priority	NRCS Species Code
Amur Honeysuckle	<i>Lonicera maackii*</i>	1	LOAM
Autumn Olive	<i>Elaeagnus umbellata**</i>	1	ELUM
Callery Pear	<i>Pyrus calleryana</i>	1	PYCA80
Chinese Privet	<i>Ligustrum sinense</i>	1	LISI
Chinese Silverplume	<i>Miscanthus sinensis</i>	1	MISI
Chinese Yam	<i>Dioscorea oppositifolia</i>	1	DIOP
Common Privet	<i>Ligustrum vulgare</i>	1	LIVI
Common Reed	<i>Phragmites australis</i>	1	PHAU7
European Water-Milfoil	<i>Myriophyllum spicatum</i>	1	MYSP
Garlic Mustard	<i>Alliaria petiolata</i>	1	ALPE
Hairy Jointgrass	<i>Arthraxon hispidus</i>	1	ARHI3
Japanese Knotweed	<i>Fallopia cuspidata</i>	1	POCU6
Japanese Stiltgrass	<i>Microstegium vimineum</i>	1	MIVI
Multiflora Rose	<i>Rosa multiflora</i>	1	ROMU

Common Name	Species	DBNF Priority	NRCS Species Code
Oriental Bittersweet	<i>Celastrus orbiculatus</i>	1	CEOR
Princesstree	<i>Paulownia tomentosa</i>	1	PATO2
Purple Crown vetch	<i>Securigera varia</i>	1	SEVA4
Purple Loosestrife	<i>Lythrum salicaria</i>	1	LYSA
Reed Canarygrass	<i>Phalaris arundinacea</i>	1	PHAR3
Spotted Knapweed	<i>Centaurea stoebe</i>	1	CESTM
Tree-of-Heaven	<i>Ailanthus altissima</i>	1	AIAL
Winter Creeper	<i>Euonymus fortunei</i>	1	EUFO5
Bicolor Lespedeza	<i>Lespedeza bicolor</i> ***	2	LEBI
Burning Bush, Winged Euonymous	<i>Euonymus alatus</i>	2	EUAL13
Canada Thistle	<i>Cirsium canadense</i>	2	CIAR4
Chinese Silktree	<i>Albizia julibrissin</i>	2	ALJU
Coltsfoot	<i>Tussilago farfara</i>	2	TUFA
Common Chickweed	<i>Stellaria media</i>	2	STME2
Curly Dock	<i>Rumex crispus</i>	2	RUCR
Gill-Over-the-Ground	<i>Glechoma hederacea</i>	2	GLHE2
Japanese Barberry	<i>Berberis thunbergii</i>	2	BETH
Japanese Clover	<i>Kummerowia striata</i>	2	KUST2
Japanese Honeysuckle	<i>Lonicera japonica</i>	2	LOJA
Japanese Spiraea, Japanese Meadowsweet	<i>Spiraea japonica</i>	2	SPJA
Korean Clover	<i>Kummerowia stipulacea</i>	2	KUST
Kudzu	<i>Pueraria montana</i>	2	PUMOL
Miniature Beefsteakplant	<i>Mosla dianthera</i>	2	MODI4
Musk Thistle	<i>Carduus nutans</i>	2	CANU4
Oriental Ladysthumb	<i>Polygonum cespitosum</i>	2	POCEL
Poison Hemlock	<i>Conium maculatum</i>	2	COMA2
Sericea Lespedeza	<i>Lespedeza cuneata</i>	2	LECU2
Spotted Ladysthumb	<i>Polygonum persicaria</i>	2	POPE
Sweet Clover	<i>Melilotus officinalis</i>	2	MEOF
White Poplar	<i>Populus alba</i>	2	POAL7
Beefsteakplant	<i>Perilla frutescens</i>	3	PEFR4
Bird Vetch	<i>Vicia cracca</i>	3	VICR
Bull Thistle	<i>Cirsium vulgare</i>	3	CIVU
Calamus (European)	<i>Acorus calamus</i>	3	ACCA4
Chocolate Vine	<i>Akebia quinata</i>	3	AKQU
Common Mullein	<i>Verbascum thaspi</i>	3	VETH
Common Plantain	<i>Plantago major</i>	3	PLMA2
Dandelion	<i>Taraxacum officinale</i>	3	TAOF
Giant Foxtail, Japanese Bristlegrass	<i>Setaria faberi</i>	3	SEFA
Field Clover	<i>Trifolium campestre</i>	3	TRCA5
Johnsongrass	<i>Sorghum halepense</i>	3	SOHA
Moth Mullein	<i>Verbascum blattari</i>	3	VEBL
Narrowleaf Plantain	<i>Plantago lanceolata</i>	3	PLLA
Oxeye Daisy	<i>Leucanthemum vulgare</i>	3	LEVU
Rough Cocklebur	<i>Xanthium strumarium</i>	3	XAST
Sweet Vernal Grass	<i>Anthoxanthum odoratum</i>	3	ANOD
Tall Fescue	<i>Schedonorus phoenix</i>	3	SCPH
Wild Carrot	<i>Daucus carota</i>	3	DACA6
Amur Maple	<i>Acer ginnala</i>	Watch	ACGI

Common Name	Species	DBNF Priority	NRCS Species Code
Cogongrass	<i>Imperata cylindrica</i>	Watch	IMCY
Common Buckthorn	<i>Rhamnus cathartica</i>	Watch	RHCA3
Giant Knotweed	<i>Polygonum sachalinense</i>	Watch	POSA4
Golden Bamboo	<i>Phyllostachys aurea</i>	Watch	PHAU8
Japanese Chaffflower	<i>Achyranthes japonica</i>	Watch	ACJA
Japanese Hops	<i>Humulus japonica</i>	Watch	HUJA
Mile-a-Minute Weed	<i>Polygonum perfoliatum</i>	Watch	POPE10
Norway Maple	<i>Acer platanoides</i>	Watch	ACPL
Tropical Soda Apple	<i>Solanum viarum</i>	Watch	SOVI2
Yellow Groove Bamboo	<i>Phyllostachys aureosulcata</i>	Watch	PHAU80
Climbing Fern	<i>Lygodium palmatum</i>	Native	LYPA3

¹ Developed and maintained by USDA Natural Resource Conservation Service. See <http://plants.usda.gov>. These codes are used by the Forest Service for reporting infestations and treatments.

*This entry includes *L. morrowii*, *L. standishii* and *L. tatarica* which are believed to be on the forest, but for which no specific location information is held.

**This entry includes *E. commutata*, *E. multiflora* and *E. angustifolia* which are believed on the forest, but for which no specific location information is held.

***This entry includes *L. thunbergii* which is believed to be on the forest, but for which no specific location information is held.

Literature Cited

- [EO] Executive Order 13112 of February 3, 1999. Federal Register Vol. 64, No. 25. Available at <http://www.invasivespecies.gov/>
- Jones, R.L. 2005. Plant life of Kentucky: an illustrated guide to the vascular flora of Kentucky. University Press of Kentucky. Lexington, KY. 834 p.
- USDA, NRCS. 2009. The PLANTS database. Online application. National Plant Data Center, Baton Rouge, LA 70874-4490 USA. Available at <http://plants.usda.gov>. Accessed 14 April 2009.
- Tu, M., C. Hurd, and J. M. Randall. 2001. Weed Control Methods Handbook: Tools and Techniques for Use in Natural Areas. p. 3.3. The Nature Conservancy Wildland Invasive Species Team. Available at <http://www.invasive.org/gist/products/handbook/methods-handbook.pdf>. Accessed 15 January 2009.
- [USDA, FS] U.S. Department of Agriculture. 2004. Land and resource management plan for the Daniel Boone National Forest. Manag. Bull. R8-MB 117A. Southern Region, Daniel Boone National Forest. Winchester, KY. Irregularly paginated.
- 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. Available at <https://www.denix.osd.mil/denix/Public/ES-Programs/Conservation/Invasive/intro.html>. 109 p. P. 57.
- Wilcove, D. S.; Rothstein, D.; Dubow, J.; Phillips, A.; Losos, E. 1998. Quantifying threats to imperiled species in the United States. Bioscience. 48: 607-615.

5.0 What decisions will the Responsible Official make?

The Forest Supervisor for the Daniel Boone National Forest is the Responsible Official for this proposal.

The Forest Supervisor will decide:

- Whether or not to implement the proposed action or an alternative to it,
- What if any protective measures will be implemented in addition to those already described in the proposal, and
- Whether an amendment to the Forest Plan is needed.

6.0 What do we know from preliminary analysis?

At least one population of each of the NNIP/NIP species listed in Table 4.3 as Priority 1, 2 or 3 occurs on the DBNF. In most cases there are multiple infestations. All four districts have widespread NNIP species infestations, but not all NNIP species show the same level of infestation on each district. NNIP species occur in all prescription areas identified in the Forest Plan. The majority of NNIP species, as might be expected, occur on heavily disturbed land such as abandoned and reclaimed mine lands, and along road and trail corridors. Other populations occur within relatively undisturbed forested land and in areas where the DBNF has implemented ground disturbing projects.

7.0 How to comment?

Scoping begins the official NEPA process. The public is asked to consider the proposal described above and to provide comments specific to this proposal. Project-specific comments are those directly related to the activities proposed and demonstrate that a cause-effect relationship exists that, potentially could be significant. Generic comments, such as “I don’t like prescribed burning”, are not site-specific and do not help the Forest Service define the scope of analysis needed.

Comments received during “scoping” will be used by the Forest Service to identify issues, or unresolved conflicts, that the public has with this project. Positive feedback and recommendations for improvement in the proposal are also encouraged.

Please take note that comments received in response to this solicitation, including the names and addresses of those who submit comments, will be considered part of the public record and will be available for public inspection. Comments submitted anonymously will be accepted and considered, but the Forest Service will be unable to send you future mailings related to this project. Additionally, pursuant to 7 CFR 1.27(d), any person may request that a submission be withheld from the public record by showing how the Freedom of Information Act permits such confidentiality. Persons requesting such confidentiality should be aware that confidentiality is granted in only very limited circumstances. The Forest Service will inform the requester of its decision regarding a request for confidentiality. Where the request is denied, the submission will be returned, and the requester notified that the comments may be resubmitted with or without name and address.

COMMENTS ARE DUE BY August 10, 2009

It is best to submit your comments in writing to the Forest Service by:

US Mail to: Daniel Boone National Forest
Attn: David Taylor
1700 Bypass Road
Winchester, Kentucky 40391

Facsimile to: (859) 744-1568

E-Mail, in a common digital format to comments-southern-daniel-boone@fs.fed.us

Oral or hand-delivered comments must be received at the Responsible Official's office during normal business hours (8:00 a.m. to 4:30 p.m.) in Winchester, Kentucky. For submitting oral comments by telephone, call (859) 745-3100 and identify the purpose of your call. The receptionist will connect you with someone who will document your comments.

Please include the following information with your comments:

1. Your name, address (include in any e-mail correspondence), and, if possible, telephone number,
2. The title of the project you are commenting on, and
3. Site-specific facts or comments concerning the proposal along with supporting information that you feel the Forest service should consider.

Your views on this proposal are important to us. If you need more information, or would like to meet with someone to discuss the proposal, feel free to contact David Taylor at 859-745-3100 (e-mail: dtaylor02@fs.fed.us).