

**United States
Department of
Agriculture**

**Forest Service
Intermountain Region**

**Record of Decision
For the
Wasatch-Cache National Forest
Noxious
Weed Treatment Program**

**Box Elder, Cache, Davis, Duchesne, Morgan, Rich, Salt Lake, Summit,
Tooele, Wasatch, and Weber Counties, Utah
Uinta County, Wyoming**

September 2006

The United States Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age disability, political beliefs, sexual orientation, marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means of communication or program information (Braille, large print, audiotape, etc.) should contact the USDA's Target Center at 202-720-2600 (voice or TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326 – W. Whitten Building, 145th and Independence Avenue, SW, Washington DC 20250-9410, or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

BACKGROUND

Invasive weeds are threatening or dominating areas of the Forest with negative impacts on native plant communities, wildlife habitat, soil and watershed resources, recreation, and aesthetic values. A shift from native vegetation to invasive weeds decreases wildlife forage, reduces species diversity, and increases soil erosion due to a decrease in surface cover. For these reasons it is imperative to aggressively manage weeds across the Forest.

The Draft Environmental Impact Statement (DEIS) and abbreviated Final Environmental Impact Statement (FEIS) supporting this ROD were prepared pursuant to requirements of the National Environmental Policy Act (NEPA). The affected project area consists of three distinct geographic areas (also referred to as “ecoregions”): the Overthrust Mountains (Wasatch and Bear Mountain Ranges), the Uinta Mountains, and the Bonneville Basin (Stansbury Mountains).

The U.S. Forest Service (Forest Service) proposes to treat noxious weeds on about 1600 acres within 1.2 million acres of Wilderness and non-Wilderness areas on the W-CNF. The project addresses existing and future potential noxious weed infestations. Weed treatment is one element of an Integrated Weed Management (IWM) strategy that also includes prevention, education, survey, monitoring, and cooperative partnerships.

DECISION

This Record of Decision documents my decision for selecting Alternative 2 as described in the Wasatch-Cache National Forest Noxious Weed Treatment Program Environmental Impact Statement (EIS). The selected alternative includes treatment of 1586 acres of weeds using a combination of chemical, biological, grazing and mechanical treatments. In addition, the selected alternative allows for adaptive management including: treatment of new weed species, new weed patches, and new control methods (including new herbicides, biological control agents, mechanical and cultural techniques) provided that the environmental impacts are within the scope of those disclosed within the accompanying EIS for Alternative 2. This alternative provides for the use of the most effective tools for controlling weeds while having minimal impact on the environment. Weed treatment would occur annually within the 1.2 million acres of the Wasatch-Cache National Forest.

The draft EIS discloses the results of a project level analysis. The scope is confined to issues and potential environmental consequences relevant to the decision over a program to control invasive weeds on the Wasatch-Cache National Forest.

Reconsideration of other existing project level decisions or programmatically prescribing mitigation measures or standards for future Forest management activities (such as travel management, timber harvest, and grazing management) are beyond the scope of this decision. If these types of project proposals involve concern over the potential spread of invasive weeds, appropriate mitigation measures will be proposed and incorporated at such time those decisions are being made.

The current list of invasive species authorized for treatment in this decision includes:

TABLE ROD-1
W-CNF Weed List

Scientific Name	Common Name	Status
<i>Aegilops cylindrica</i> ^a	Jointed goatgrass	County Noxious
<i>Arctium minus</i> ^b	Common burdock	State Noxious (WY)
<i>Cardaria draba</i> ^a	Whitetop/Hoary cress	State Noxious
<i>Carduus nutans</i> ^a	Musk thistle	State Noxious
<i>Centaurea diffusa</i> ^a	Diffuse knapweed	State Noxious
<i>Centaurea maculosa</i> ^a	Spotted knapweed	State Noxious
<i>Centaurea repens</i> ^a	Russian knapweed	State Noxious
<i>Centaurea solstitialis</i>	Yellow starthistle	State Noxious
<i>Cirsium arvense</i> ^a	Canada thistle	State Noxious
<i>Conium maculatum</i> ^a	Hemlock (Poison?)	County Noxious
<i>Convolvulus arvensis</i> ^a	Field bindweed	State Noxious
<i>Cynodon dactylon</i>	Bermudagrass	State Noxious
<i>Cynoglossum officinale</i>	Houndstongue	County Noxious
<i>Euphorbia esula</i> ^a	Leafy spurge	State Noxious
<i>Euphorbia myrsinites</i>	Blue spurge	Invasive
<i>Hyoscyamus niger</i> ^a	Black Henbane	County Noxious
<i>Hypericum perforatum</i> ^a	St. Johnswort	County Noxious
<i>Isatis tinctora</i> ^a	Dyer's woad	State Noxious
<i>Lepidium latifolium</i> ^b	Perennial pepperweed	State Noxious
<i>Linaria dalmatica</i> ^a	Dalmatian toadflax	County Noxious
<i>Linaria vulgaris</i>	Yellow toadflax	County Noxious
<i>Lythrum salicaria</i>	Purple loosestrife	State Noxious
<i>Onopordum acanthium</i> ^a	Scotch thistle	State Noxious
<i>Taeniatherum caput-medusae</i>	Medusahead	State Noxious
<i>Tamarix</i> sp.	Salt cedar	Exotic Invasive
<i>Tribulus terrestris</i> ^b	Puncturevine	County Noxious
<i>Verbascum virgatum</i> ^b	Wand mullein	Exotic Invasive

^a Recorded infestations on the W-CNF

^b Known locations but no formal documentation

DETAILED DESCRIPTION OF MY DECISION, INCLUDING MITIGATION MEASURES AND MONITORING

Alternative 2, my selected alternative will allow the treatment of 1,586 acres of weeds using a combination of techniques, including herbicides (1,245 acres of spot treatment, 69 acres of block treatment and 119 acres of aerial application); 77 acres of biological control; 6 acres of mechanical treatments; and 70 acres of grazing. Treatment will be conducted within and outside of wilderness; however, no aerial application of pesticide or treatment using motorized or mechanized equipment

will be allowed within recommended wilderness and wilderness. The Regional Forester will authorize the use of herbicide in wilderness by approving pesticide use proposals (PUPs). Approval of PUPs will be obtained prior to implementation.

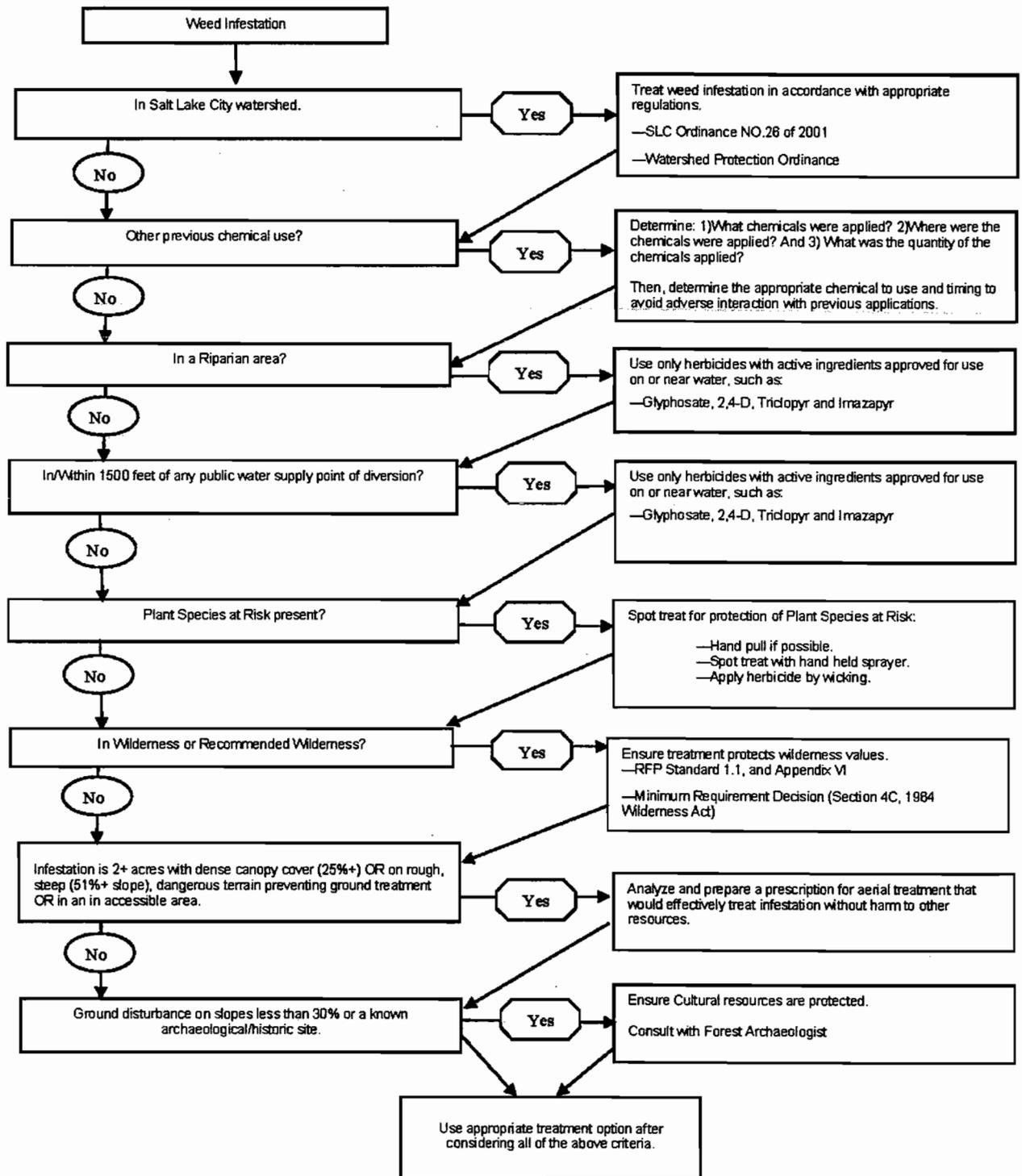
The proposed treatment of weed infestations is based on the management objectives of eradicating small and new infestations while containing or controlling existing larger infestations. I recognize we will never be able to treat all the weeds on the Forest so a key element of my decision is establishing priorities for treatment. My decision incorporates a two-tiered rating system that evaluates infestation sizes/numbers (Tier 1) and potential invasiveness (aggressiveness) of the particular species within the three ecological sections of the W-CNF (Tier 2). Each weed was assigned a priority and objective (see Table 1-2 of the EIS). In the future if infestations change we will use the same priority setting process described on pages 1-8 through 1-10 of the EIS to reassess priorities to determine if they need to be adjusted.

TABLE ROD-2
Infested Acres Treated (current plus future)

Priority	Chemical				Mechanical		Grazing	Biological
	Ground Based		Aerial		Cutting	Hand Pulling/ Digging		
	Spot	Block	Spot	Block				
Overthrust Mountains								
1A	5				0.2	0.3		
1B	5							
1C						1		
3A	311	9	7			4	70	77
Total	321	9	7		0.2	5.3	70	77
Bonneville Basin								
2A	918	47	112					
Total	918	47	112					
Uinta Mountains								
1A	3	11				0.5		
2A	3	2						
Total	6	13				0.5		
Grand Total	1245	69	119		0.2	5.8	70	77

Note: 1,433 acres chemical @\$300 = \$429,900 + 6 acres hand pulling @ \$2,000= \$12,000 + 147 acres biological and grazing @\$500 = \$73,500 for a total of \$515,400.

My decision includes the use of the Decision Tree shown below that reflects sensitive condition factors important on the Wasatch-Cache NF. Use of the Decision Tree requires that each and every sensitive condition factor be reviewed and considered prior to selection of a treatment method. Treatments must be tailored to mitigate for sensitive conditions of the site.



Based on the management objectives and priority ratings of infestations within each section an array of potential treatments (Treatment Options Table presented in Appendix C of the EIS) combined with consideration of sensitive conditions was used to select the treatment practice most effective for that weed species infestation. The Treatment Options Table presented in Appendix C of the EIS is incorporated into my decision.

As new infestations are detected and treated, the relative proportions of the various priority classes treated would shift but the total acres to be treated with a given method are expected to be similar to those represented in Table ROD-2.

This project will be implemented over the next 10 to 15 years.

MITIGATION

A key element of my decision is mitigation measures listed in Appendix A of this ROD. The list has been clarified from those shown in the DEIS. Duplicate measures were removed. Two measures were contradictory; the more restrictive one was adopted. These measures are important in protecting sensitive resources on the Forest. Standards and guidelines from the Revised Forest Plan shown in Appendix B are incorporated as well.

MONITORING

Also incorporated into my decision is a strong monitoring program outlined in Appendix F of the FEIS. In summary, implementation monitoring would be performed on sample sites during treatment and results recorded on a pesticide application report to indicate that the appropriate treatment application standards and mitigation measures were followed. Selected sites near sensitive resources will be monitored to ensure mitigation measures, such as buffer zones, are effective. Samples of treated sites would be monitored for effectiveness through field checks to determine whether the desired management objectives of eradicating, controlling, or containing aggressive weeds were achieved. Treatment method and date, target species, and monitoring results would be recorded for each monitored treatment site to compile a long-term database on treatment effectiveness under various conditions.

REASONS FOR MY DECISION

I have reviewed the current environmental conditions, and the direct, indirect and cumulative effects analyses for all actions proposed in each of the alternatives. I have also considered comments received from the public and other agencies.

Discussions regarding the management activities to be implemented in Alternative 2 and my rationale for choosing them are presented in the following sections. The criteria I used in comparing the alternatives were:

- The degree to which each alternative met the purpose and need for action;
- The degree to which each alternative responds to significant issues; and,
- The degree to which the alternative is responsive to concerns raised by the public and other agencies.

Relationship to the Purpose and Need

The primary purpose for this project is to minimize the loss of native plant communities resulting from invasive weeds. Alternative 2 best meets this goal because it allows for a wide variety of control methods, including treatment with a variety of herbicides and biological control agents,

along with the use of grazing, and mechanical techniques. This variety of treatment options will allow for better weed control with less impact on other resources. This is in tandem with a prioritized approach on deciding where across the Forest it is most important to treat weeds.

I did not select Alternative 3 because it relies heavily on the use of biological control agents and controlled grazing. Biological controls are used to reduce densities and rates of weed spread rather than to eradicate weeds. Biological controls may decrease the production of viable weed seed and may slow the rate of weed spread, but by themselves they do not completely eradicate or contain noxious weed infestations. Biological treatment is most effective on dense infestations of a weed species covering large areas, but it may take 10 to 20 years for some biological treatments to be effective (Forest Service 1999). Other limitations in the use of biological controls include the following: weeds continue to spread while the biological controls are becoming established; some weed species do not have biological controls; populations of biological controls can fail (leave an area or die); and a mix of different species of biological controls is often necessary to effectively treat a given weed site.

Localized infestations of weeds can be controlled by closely controlled livestock grazing. Goats and sheep have been used to varying degrees of effectiveness in controlling some species of weeds.

On the Wasatch-Cache a variety of conditions exist. We have both large and established infestations along with new and smaller infestations. We need weed control techniques that will allow us to deal with all the different sizes of infestations and species of weeds on the Forest.

I did not select Alternative 1 because it continues the current rate of treatment. We know this is inadequate to keep pace with the rate of spread of weeds. We will be losing desirable native plant diversity at an exponential rate. Continuing to take limited action in the war on weeds is unacceptable.

Response to Significant Issues

An important issue was the impact of herbicides on non-target species, such as plants, animals and aquatic resources, was analyzed in the EIS. Mitigation measures were developed to reduce the risk of herbicides impacting these resource areas and are incorporated into the decision. I believe that with the buffer zones included in the mitigation measures and using the appropriate herbicide in consideration of sensitive resources, herbicides can be used safely and with minimal impact to other resources. Monitoring with drift cards will be used to verify this.

To ensure that the public is not exposed to herbicides, my decision would temporarily close areas that are being aerially treated with herbicides. In addition, all developed recreation sites would be posted stating that the area has been treated and stating when the area is safe to enter (usually within a few hours of treatment). While this may pose a short-term inconvenience to the public these mitigation measures will reduce the risk of exposure.

An important issue that I considered in my decision is the risk of using herbicides on human health. The final EIS tiers to the risk assessments completed by to assess the toxicity of the herbicides and level of exposure for the general public and the workers. The public will not be exposed to herbicide concentrations that exceed safe levels. The workers may be exposed to concentration levels that slightly exceed safe levels if they fail to wear protective equipment, if they use contaminated gloves, or if they are involved in an accidental exposure. All workers will be required to wear clean personal protective equipment and will be trained in safe handling of herbicides, along with emergency response to accidental exposure.

Consideration of Public Comments in the Rationale for the Decision

In reviewing the comments received on the Draft EIS, I believe that my decision addresses the concerns raised by the public. Of the four comment letters received some of the more primary concerns expressed were about the chemical toxicity of herbicides, the safety of biological control, the monitoring program, the potential effects on non-target species and the elimination of grazing as an effective method to control weeds. Comments are further responded to in Appendix G of the FEIS.

Chemical Toxicity -

Most of the comment letters expressed concern that herbicides be used safely and with caution, to prevent unintended impacts. All of the herbicides proposed for use in Alternative 2 have been approved by the EPA which requires a review of scientific information (using both independent peer-reviewed and industry funded research) regarding chemical toxicity. While all herbicides have a low to moderate level of toxicity, no adverse health effects are anticipated because the public will not be exposed to herbicides at levels considered to be toxic. Public areas will be posted or temporarily closed. Herbicides are very dilute when applied to vegetation and after it dries it is difficult to transfer to people or animals. Also, most sites are treated with a spot application, which limits the amounts of herbicides present in any one location. The potential for workers to be exposed to herbicides can be mitigated with the use of personal protective equipment.

Biological Agents-

Just as herbicides are rigorously tested and evaluated before use so are biological control agents. The USDA Animal and Plant Health Inspection Service (APHIS) screens and tests new biological agents on agricultural species and threatened and endangered plant species. The WCNF will use only APHIS approved biological control agents.

Level of Monitoring -

A comment on the draft EIS indicated a concern about the monitoring program. This project includes a monitoring plan that documents existing weed populations, the treatments, and the effectiveness of the treatment. The monitoring plan also documents how to measure drift within buffer zones, and when to measure water samples whenever there is reason to suspect herbicide contamination. I believe these will be more than adequate for the purpose of measuring the effectiveness of this project and measuring unintended impacts.

Non-target Species

A comment on the draft EIS was concerned that birds and wildlife would be harmed by herbicide. Mitigation measures would be implemented as an integral part of the decision in order to protect the environment and individuals from the potentially harmful effects of herbicides. Monitoring of select sensitive resources will further reduce the risk of herbicides impacting these important resources.

Eliminating or Modifying Grazing for Weed Prevention -

One comment letter expressed a view that by eliminating or modifying grazing the WCNF could prevent weed infestations. As stated earlier, the scope of my decision here is limited to the

treatment of weed infestations. Weed prevention and control measures are considered in domestic grazing activities on the national forest.

PUBLIC INVOLVEMENT PROCESS AND ISSUES

On October 26, 2004, the Scoping Document outlining the Purpose and Need for Action and the Proposed Action was provided to about 400 individuals and organizations for comment. Twelve letters and several phone calls were received with comments on the Proposal. In general, there was support for action to treat noxious weeds in the Forest; however, there were concerns that treatment alone, without a strong emphasis on identification of causes and active prevention, would miss the mark. A number of comments were concerned with potential effects of treatments with herbicides.

Using the comments from the public, other agencies, and , the Forest Service Interdisciplinary Team (IDT) developed a list of significant issues. Significant issues were defined as those directly or indirectly caused by implementing the Proposed Action. Significant issues are issues used to formulate alternatives to the Proposed Action, prescribe mitigation measures, or analyze environmental effects. The significant issues are summarized as follows:

- **Issue 1:** Effects of weed treatment on plant species at risk.
- **Issue 2:** Effects of weed treatment on aquatic and semi-aquatic species.
- **Issue 3:** Effects of weed treatment on terrestrial wildlife species.
- **Issue 4:** Loss of diversity of native vegetation and loss of wildlife habitat from noxious weed infestations.
- **Issue 5:** Effects of weed treatment on water protected for domestic purposes.
- **Issue 6:** Effects of noxious weed infestations and treatment on fire/fuels management.
- **Issue 7:** Effects of weed treatment on human health.

Copies of the DEIS and a request for comments were mailed to 72 agencies and individuals on March 3, 2006. An additional 176 letters were mailed to individuals and groups announcing the availability of the DEIS. The Notice of Availability of the DEIS was published in the Federal Register on March 10, 2006, and a legal notice was published in the Salt Lake Tribune on March 28, 2006. The end of the official comment period was April 24, 2006. Four comment letters were received. These comments are shown and responded to in the final EIS, Appendix G.

Of the four comment letters received on the draft EIS, only one was in opposition to the treatment of weeds. State and federal law requires that noxious weeds be controlled and I concluded that ignoring the problem was not a reasonable option.

ALTERNATIVES CONSIDERED BUT NOT STUDIED IN DETAIL

As a result of comments made during the initial scoping period, three alternatives were considered but then dismissed from detailed analysis because they are beyond the scope of the EIS :

- Alternatives that would reduce or eliminate livestock grazing as a method of preventing and controlling spread of noxious weeds
- Alternatives that would close existing travel routes (roads, trails) to prevent spread of noxious weeds
- Alternatives that would prohibit road construction, trail construction, timber harvest, and prescribed fire to prevent spread of noxious weeds

These Alternatives are not analyzed in detail because the general decision about whether or not and where to allow new road and trail construction, timber harvest, and prescribed fire have already been made in the 2003 Revised Forest Plan. The specific decisions for closing existing roads/trails or constructing new roads/trails; authorizing livestock grazing; harvesting timber; or using prescribed fire are made in other site-specific planning efforts such as travel management planning, allotment management planning, and/or planning for vegetation treatments. To address actions as complex and far reaching as forest-wide travel management or forest-wide livestock grazing within this analysis would be extremely cumbersome and unreasonable.

An Alternative that uses a suggested weed treatment method involving a hot foam system (Waipuna™) was considered but not analyzed in detail because the forest areas needing treatment lack suitable terrain for the necessary equipment.

BRIEF DESCRIPTION OF ALTERNATIVES STUDIED IN DETAIL

This EIS analyzes, in detail, the following three alternatives:

1) No Action (continuation of current management) Continuation of current management would consist of very limited treatment of noxious weeds in areas identified through past project activities and treated primarily through spot treatment with herbicides or hand-pulling. Traditionally, the weed program for the W-CNF has been associated with other activities and areas easily accessed while performing other work. There has been no systematic approach Forest-wide, to either weed mapping or assignment of treatment objectives and priority setting.

2) Proposed Action (noxious weed treatment using the most effective methods available, balanced on a site-by-site basis with reducing potential impacts to sensitive resources). This alternative is described in detail as my decision.

3) Weed Treatment Excluding Herbicide Use (noxious weed treatment using methods other than herbicides including mechanical [hand pulling/digging], controlled grazing, and biological agents). Alternative 3 responds to concerns about potential effects of herbicides by excluding chemical treatments from the options available for treatment. Estimated treatments were projected using current gross acres to represent future infested acres and by selecting the highest priority infestations, taking into account sensitive resource factors, and then selecting the treatment practice most effective for that weed species infestation, and that which takes into account sensitive resources, but excluding herbicide use.

Table ROD - 3 – Acres of treatment type for each alternative.

Alternative	Chemical		Mechanical				Grazing	Biological
	Ground Based		Aerial		Cutting	Hand Pulling/ Digging		
	Spot	Block	Spot	Block				
Alternative 1	110.94					2.54	12	
Alternative 2	1245	69	119		0.2	5.8	70	77
Alternative 3						27	689.18	233

Table ROD – 4 Comparison of Effects Between Alternatives as a Function of the Issue

Resource Area	No Action Alternative	Proposed Action	Alternative 3
Plant Species at Risk	Up to 126 acres treated annually, with up to 111 of these acres treated with herbicides. Greatest impacts to at-risk plant species are likely to result from indirect impacts caused by the continued spread of weeds.	Would cover more acreage and could potentially be more detrimental to at-risk plant species occurring in weed-infested areas. Indirect impacts are expected to be less than those under any other alternative because the curtailment of weed spread and control of current weed populations would be highest under this alternative.	No potential for adverse direct effects on native vegetation, at-risk plant species, and wildlife habitat integrity. Large acreages on the W-CNF would be difficult to treat except with biological controls
Aquatic Resources	No data or reported instances indicate that any of the weed treatment activities on the W-CNF have or have not impacted aquatic resources and, therefore, they would not be expected to do so under the No Action Alternative. However, even the very limited spot treatment of weeds using herbicides in Forest management as proposed under the No Action Alternative could inadvertently result in the chemical contamination of aquatic habitat through an accidental spill of an herbicide. Unlikely that state water quality standards related to cold water fisheries would be exceeded under the No Action Alternative	Each of the treatment methods can vary by weed species in effectiveness. The potential for adverse direct and indirect effects resulting from the proposed use of aerial and ground application treatments on the W-CNF is minimized by the numerous BMPs and mitigation measures that would be applied. Expanded use of chemicals would be accompanied by an increased potential risk to exceed water quality standards for coldwater fisheries under worst-case situations. The implementation of BMPs and mitigation measures would minimize the potential for chemical contamination from both ground-based and aerial herbicide applications.	No risk of herbicides affecting aquatic resources. No risk of herbicides affecting existing water quality standards for cold water fisheries or aquatic resources

Resource Area	No Action Alternative	Proposed Action	Alternative 3
Wildlife Resources	<p>All of the direct and indirect effects of weed infestation on wildlife habitat are especially problematic for TES species because these species generally occur at low densities and they have already suffered habitat loss, degradation, and fragmentation from a variety of other sources.</p> <p>Reduction of forage on big game winter range because of weed expansion would severely reduce the carrying capacity of the winter range. This would result in big game mortality, particularly during severe winters, when forage is not available in sufficient quantity to support winter herds. It would also place more stress on big game winter ranges that are not weed infested.</p>	<p>All of the TES/MIS species would benefit from the aggressive weed treatment and restoration of habitat (where appropriate) following treatment because of a reduction in the rate of loss of native plant community productivity from weed expansion. Analysis of herbicide toxicity also applies to TES/MIS species and indicates no adverse effects would result from herbicide application other than possibly brief displacement during application.</p> <p>At the Proposed Action's rate of treatment, the W-CNF would substantially slow and eventually reverse the rates of weed spread and degradation of big game winter range compared to the No Action Alternative. Potential effects on big game resulting from herbicide dermal exposure or ingestion were determined to be insignificant.</p>	<p>Because the actual acres of weed infestations occur over a much larger area, both target and non-target plants would certainly be grazed, degrading TES/MIS habitat values. Weed infestations are likely to continue to spread at a fairly rapid rate, degrading TES/MIS habitat values and further reducing populations of these species.</p> <p>The lack of substantial weed control and weed infestations are likely to continue to spread at a fairly rapid rate, further degrading big game winter range. This would result in increased big game mortality, particularly during severe winters, when forage is not available in sufficient quantity to support winter herds. It would also place more stress on big game winter ranges that are not weed infested. No potential effects on big game from herbicide dermal exposure or from ingestion would occur under this alternative.</p>
Native Vegetation and Biodiversity	<p>Ecosystem function would experience little to no impact from treatment of noxious weeds, but ecosystem function would be adversely affected by weed population expansion.</p> <p>As weed populations expand under the No Action Alternative, the hydrologic cycle would be disrupted.</p> <p>Weed expansion also has a detrimental effect on the food chain, which could impact the food web throughout the W-CNF. Food web stability, structure, and complexity can decline.</p> <p>Biodiversity and plant species richness for native vegetation and plant communities, wildlife habitat values, and sensitive species populations are likely to be severely compromised by the unchecked invasion of weeds. Likewise, these same vegetation resources can be compromised by unconstrained weed treatment efforts as well.</p> <p>Noxious weeds would continue to displace native vegetation at the same or higher rates than currently exist. This would mean continued declines in plant diversity and species richness across native plant communities. Declines in natural vegetative communities would result in declines in the quality of wildlife habitats as well.</p>	<p>Weeds would be aggressively eradicated, controlled, or contained using a variety of methods, and, where appropriate, treatment sites would be restored to native vegetation following treatment.</p> <p>Loss of native plant communities to weed infestations would decrease over time as weed populations are reduced and/or eliminated. As weed populations decline, the hydrologic cycle (where currently altered) would return to operating within normal parameters for the W-CNF.</p> <p>Food web support would be higher under the Proposed Action than with other alternatives because weed management is the most aggressive. It is unlikely that the combination of mechanical, biological, controlled grazing, and chemical treatments on 1,586 acres of weeds—where appropriate—would adversely affect native vegetation on the W-CNF to a great degree, although there is potentially more risk from direct effects of treatment under this alternative than Alternatives 1 or 3 simply because of the additional acres that would be treated and the number of acres treated by herbicide.</p>	<p>Direct and indirect effects on ecosystem function would be similar to those described for the Proposed Action, but would occur at a much slower pace because of no herbicide application.</p> <p>Indirect impacts on native plant diversity are likely to be greater under this alternative than the Proposed Action because weed expansion is more likely to occur without the use of herbicides and thereby impact diversity.</p>

Resource Area	No Action Alternative	Proposed Action	Alternative 3
Surface Water and Groundwater Quality	<p>The estimated concentration of herbicides in receiving waters, the ability to meet state water quality standards, and the potential effects on human health would not be expected to change from current conditions.</p> <p>However, even the very limited spot treatment of weeds using herbicides in Forest management as proposed under the No Action Alternative could inadvertently result in the chemical contamination of aquatic habitat through an accidental spill of an herbicide.</p>	<p>Weed treatment practices that would be used under the Proposed Action include the ground-based and aerial application of herbicides, mechanical weed treatment, biological controls, controlled livestock grazing, and combinations of these treatments. The likelihood of increased erosion, surface runoff, and sediment delivery to drainages—possibly resulting in water quality degradation—would decline as weed-infested areas are treated and reclaimed.</p> <p>The direct and indirect effects of chemical treatments under the Proposed Action would be expected to result in long-term improved streambank, riparian habitat conditions, and water quality. However, short-term disturbances may occur from vegetation removal and may have a slight negative effect on either water quality or aquatic resources in specific areas.</p>	<p>There would be no risk of herbicides contaminating the surface or groundwater resources of the W-CNF with this alternative..</p> <p>Because fewer treatment methods are available for treating weeds under Alternative 3, fewer acres would be treated annually, and it would take longer to achieve lesser levels of weed treatment success.</p> <p>It would take longer to realize some benefits to aquatic and riparian resources resulting from reduced erosion and sediment delivery at weed-infested sites to drainages.</p>
Fire/Fuels Management	<p>The area of noxious weed establishment and spread is expected to increase steadily over time under the No Action Alternative. As the infested acres steadily increase, the area available for prescribed or wildland fire use would steadily decrease.</p>	<p>Reduction in fuel loading on these 1,586 acres of weeds would help to reduce the potential for rapid fire spread on these lands. The emphasis on chemicals also would help prevent re-growth of weeds in treated areas, ensuring that the fuel load reduction is sustained.</p>	<p>This alternative would treat up to 949 acres of weeds annually about 637 acres less than the Proposed Action. Fine fuels in areas not having successful or delayed weed control would increase, followed by an increase in the danger of fire ignition and rapid fire spread.</p>
Recreation and Visual Resources	<p>Weed treatments can adversely impact recreation opportunities during summer when treatment would occur. Visitors may have their access to certain areas temporarily limited, and their ability to participate in and enjoy their desired recreation activity may be restricted. This may occur to a limited extent as a result of chemical, ground-based spot treatments on up to 111 acres per year</p> <p>Noxious weeds are expected to continue to grow and spread at a rate faster than they are removed, reducing or possibly eliminating access to those areas by creating physical barriers; noxious weeds also would affect recreationists' abilities to participate in and enjoy recreation activities on the W-CNF. This is considered an adverse effect on those recreationists and recreation opportunities.</p>	<p>The range of weed treatment options available and treatment of up to 1,586 acres of weeds each year is expected to be adequate for successfully managing existing and potential future weed introductions to W-CNF recreation areas.</p> <p>By improving access to areas used for recreation that are currently blocked by noxious weeds, recreationists' abilities to participate in and enjoy recreation activities on the W-CNF would improve.</p> <p>Potential impacts on scenic resources during weed management activities would be short-term in any given location and would include dust from some weed treatment activities (for example, some mechanical treatments) and the presence and activities of personnel, vehicles, and equipment.</p>	<p>Fewer types of weed treatments (no herbicide application), would only treat up to 949 acres of weeds per year (approximately 0.08 percent of the W-CNF), and would require a greater use of controlled livestock grazing, biological treatments, and mechanical treatment.</p> <p>Treatment-related effects on recreation and visual resources would generally be the same as for the Proposed Action, but at a lesser degree with fewer acres being treated and no aerial or ground-based spray equipment being used.</p>

Resource Area	No Action Alternative	Proposed Action	Alternative 3
Human Health and Safety	Acute worker or visitor exposures through inhalation, incidental ingestion, and dermal contact are possible, though potential for effects is low. It would be reasonable to expect that cumulative human health risk from herbicide applications and immediately adjacent areas would be very low to nonexistent.	Direct and indirect effects as indicated under the No Action Alternative heading also apply to this alternative, but would have a greater probability of occurring given the larger area to which herbicides would be applied.	No exposure pathways where workers or visitors could be exposed to herbicides.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

Alternative 2 is the environmentally preferred alternative because it allows for the use of all available tools for weed control. Consequently, it best protects native species and habitat diversity while having a minimal negative impact on other resources. Concerns of herbicide impacts on soil and water, aquatic and wildlife resources and humans have been minimized through effective mitigation measures and monitoring.

FINDINGS OF CONSISTENCY WITH LAWS, REGULATIONS AND POLICY

Numerous laws, regulations and agency directives require that my decision be consistent with their provisions. My decision is consistent with all laws, regulations and agency policy relevant to this project. The following discussion is intended to provide information on the regulations that apply to areas raised as issues or comments by the public or other agencies.

National Forest Noxious Weed Management Policy (FSM 2080-2083)

Alternative 2 is consistent with the National Forest Noxious Weed Management Policy, which requires district rangers to prevent the introduction and establishment of weeds, along with providing for the containment and suppression, of noxious weeds.

Endangered Species Act (ESA)

The Wasatch-Cache National Forest wildlife biologist, fisheries biologist, and botany coordinator evaluated Alternative 2 with regard to threatened and endangered animal and plant species. Findings are summarized in Chapter 4 of the EIS and in the Biological Assessment. The conclusions of the Biological Assessment were that Alternative 2 was not likely to adversely affect the threatened bald eagle (*Haliaeetus leucocephalus*) or the threatened Canada lynx (*Lynx canadensis*). Concurrence with these conclusions was received from US Fish and Wildlife Service on July 5, 2006.

Sensitive Species

Federal law and direction applicable to sensitive species include the National Forest Management Act and the Forest Service Manual (FSM) 2670. Those plants and animals, for which population viability is a concern, are periodically identified by the Regional Forester (EIS, Chapter 3). In making my decision, I have reviewed the analysis of projected effects on all sensitive species listed as occurring or possibly occurring on the Wasatch-Cache National Forest. Based on this discussion I have concluded that Alternative 2 will have no adverse impacts on sensitive species.

Clean Water Act

The measures outlined in Appendix A attached to this ROD which I have adopted as part of my decision, are designed to prevent contamination of surface and ground water. Based on these measures and the Soil and Ground Water, and the Water Quality analysis in Chapter 4, I have concluded that Alternative 2 is consistent with the Clean Water Act.

The National Forest Management Act of 1976 (PL-94-588)

Management activities are to be consistent with the Forest Plan [p16 USC 1604 (i)]. The Forest Plan guides management activities [36 CFR 219.1(b)]. Based on the discussion provided in Chapter 4, page 4-133 through 4-135 of the EIS, I have concluded that my decision is consistent with the 2003 Wasatch-Cache Revised Forest Plan. More specifically, the decision is consistent with the Goals, Desired Conditions, Forest-wide and management prescriptions standards and guidelines.

Environmental Justice and Civil Rights

Executive Order 12898, issued in 1994 ordered Federal Agencies to identify and address any adverse human health and environmental effects of agency programs that disproportionately impact minority and low-income populations. This project does not disproportionately impact any human populations. The Civil Rights Act of 1964 provides for nondiscrimination in voting, public accommodations, public facilities, public education, federally assisted programs, and equal employment opportunity. Title VI of the Act, Nondiscrimination in Federally Assisted Programs, as amended (42 U.S.C. 2000d through 2000d-6) prohibits discrimination based on race, color or national origin.

The National Historic Preservation Act of 1966

Alternative 2 would result in the lowest loss of biotic heritage resources. Chemical spraying and biological poses no impact to archeological or historic sites. Grazing and mechanical treatment (mostly hand pulling of weeds) options are limited to 76 acres. The Forest Archaeologist will review any mechanical or grazing treatments prior to implementation and determine if consultation with SHPO is needed. Mechanical and chemical treatments would have no effect on the qualities that make the sites eligible for the National Register of Historic Places.

Executive Order 13112, Invasive Species, February 3, 1999

This Executive Order directs Federal Agencies, whose actions may affect the status of invasive species, to (i) prevent the introduction of invasive species, (ii) detect and respond rapidly to, and control, populations of such species in a cost-effective and environmentally sound manner, as appropriations allow. My decision complies with this order.

IMPLEMENTATION AND APPEAL PROCEDURES

This decision is subject to administrative review (appeal) pursuant to 36 CFR Part 215. The appeal must be filed (regular mail, fax, email, hand-delivery, or express delivery) with the Appeal Deciding Officer at *Appeal Deciding Officer, Jack Troyer, Regional Forester, 324 25th Street, Ogden, Utah 84401 fax 801-625-5277*. The office business hours for those submitting hand-delivered appeals are: 8:00 a.m. to 4:00 p.m. Monday through Friday, excluding holidays. Electronic appeals must be submitted in a format such as an email message, plain text (.txt), rich text format (.rtf), and Word (.doc) to *appeals-intermtn-regional-office@fs.fed.us*. In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification.

Appeals, including attachments, must be filed within 45 days from the publication date of this notice in the Salt Lake Tribune, the newspaper of record. Attachments received after the 45 day appeal period will not be considered. The publication date in the Salt Lake Tribune, newspaper of record, is the exclusive means for calculating the time to file an appeal. Those wishing to appeal this decision should not rely upon dates or timeframe information provided by any other source.

Individuals or organizations who submitted written comments or otherwise expressed interest before the close of the comment period specified at 215.6 may appeal this decision. The notice of appeal must meet the appeal content requirements at 36 CFR 215.14.

If no appeal is received, implementation of this decision may occur on, but not before, five business days from the close of the appeal filing period. If an appeal is received, implementation may not occur for 15 days following the date of appeal disposition.

CONTACT FOR FURTHER INFORMATION

For further information regarding this project contact Mike Duncan, phone (801) 236-3415.



FAYE KRUEGER
Wasatch-Cache National Forest Supervisor

Date: 9-22-2006

APPENDIX A

Management Practices and Mitigation Measures

Mitigation measures specifically associated with all weed treatments, ground-based application of herbicides, and aerial application of herbicides would be implemented as integral parts of weed treatment. Four categories of mitigation measures were identified: 1) Buffer zones; 2) Operations; 3) Coordination; and 4) Chemical Application Protective Measures. Buffer zones are an important part of mitigation during herbicide use to minimize the risk of chemical drift or surface movement to non-target species and sensitive resources. Mitigation measures are listed in the following text.

Buffer Zones

The intent of these Buffer Zones is to prevent Sensitive Resources from lethal exposure.

1. No chemical herbicides will be used within a 100-foot radius of any potable water spring development.
2. No spraying of any herbicide will occur within 50 feet of open water when wind velocity exceeds 5 mph.
3. A 50-foot no-spray buffer zone will apply for broadcast or 'block' applications along all flowing water streams and ponded water bodies. A 15-foot, no-spray buffer will apply for spot applications along all flowing water streams and ponded water bodies. A 300-foot, no-spray buffer will apply around known amphibian breeding areas. Prior to spraying in sites with potential habitat, an ocular survey will be conducted for amphibian presence. Within this amphibian buffer zone, herbicide application will be limited to techniques that do not require sprays, such as wiping, wicking, or painting.
4. No spraying of picloram will occur within 100 feet of surface water when wind velocity exceeds 5 mph.
6. A 100-foot buffer will be employed around known populations of sensitive plants during broadcast (block) applications.
8. Prior to aerial herbicide application, buffer zones and treatment areas will be delineated (flagged and mapped) and reviewed with the pilot.
9. "No-fly" zones will be designated to avoid disturbance to active nesting raptors. (Follow U.S. Fish and Wildlife Service [FWS] Utah Raptor Guidelines).

Operations

1. Herbicides approved for use by the Forest Service (approved and registered by the EPA) will be used only according to label instructions; and will be applied by State certified applicators or under their direct supervision.
2. Clean all equipment before leaving the project site when operating in areas infested with weeds. Equipment coming from outside the W-CNF must be cleaned prior to entering the W-CNF. Vehicles may be inspected to ensure equipment is cleaned.
3. Herbicide applicators will be familiar with and carry a Herbicide Emergency Spill Plan to reduce the risk and potential severity of an accidental spill. The plan will identify methods to report and clean up spills should they occur. Herbicide applicators will also carry spill-containment equipment.
4. A detailed project operation plan will be required prior to initiating a controlled livestock grazing treatment.

5. Specific label directions, recommendations, and guidelines will be followed to reduce drift potential (such as nozzle size and pressure, additives, and wind speed).
6. No spraying of any herbicide will occur when wind velocity exceeds 10 mph, as per State Department of Agriculture standards.
7. No more than one application of picloram in a treatment area will occur per year.
8. Vehicle-mounted boom sprayers will travel in an upstream direction to dilute over sprays, providing traffic safety is not jeopardized.
9. All aviation activities will be in accordance with *FSM 5700* (Aviation Management), *FSM 2150* (Pesticide Use Management and Coordination), *FSH 5709.16* (Flight Operations Handbook), *FSH 2109.14, 50* (Quality Control Monitoring and Post-Treatment Evaluation), and the W-CNF Aviation Plan. A Project Aviation Safety Plan will be developed prior to aerial spray applications.
10. Use spray detection cards in select areas within buffer zones near sensitive resources (streams, campgrounds) to monitor drift.
11. Spraying operations will not occur if precipitation is expected within 24 hours following the proposed application.

Coordination

1. When scheduling treatment activities, consider the seasonal harvesting periods of wildlife, fish, and plants to accommodate the needs of the public and Tribes.
2. Herbicide applications will be coordinated with permit holders within the project areas, as appropriate.
3. Coordinate with wildlife biologist before applying herbicides on big game winter range to minimize impacts to winter forage.
4. Adjacent campgrounds within the project area will be closed during the application period.
5. Adjacent landowners and affected permit holders will be notified in advance of aerial herbicide applications.
6. Provide public notice at least 7 days in advance of planned herbicide treatments by posting notices on developed recreation site bulletin boards in the area.

Chemical Application Protective Measures

1. Chemical Application (Including aerial and ground-based application of chemicals)
 - a. Complete a Pesticide Use Proposal (PUP) on a yearly basis. Complete a Pesticide Application Record (PAR) daily, or as required. Identify general treatment areas, methods, and dates, and make this information available at the Ranger District offices.
 - b. Calibrate equipment often enough to ensure the application of the proper amount of herbicide.
 - c. Follow label directions and guidelines to reduce drift potential (nozzle size and pressure, additives).
 - d. Use dyes as necessary to ensure uniform coverage. Post signs at visible sites (campgrounds, trailheads, road intersections) to notify the public of herbicide application in the area.

- e. Apply all chemicals in accordance with EPA registration label requirements and restrictions, and applicable laws and policies. Follow FSH 6709 and 2109, and FSM 2150 guidelines.
- f. Prepare a Herbicide Emergency Spill Plan that includes methods to report and clean up spills. Applicators will be required to be familiar with the plan and carry spill-containment and clean-up equipment.
- g. No chemical would be applied directly to sensitive plant species during spot treatments, and a 100-foot buffer would be maintained around known sensitive plant populations during broadcast treatments.
- h. Individuals who exhibit idiosyncratic responses, such as hypersensitivity to natural and synthetic compounds, will not be permitted to work on herbicide spray crews.

2. Aerial Application (In addition to the chemical application requirements listed previously)

- a. Before spraying, an aerial or on-the-ground inspection will be made to ensure no one is in the area.
- b. No aerial spraying shall occur within a 300-foot buffer zone from developed campgrounds, private residences, sensitive plant populations, raptor nest sites, potable water sources, and all streams, lakes, ponds, and wetlands. Delineate (flag and map) and review buffer zones and treatment areas with the pilot.
- c. Herbicide application shall occur when wind speed will not result in drift and effects to sensitive resources. Spray detection cards on select areas within buffer zones near sensitive resources (such as streams, campgrounds) may be used to monitor drift.
- d. No aerial herbicide applications shall be allowed within watersheds that supply a municipal water source.

3. Procedures for Mixing, Loading, and Disposal of Herbicides

- a. All mixing of herbicides will occur at least 100 feet from surface waters or well heads.
- b. Applicators will mix only those quantities of herbicides that can be reasonably used in a day.
- c. Mixers will wear a hard hat, goggles or face shield, rubber gloves, rubber boots, and protective overalls during mixing.
- d. All empty containers will be triple rinsed and disposed of by spraying near the treatment site at rates that do not exceed those on the treatment site.
- e. All unused herbicides will be stored in a locked building in accordance with herbicide storage regulations contained in FSM 2109.14.
- f. All empty and rinsed herbicide containers will be punctured and either burned or disposed of in a sanitary landfill.
- g. Any additional herbicide label requirements will be strictly followed during the mixing, loading, and disposal of herbicides.

APPENDIX B

Standards and Guidelines for Watershed, Riparian, and Aquatic Habitat Health

- (S2) Apply runoff controls during project implementation to prevent pollutants including fuels, sediment, oils, from reaching surface and groundwater.
- (S4) Place new sources of chemical and pathogenic pollutants where such pollutants will not reach surface or groundwater.
- (S7) Allow management activities to result in no less than 85 percent of potential ground cover for each vegetation cover type. (See RFP Appendix VII for potential ground cover values by cover type).
- (G3) Proposed actions analyzed under the National Environmental Policy Act (NEPA) should adhere to the State Nonpoint Source Management Plan to best achieve consistency with both Sections 313 and 319 of the Federal Water Pollution Control Act.
- (G4) At the end of an activity, allow no more than 15 percent of an activity area (defined in RFP Glossary) to have detrimental soil displacement, puddling, compaction and/or to be severely burned.
- (G7) Manage Class 1 Riparian Area Greenlines for 70 percent or more late-seral vegetation communities as described in Intermountain Region Integrated Riparian Evaluation Guide (Forest Service 1992). Manage Class 2 Riparian Area Greenlines for 60 percent or more late-seral vegetation communities. Manage Class 3 Riparian Area Greenlines for 40 percent or more late-seral vegetation communities.

Standards and Guidelines for Biodiversity and Viability/Terrestrial and Aquatic Habitats

- (S8) In Lynx Analysis Units (LAUs) with current habitat at 30 percent or more in unsuitable condition (defined in RFP Glossary), allow no vegetation management activities that would result in a further increase of unsuitable conditions.
- (S12) Prohibit forest vegetation treatments within active northern goshawk nest areas (approximately 30 acres) during the active nesting period.
- (S14) Allow no net decrease in areal extent of tall forb communities.
- (G15) In goshawk habitat, design all management activities to maintain, restore, or protect desired goshawk and goshawk prey habitats, including foraging, nesting and movement.
- (G18) In LAUs, design all management activities to maintain, restore, or protect desired lynx and lynx prey habitats, including foraging, denning and movement.
- (G21) For projects that may affect Forest Service sensitive species, develop conservation measures and strategies to maintain, improve and/or minimize impacts to species and their habitats. Short-term deviations may be allowed as long as the action maintains or improves the habitat in the long term.
- (G22) Use native plant species, preferably from genetically local sources (harvesting seed from a project area's native species prior to project implementation), in revegetation efforts to the extent practicable. If no native seed of suitable origin is available, then certified weed free non-persistent non-natives may be used.

(G23) Avoid actions on the Forest that reduce the viability of any population of plant species classified as threatened, endangered, sensitive or recommended sensitive. Use management actions to protect habitats of plant species at risk from adverse modification or destruction. For species that naturally occur in sites with some disturbance, maintain the appropriate level of disturbance.

(G24) Management activities that negatively affect pollinators (for example, insecticide, herbicide application, and prescribed burns) should not be conducted during the flowering period of any known threatened, endangered, and sensitive plant populations in the application area. An exception to this guideline is the application of *Bacillus thuringiensis*.

(G25) Integrated weed management should be used to maintain or restore habitats for threatened, endangered, proposed, and sensitive plants and other native species of concern where they are threatened by noxious weeds or non-native plants. When treating noxious weeds, comply with policy in the Intermountain Region's *Forest Service Manual 2080, Supplement #R4 2000-2001-1* (RFP Appendix III [Appendix D in this document]).

(G28) Discourage introduction of non-indigenous plant and animal species to national forest lands.

Standards for Heritage Resources Management

(S32) Review undertakings that may affect cultural resources to identify potential impacts. Compliance with Sections 106 and 110 of the National Historic Preservation Act shall be completed before the responsible agency official signs the project decision document.

Wilderness Standards and Guidelines

High Uintas Wilderness:

MA-01-013 (G) Maintain natural vegetative composition and diversity.

MA-01-015 (G) Use Minimal Tool Analysis to control noxious weeds to protect wilderness and downstream values.

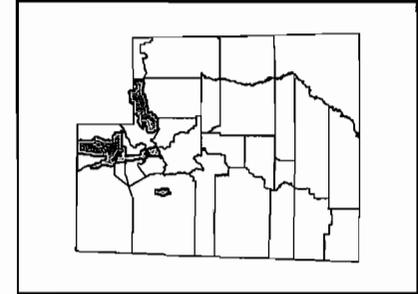
MA-01-070 (G) Use Minimum Tool Analysis to determine most appropriate methods for implementation of projects and proposals. Minimum tool may include mechanized and motorized means.

Mt. Naomi, Wellsville Mountain, Mt. Olympus, Twin Peaks, Lone Peak, and Deseret Peak Wildernesses:

There are no standards or guidelines that specifically relate to noxious weed treatment in these areas.



Map

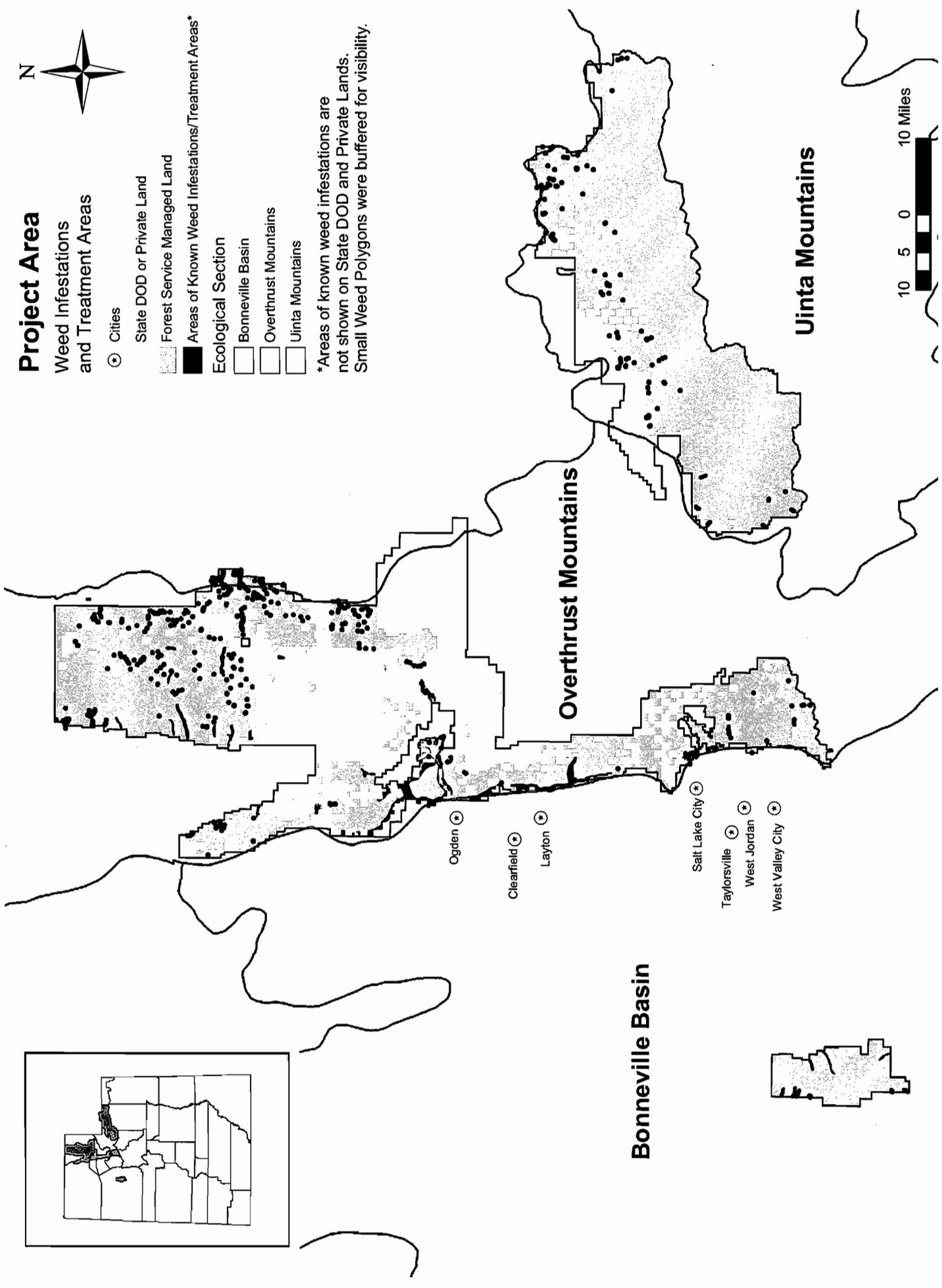


Project Area

Weed Infestations and Treatment Areas

- ⊙ Cities
 - State DOD or Private Land
 - ▨ Forest Service Managed Land
 - Areas of Known Weed Infestations/Treatment Areas*
- Ecological Section
- Bonneville Basin
 - Overthrust Mountains
 - Uinta Mountains

*Areas of known weed infestations are not shown on State DOD and Private Lands. Small Weed Polygons were buffered for visibility.



Bonneville Basin

Overthrust Mountains

Uinta Mountains

Ogden ⊙

Clearfield ⊙

Layton ⊙

Salt Lake City ⊙

Taylorsville ⊙

West Jordan ⊙

West Valley City ⊙