Chapter 1
Purpose and Need

Chapter 1 PURPOSE AND NEED FOR ACTION

Changes Between Draft and Final:

Minor editing occurred in Chapter 1.

1.1 Background

Invasive Plants are defined here as "non-native plants whose introduction does or is likely to cause economic or environmental harm or harm to human health." (Executive Order 13112). Invasive plants are distinguished from other non-native plants by their ability to spread (invade) into native ecosystems.

The Responsible Officials of this EIS propose to treat invasive plants located across land within the nearly 2.5 million acres which make up the Deschutes and Ochoco National Forests and the Crooked River National Grassland (Forests). The 289 Project Area Units are located in Deschutes, Jefferson, Crook, Klamath, Lake, Wheeler, and Grant Counties in Oregon, and encompass approximately 52,000 acres of National Forest System lands. Within these units are 1,892 known and mapped invasive plant sites on the Forests and Grassland covering about 14,500 acres. However, the spread of invasive plants is mostly unpredictable and actual locations of target species are likely to change over time.

Invasive plants are currently damaging the ecological integrity of lands within and outside these administrative units. Invasive plants are currently spreading at a rate of 8 – 12% annually (USFS 2005a) and are moving across and between National Forest System and other lands. The R6 2005 ROD (USFS 2005b) replaced management which was guided by the 1988 ROD and 1989 Mediated Agreement (USFS 1988a). The R6 2005 ROD standards are intended to increase treatment options and improve prevention across the Forests.

The 1988 ROD specified and limited the tools available for the treatment of competing and unwanted vegetation, but did not provide administrative mechanisms for adapting new technologies. Herbicides approved for use by the Forest Service at that time were developed before 1980. Since then new herbicides have been developed and registered for use that have advantages for controlling invasive plants, such as greater selectivity, less harm to desired vegetation, reduced application rates, and lower toxicity to animals and people.

The Proposed Action was developed to utilize the new tools and management techniques advanced in *Pacific Northwest Region Invasive Plant Program, Preventing and Managing Invasive Plants*, Final EIS (USFS 2005a), and Record of Decision (USFS 2005b) to address the many new sites that have been inventoried in the years since the last Forest-wide invasive plant control projects were completed in 1998.

The Chief of the Forest Service has identified invasive species as one of the Four Threats to the Nation's Forests and Grasslands:

"These are species that evolved in one place and wound up in another, where the ecological controls they evolved with are missing. They take advantage of their new surroundings to crowd out or kill off native species, destroying habitat for native wildlife. Where cheatgrass takes over, for example, the range loses forage value for deer and elk. We are losing our precious heritage—at a cost that is in the billions." Dale Bosworth, 2004.

For more information on the Forest Service Invasive Species Program, see http://www.fs.fed.us/invasivespecies/index.shtml.

As directed by the Forest Service Manual 2080, the Forests are applying the principles of Integrated Weed Management (IWM). IWM is an interdisciplinary pest management approach by which one selects and applies a combination of management techniques that, together, control a particular invasive plant species or infestation efficiently and effectively, with minimum adverse impacts to non-target organisms.

This EIS incorporates by reference (as per 40 CFR 1502.21) the project record, including specialist reports and other technical documentation used to support the analysis and conclusions of this EIS. Analysis was completed for botany, water quality, fisheries, soils, wildlife, cost effectiveness, human health, heritage resources, recreation, scenery, and range. Separate biological evaluations and/or biological assessments were completed for botanical species, aquatic species, and terrestrial wildlife species as part of the consultation process with the National Marine Fisheries Service and the US Fish & Wildlife Service. Biological Opinions will be issued for aquatic species prior to making a decision. The project record is located at the Deschutes National Forest headquarters in Bend, Oregon.

1.2 Desired Future Condition

By meeting the Purpose and Need for this project, the Forests and Grassland should be able to achieve the desired future condition integrated into the Deschutes and Ochoco Land and Resource Management Plans through implementation of the Pacific Northwest Region Invasive Plant Program ROD (USFS 2005b) or "R6 ROD." The following is the desired future condition statement:

In National Forest lands across Region Six, healthy native plant communities remain diverse and resilient, and damaged ecosystems are being restored. High quality habitat is provided for native organisms throughout the region. Invasive plants do not jeopardize the ability of the National Forests to provide goods and services communities expect. The need for invasive plant treatment is reduced due to the effectiveness and habitual nature of preventative actions, and the success of restoration efforts.

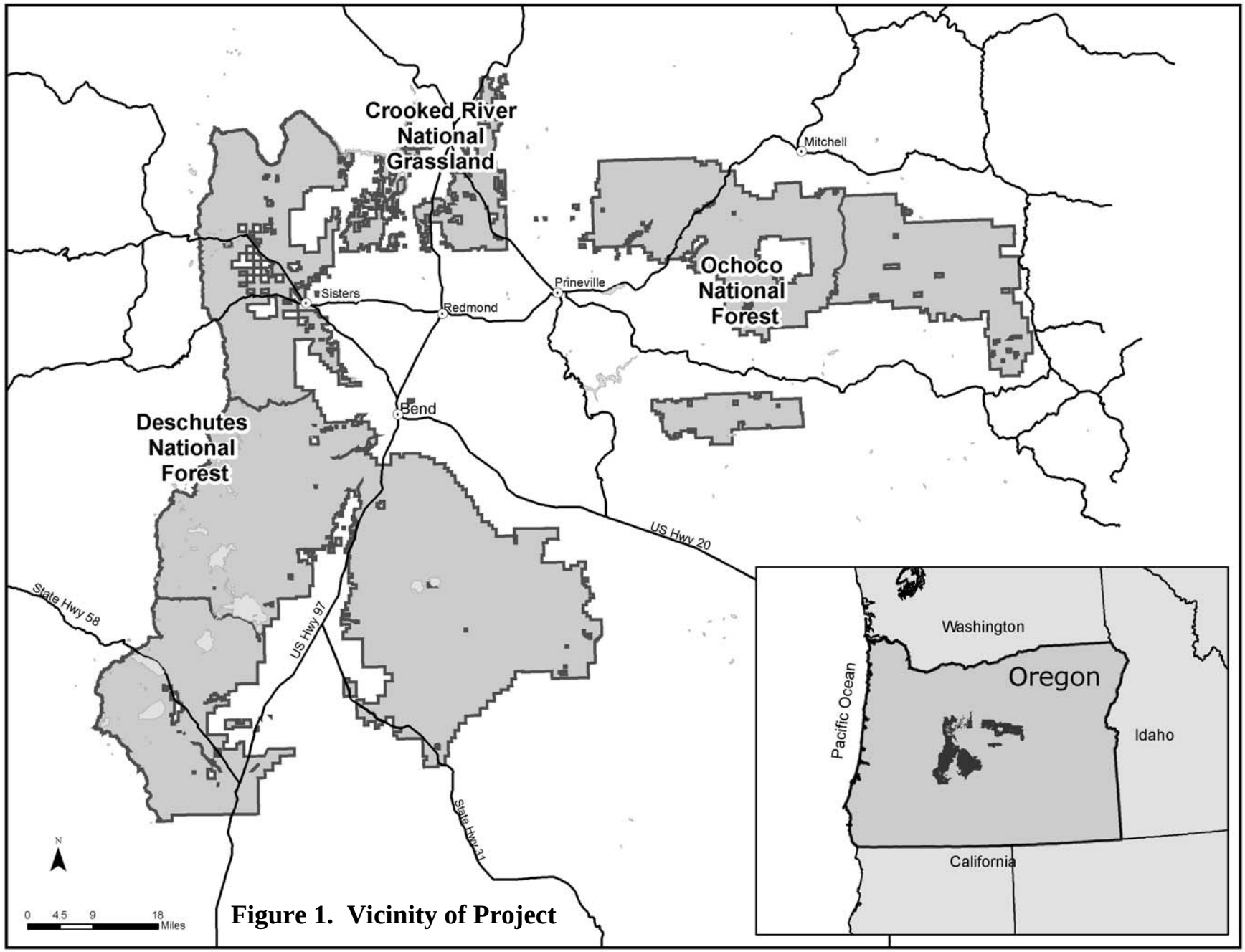

Figure 1. Vicinity of Project

1.3 Purpose and Need

The purpose of this project is to control invasive plants in a cost-effective manner that complies with environmental standards. The Forest Service is responding to the underlying need for timely suppression, containment, control, and/or eradication of invasive plants, including those that are currently known and those discovered in the future. The focus of this project-level EIS is on the part of the invasive plant program related to *treatment* of invasive plants.

This project will address the problems posed by invasive plants that compromise our ability to manage native ecosystems across the three-million acre planning area of the Deschutes and Ochoco National Forests and Crooked River National Grassland ("Forests"). This EIS tiers to analysis in the *R6 Invasive Plant Program Final Environmental Impact Statement* (USFS 2005a) and follows new management direction and tools made available for use in Region 6 with the Record of Decision (ROD). The R6 ROD provided an updated approach to invasive plant management, including standards for the use of new herbicides. This EIS will consider the new herbicides and methods of treatment allowed in the region. According to current inventories on the Forests, there are at least 1,892 individual locations of invasive, non-native plants.

The Forests are currently authorized to treat about 2% of known sites, and have gained experience with many of the invasive plant species now found in the planning area. Despite the local successes in the control of some sites (see, for example, page 94), invasive plants continue to increase and occupy new areas.

There is a need to eradicate, control, or contain the invasive plants at identified sites because these infestations displace native plants; harm fish and wildlife habitat; and degrade natural areas on the Forests. Invasive plant sites that occur along roads are readily spread into other areas by vehicles. Infestations occur in or near special areas such as Newberry National Volcanic Monument, along the banks of the Metolius River, and in the Black Canyon Wilderness. The native plant communities and function at these sites needs to be restored.

There is also a need for protection from future establishment and spread from these sites. Existing infestations have a high potential to expand onto neighboring lands, and further degrade forests and grassland because infested areas represent potential seed sources. Without action, invasive plant populations will continue to grow and spread, further compromising our ability to manage for healthy functioning ecosystems.

In addition, the Forest Service needs the flexibility to treat expanded and/or newly identified invasive plant sites in a timely manner. To facilitate this flexibility, there is a need to provide a mechanism to allow quick detection and rapid response to changing invasive plant infestations. Weed infestations change in density and location; even the most complete inventories will never identify all infested areas. New infestations and new species are usually high priority for treatment. Newly approved herbicides may become available that are better suited to an application other than those considered in this EIS. The Forest Service needs the ability to treat expanded and/or newly identified invasive plant sites in a cost-effective manner that complies with environmental policy.

1.4 Proposed Action

The Forest Service has a Proposed Action when the agency agrees to move forward with a proposal to authorize, recommend, or implement an action (CFR 1508.23). The Proposed Action is presented in detail in this FEIS Chapter 2.

The Proposed Action Alternative would implement invasive plant treatments across 1,892 weed sites on the Deschutes and Ochoco National Forests and Crooked River National Grassland. Currently the inventoried weed sites span about 14,547 acres. Treatments would span about the next 15 years. Invasive plant sites were grouped spatially into project area units. Each unit is expanded

for potential spread or to account for uninventoried weeds. These project area units total 52,015 acres. Table 1 identifies the number of invasive plant sites and acres of project area units that are within each administrative unit of the Forests and Grassland.

Table 1. Project Area Unit Acres and Invasive Plant Sites by Administrative Unit. See Section 3.3 for a characterization of the invasive plant sites across the Forests.

District	Number of Inventoried Invasive Plant Sites	Acres of Invasive Plant Sites*	Project Area Unit Acres
Bend/Fort Rock Ranger District	350	1,604	12,469
Crescent Ranger District	49	1,080	1,892
Sisters Ranger District	272	4,320	10,579
Total Deschutes National Forest	**671**	**7,004**	**24,940**
Crooked River National Grassland	153	6,061	11,522
Lookout Mountain Ranger District	713	487	8,680
Paulina Ranger District	355	995	6,873
Total Ochoco National Forest	**1,221**	**7,543**	**27,075**
Combined Total	**1,892 Weed sites**	**14,547 acres**	**52,015 acres**

*Acres of invasive plant sites is greater than the actual area infested because the mapping takes in areas of sites that could be sparsely populated with invasive plants or patchy.

Under the Proposed Action, invasive plants on National Forest System lands would be treated with a combination of manual, mechanical, biological, and herbicide methods, and restoration. Treatments may include a combination of methods such as hand pulling, cutting, mowing, weed whacking, tilling, assorted biological controls, selective/hand herbicide applications, spot herbicide spraying, and broadcast herbicide spraying.

Site specific treatment prescriptions would be implemented to meet control objectives (suppress, contain, control, eradicate), the values at risk from invasive species, the biology of particular invasive plant species, proximity to water and other sensitive resources, and the size of the infestation. These factors may change over time. Appendix A displays the control objectives associated with mapped infestations. A variety of invasive plant species would be treated (See Table 9 for those currently inventoried).

Treatment of the approximately 14,547 acres of current infestations would span the next 1 to 15 years, approximately. Infested areas would be treated with an initial prescription, and retreated in subsequent years, depending on the results, until control objectives are met. Herbicide treatments are part of the initial prescription for most sites; however, use of herbicides would be expected to decline in subsequent entries.

The Proposed Action would also allow for treatment of infestations that are not currently inventoried through an early detection/rapid response (EDRR) strategy and annual implementation planning. Ongoing inventories would confirm the location of specific invasive plants and monitoring would evaluate the effectiveness of past treatments. Treatment prescriptions would be strict enough to ensure that adverse effects are minimized, and remain within the scope of effects analyzed in this

EIS, while flexible enough to adapt to changing conditions over time. Se pages 38-39 for more on EDRR.

A connected action of this Proposed Action is the restoration of treatment sites with desirable vegetation to prevent the re-infestation of those sites. The restoration objectives may be passive (allowing plants on site to fill in a treated area) or active restoration (including revegetation from existing vegetation, or any combination of seeding, planting, and mulching). The majority of sites on the Forests will not require active restoration, because invasive plants have not yet displaced native vegetation to the point that passive restoration cannot be accomplished. See pages 37-38 and Appendix E for more on restoration/revegetation.

This project does *not* include herbicide application directly to water, use of any pesticides other than herbicides, treatment of aquatic invasive plants (floating and submerged), or treatment of native vegetation.

1.5 Management Direction

The Federal Noxious Weed Act of 1974, as amended (7 U.S.C 2801 et seq.) requires cooperation with State, local, and other Federal agencies in the application and enforcement of all laws and regulations relating to management and control of noxious weeds (a summary of this act can be viewed at: http://ipl.unm.edu/cwl/fedbook/fedweed.html). This Act directs the Secretary of Agriculture to develop and coordinate a management program for control of undesirable plants which are noxious, harmful, injurious, poisonous, or toxic on Federal lands under the agency's jurisdiction, to establish and adequately fund the program, to complete and implement cooperative agreements and/or memorandums, and to establish Integrated Weed Management to control or contain species identified and targeted under cooperative agreements and/or memorandums.

U.S. Forest Service Manual 2080 directs the Forest Service to use an integrated weed management approach to control and contain the spread of noxious weeds on National Forest System (NFS) lands and from NFS lands to adjacent lands (USFS 1995a).

Integrated weed management is an interdisciplinary pest management approach by which one selects and applies a combination of management techniques that, together, control a particular invasive plant species or infestation efficiently and effectively, with minimum adverse impacts to non-target organisms. Integrated weed management is typically species- and site-specific, and includes education, preventive measures, early detection of infestations through inventory and mapping, and combinations of treatment methods as needed to effectively control the target species.

Executive Order 13112 (1999) directs federal agencies to reduce the spread of invasive plants. Invasive species have been identified by the current Chief of the Forest Service as one of the four threats to ecosystem health (see p. 7).

In 1998, the U.S. Forest Service developed a noxious weed strategy for noxious weeds and nonnative plants that provides short- and long-term emphasis and action items in five areas of Integrated Weed Management: prevention and education; control; inventory, mapping, and monitoring; research; and administration and planning (USFS 1998c).

The Forest Service Guide to Noxious Weed Prevention Practices provides management guidance in the form of goals along with prevention practices (USFS 2001a). Forest Service policy identifies prevention of the introduction and establishment of noxious weed infestations as an agency objective. This Guide provides a comprehensive directory of weed prevention practices for use in Forest Service planning and wildland resource management activities and operations. Based on this guide, the Forests prepared *Deschutes and Ochoco National Forests and Crooked River National Grassland Invasive Species Prevention Practices*, included here as Appendix G.

In October 2004, the Chief of the Forest Service released a National Strategy and Implementation Plan for Invasive Plant Species Management – part of the President's Healthy Forest Initiative. It focuses on four key elements: preventing invasive species before they arrive; finding new infestations before they spread and become established; containing and reducing existing infestations; and rehabilitating and restoring native habitats and ecosystems (see www.fs.fed.us/foresthealth/publications/Invasive_Species).

This EIS process and documentation has been completed according to direction contained in the National Forest Management Act (NFMA), the National Environmental Policy Act (NEPA), and the Council on Environmental Quality regulations, Clean Water Act, and the Endangered Species Act. The project is consistent with all applicable Federal, State and local laws. This EIS tiers to the Deschutes National Forest Land and Resource Management Plan Final Environmental Impact Statement and Record of Decision (1990) and incorporates by reference the accompanying Land and Resource Management Plan (LRMP, also called the Forest Plan) (1990), as amended by the Northwest Forest Plan (1994) where appropriate, and INFISH/PACFISH (1995) where appropriate; the Ochoco National Forest and Crooked River National Grassland Final Environmental Impact Statement and Record of Decision, (1989) and incorporates by reference the accompanying Land and Resource Management Plan (LRMP, also called the Forest Plan) (1989), as amended by INFISH (1995) and PACFISH (1995).

The Inland Native Fish Strategy (INFISH) was intended to be interim direction to protect habitat and populations of resident native fish and to provide for options for management. The INFISH delineated RHCAs where riparian-dependent resources receive primary emphasis. These RHCAs include traditional riparian corridors, wetlands, intermittent streams, and other areas that help maintain the integrity of aquatic ecosystems.

PACFISH (Pacific Fish) was intended for the implementation of interim strategies for managing anadromous fish-producing watersheds in eastern Oregon and Washington, Idaho, and portions of California.

1.5.1 Regional Policy and Forest Plan Direction

To build on the National Forest Service Strategy for Noxious Weed and Nonnative plants, the Pacific Northwest (PNW) Region issued a strategy for National Forests in Oregon and Washington that identifies priority actions for all organization levels (USFS 1999f).

In 2004, the Forest Service PNW Regional Office issued a Policy for Invasive Plant Prevention that directs National Forests and the National Scenic Area to complete environmental analysis for treating invasive plants (as funding allows), conduct timely treatment of priority infestations, develop invasive plant prevention practices, analyze the potential risks of ground-disturbing activities on the introduction and spread of invasive plants and design and incorporate prevention measures for these activities, and document this analysis in project files (USFS 2004c).

Invasive plant management direction contained in Land and Resource Management Plans of the Deschutes and Ochoco National Forests and Crooked River National Grassland has been amended by the recently published *Pacific Northwest Region Invasive Plant Program – Preventing and Managing Invasive Plants* Record of Decision (USFS 2005b). This site-specific FEIS follows new Standards and Guidelines as outlined in the regional document. The regional Record of Decision also releases the USDA Forest Service from direction provided by the 1988 Environmental Impact Statement and 1988 Record of Decision for Competing and Unwanted Vegetation, and the associated 1989 Mediated Agreement for invasive plant management.[2] The 2005 R6 ROD added

[2] *The Pacific Northwest Region Invasive Plant Program – Preventing and Managing Invasive Plants Record of Decision (2005)* applies to invasive plant management and prevention only, and does not affect other parts of the 1988 Record of Decision and 1989 Mediated Agreement that apply to unwanted native vegetation management.

goals, objectives, and standards for invasive plant management by amending the Deschutes and Ochoco National Forests' LRMPs.

These goals and objectives include:

Goal 1 - Protect ecosystems from the impacts of invasive plants through an integrated approach that emphasizes prevention, early detection, and early treatment. All employees and users of the National Forest recognize that they play an important role in preventing and detecting invasive plants.

Objective 1.1	Implement appropriate invasive plant prevention practices to help reduce the introduction, establishment and spread of invasive plants associated with management actions and land use activities.
Objective 1.2	Educate the workforce and the public to help identify, report, and prevent invasive plants
Objective 1.3	Detect new infestations of invasive plants promptly by creating and maintaining complete, up-to-date inventories of infested areas, and proactively identifying and inspecting susceptible areas not infested with invasive plants.
Objective 1.4	Use an integrated approach to treating areas infested with invasive plants. Utilize a combination of available tools including manual, cultural, mechanical, herbicides, biological control.
Objective 1.5	Control new invasive plant infestations promptly, suppress or contain expansion of infestations where control is not practical, conduct follow up inspection of treated sites to prevent reestablishment.

Goal 2 - Minimize the creation of conditions that favor invasive plant introduction, establishment and spread during land management actions and land use activities. Continually review and adjust land management practices to help reduce the creation of conditions that favor invasive plant communities.

Objective 2.1	Reduce soil disturbance while achieving project objectives through timber harvest, fuel treatments, and other activities that potentially produce large amounts of bare ground
Objective 2.2	Retain native vegetation consistent with site capability and integrated resource management objectives to suppress invasive plants and prevent their establishment and growth
Objective 2.3	Reduce the introduction, establishment and spread of invasive plants during fire suppression and fire rehabilitation activities by minimizing the conditions that promote invasive plant germination and establishment.
Objective 2.4	Incorporate invasive plant prevention as an important consideration in all recreational land use and access decisions. Use Forest-level Access and Travel Management planning to manage both on-highway and off-highway travel and travel routes to reduce the introduction, establishment and spread of invasive plants.

Objective 2.5 Place greater emphasis on managing previously "unmanaged recreation" (OHVs, dispersed recreation, etc.) to help reduce creation of soil conditions that favor invasive plants, and reduce transport of invasive plant seeds and propagules.

Goal 3 - Protect the health of people who work, visit, or live in or near National Forests, while effectively treating invasive plants. Identify, avoid, or mitigate potential human health effects from invasive plants and treatments.

Objective 3.1 Avoid or minimize public exposure to herbicides, fertilizer, and smoke

Objective 3.2 Reduce reliance on herbicide use over time in Region Six

Goal 4 – Implement invasive plant treatment strategies that protect sensitive ecosystem components, and maintain biological diversity and function within ecosystems. Reduce loss or degradation of native habitat from invasive plants while minimizing adverse effects from treatment projects.

Objective 4.1 Maintain water quality while implementing invasive plant treatments.

Objective 4.2 Protect non-target plants and animals from negative effects of both invasive plants and applied herbicides. Where herbicide treatment of invasive plants is necessary within the riparian zone, select treatment methods and chemicals so that herbicide application is consistent with riparian management direction, contained in Pacfish, Infish, and the Aquatic Conservation Strategies of the Northwest Forest Plan.

Objective 4.3 Protect threatened, endangered, and sensitive species habitat threatened by invasive plants. Design treatment projects to protect threatened, endangered, and sensitive species and maintain species viability.

Invasive Plant Treatment Standards and Guidelines added to the LRMPs from the R6 Invasive Plant Program ROD:

#11 Prioritize infestations of invasive plants for treatment at the landscape, watershed or larger multiple forest/multiple owner scale.

#12 Develop a long-term site strategy for restoring/revegetating invasive plant sites prior to treatment.

#13 Native plant materials are the first choice in revegetation for restoration and rehabilitation where timely natural regeneration of the native plant community is not likely to occur. Non-native, non-invasive plant species may be used in any of the following situations: 1) when needed in emergency conditions to protect basic resource values (e.g., soil stability, water quality and to help prevent the establishment of invasive species), 2) as an interim, non-persistent measure designed to aid in the re-establishment of native plants, 3) if native plant materials are not available, or 4) in permanently altered plant communities. Under no circumstances will non-native invasive plant species be used for revegetation.

#14 Use only APHIS and State-approved biological control agents. Agents demonstrated to have direct negative impacts on non-target organisms would not be released.

#15 Application of any herbicides to treat invasive plants will be performed or directly supervised by a State or Federally licensed applicator.

All treatment projects that involve the use of herbicides will develop and implement herbicide transportation and handling safety plan.

#16 Select from herbicide formulations containing one or more of the following 10 active ingredients: chlorsulfuron, clopyralid, glyphosate, imazapic, imazapyr, metsulfuron methyl, picloram, sethoxydim, sulfometuron methyl, and triclopyr. Mixtures of herbicide formulations containing 3 or less of these active ingredients may be applied where the sum of all individual Hazard Quotients for the relevant application scenarios is less than 1.0.

All herbicide application methods are allowed including wicking, wiping, injection, spot, broadcast and aerial, as permitted by the product label. Chlorsulfuron, metsulfuron methyl, and sulfometuron methyl will not be applied aerially. The use of triclopyr is limited to selective application techniques only (e.g., spot spraying, wiping, basal bark, cut stump, injection).

Additional herbicides and herbicide mixtures may be added in the future at either the Forest Plan or project level through appropriate risk analysis and NEPA/ESA procedures.

#18 Use only adjuvants (e.g. surfactants, dyes) and inert ingredients reviewed in Forest Service hazard and risk assessment documents such as SERA, 1997a, 1997b; Bakke, 2003.

#19 To minimize or eliminate direct or indirect negative effects to non-target plants, terrestrial animals, water quality and aquatic biota (including amphibians) from the application of herbicide, use site-specific soil characteristics, proximity to surface water and local water table depth to determine herbicide formulation, size of buffers needed, if any, and application method and timing. Consider herbicides registered for aquatic use where herbicide is likely to be delivered to surface waters.

#20 Design invasive plant treatments to minimize or eliminate adverse effects to species and critical habitats proposed and/or listed under the Endangered Species Act. This may involve surveying for listed or proposed plants prior to implementing actions within unsurveyed habitat if the action has a reasonable potential to adversely affect the plant species. Use site-specific project design (e.g. application rate and method, timing, wind speed and direction, nozzle type and size, buffers, etc.) to mitigate the potential for adverse disturbance and/or contaminant exposure.

#21 Provide a minimum buffer of 300 feet for aerial application of herbicides near developed campgrounds, recreation residences and private land (unless otherwise authorized by adjacent private landowners).

#22 Prohibit aerial application of herbicides within legally designated municipal watersheds.

#23 Prior to implementation of herbicide treatment projects, National Forest system staff will ensure timely public notification. Treatment areas will be posted to inform the public and forest workers of herbicide application dates and herbicides used. If requested, individuals may be notified in advance of spray dates.

Additional Forest Plan Standards and Guidelines that apply to this project can be reviewed in Appendix C. This direction is contained in the Forest Plans:

- Deschutes National Forest Land and Resource Management Plan (1990)
- Ochoco National Forest & Crooked River National Grassland Land and Resource Management Plan (1989)
- Forest Plan Amendments from the Ochoco National Forest and Crooked River National Grassland Weed Environmental Assessment and Decision Notice (1995)

The Forest Plan Management Areas are listed in the following table.

Table 2. Management Areas of the Deschutes and Ochoco NF and Crooked River National Grassland where Mapped Invasive Plant Sites or Project Area Units occur.

Deschutes National Forest	Ochoco National Forest
Deer Habitat	Deep Creek Recreation Area
Dispersed Recreation	Deschutes River Scenic Area
Bald Eagle	Developed Recreation
Experimental Forest	Eagle Roosting Area
Front Country Seen	Facilities
Front Country Unseen	General Forage
General Forest	General Forest
Intensive Recreation	General Forest Winter Range
Metolius Black Butte Scenic	Haystack Reservoir
Metolius Heritage	Metolius Winter Range - Deer
Metolius Old Growth	North Fork Crooked River Scenic Corridor
Metolius Special Forest	North Fork Crooked River Rec Corridor
Metolius Scenic View Retention Foreground	Old Growth
Metolius Scenic View Partial Retention	Old Growth Juniper
Metolius Wildlife/Primitive	Research Natural Area
Oregon Cascade Recreation Area	Rim Rock Springs Wildlife Area
Old Growth	Whychus Creek Management Area
Osprey Management Area	Summit Trail Preservation Corridor
Newberry National Volcanic Mon	Summit Trail Partial Visual
Moffit Butte Special Interest Area	Summit Trail Visual Retention Corridor
Lava River Cave Special Interest Area	U.S. Highway 26 Visual Corridors
Davis Lake Special Interest Area	Visual Management Corridors (Partial)
Wire Meadow Special Interest Area	Visual Management Corridors (Retention)
Scenic View Retention Foreground	Wilderness - Black Canyon
Scenic View Partial Retention Foreground	Wilderness – Bridge Creek
Scenic View Partial Retention	Wilderness – Mill Creek
Wilderness	Winter Range
Deschutes River – Scenic Segment	Winter Range - Antelope
Deschutes River – Rec. Segment	Lookout Mountain Rec. Area - Top
Metolius River – Scenic Segment	Bandit Springs Rec. Area
Metolius River – Rec. Segment	Steins Pillar Rec. Area
Whychus Creek – Scenic Segment	Hammer Creek Wildlife/Rec. Area
Crescent Creek – Rec. Segment	Rock Creek/Cottonwood Creek Roadless
Wake Butte Special Interest Area	
Winter Recreation	
Cultus River RNA	
Scenic View Retention Middleground	

Northwest Forest Plan

The Northwest Forest Plan is applicable west of the owl range line, on the Deschutes National Forest only.

Late Successional Reserves (LSRs) – Eleven LSRs were designated on the Deschutes National Forest by the Northwest Forest Plan. LSR Assessments considered the noxious weed conditions within each LSR and some included general recommendations for treatment. Applicable standards

and guidelines are listed in Appendix C. Impacts to species that occur in LSRs from implementation of proposed invasive plant treatments are discussed in the wildlife section.

Watershed analysis (WA) is a component of the Aquatic Conservation Strategy (ACS) of the Northwest Forest Plan. Recommendations from WA documents were considered in project planning. The WA documents on the Deschutes National Forest note the presence of invasive plants and the recommendations were considered during design of this project. The ACS objectives are assessed in relation to the proposed activities in Chapter 3.6.

Prevention Guidelines

The Forests and Grassland have prepared a list of Invasive Plant Species Prevention Practices, included in this FEIS as Appendix G. Implementation of these prevention practices will minimize the introduction of invasive plants and facilitate the integration of invasive plant management practices into resource programs. These prevention practices will help the Forests and Grassland meet the Goals 1 and 2 of the Forest Plan, listed on page 14.

1.6 Decision Framework

The Forest Supervisors for the Deschutes National Forest, and the Ochoco National Forest and Crooked River National Grassland are the Responsible Officials for this EIS. They will be making the following decisions:

Will the Invasive Plant Project be implemented as proposed, as modified by an alternative, or not at all? What mitigation measures and monitoring will be required with implementation of the project?

The Responsible Officials will base their decisions on review of the environmental impact statement, and the following factors: 1) How well the alternative meets the need for action; 2) The potential for treatments to affect the environment; and 3) The economic efficiency of the treatments.

1.7 Public Involvement

Ongoing public involvement occurred throughout this NEPA process. This project has been included in the *Schedule of Projects for the Deschutes and Ochoco National Forests and the Prineville District of the BLM* since the Summer 2003 issue. On February 23, 2004 the original Notice of Intent (NOI) to prepare an Environmental Impact Statement to document and disclose the potential environmental effects of proposed invasive plant treatment activities on the Ochoco and Deschutes National Forests appeared in the Federal Register. The original Notice of Intent appeared in Federal Register Volume 69, No. 35/February 23, 2004 on page 8174. Due to the length of time between that publication in the Federal Register and the initiation of the analysis for this project, a Revised Notice of Intent was published Friday, October 21, 2005 in volume 70, No. 203 on page 61244. Both NOIs called for public comment. Information on the proposal was posted on a project website, which has since moved to the following address: http://www.fs.fed.us/r6/invasiveplant-eis/site-specific/DES/.

On August 19, 2005 a scoping letter describing the project proposal was sent to over 700 individuals, organizations, tribes, and other agencies. It explained the February, 2004 scoping efforts and the reasons for again inviting public comment. It introduced the Proposed Action, summarized the purpose of and need for the proposal, and invited interested parties to submit written, facsimile, or electronic comments. A comment form was provided that could be filled out and mailed back to the Forests.

The Forest Service received 28 responses. The largest number of comments addressed treatment effectiveness, urging that the project go forward in a timely manner. Prevention and monitoring were suggested for long-term site goals. A large number of comments expressed concern for social and economic factors, stating that inter-agency as well as partnerships with private groups with the same goals be explored for the sake of saving time and money. Effects on human health and non-

target species from herbicides were other concerns realized through this process. Implementing herbicide application methods that reduce the threat to forest workers and those who use the forest, as well as the forest environment, including wildlife, soils, water, and aquatic biota were advised. Still others felt that herbicides should not be used at all. Issues generated from this public input facilitate project design development, alternative development, effects analysis of the alternatives, and selection of a preferred alternative.

Due to the complexity of the Proposed Action, the Forest Service has initiated additional public involvement activities during the analysis phase of this project: An update of the EIS process was sent to the mail list in February 2006 to describe the alternatives being considered; the interdisciplinary team arranged field trips and meetings with experts involved in noxious weed control and the application of herbicides (for example, from the Oregon Dept. of Agriculture and County Weed Departments); the interdisciplinary team met with representatives of the Sierra Club and Friends of the Metolius to discuss ribbongrass along the Metolius River; the Deschutes Provincial Advisory Committee was kept up to date by briefings on February 27, 2006 and June 7, 2006; The IDT met with the natural resource staff of the Confederated Tribes of the Warm Springs in May 2006; information and maps have been posted and updated on the Forests' internet site as well; the IDT leader met with representatives of the Crook County Natural Resources Committee in March 2007.

A 45-day public comment period began February 2, 2007. Results of the comment period are described in Appendix I. Consultation activities are described in Chapter 4.

1.8 Issues

The Forest Service compiled an initial list of issues based on comments from the public, organizations, agencies, tribes, and local state and federal governments. The following section summarizes issues identified through the scoping process and discusses how they are addressed in the EIS analysis. Most issues are resolved through project design features, adherence to standards and guidelines and the appropriate laws and regulations, and by consistency with decisions made in the *Pacific Northwest Regional Invasive Plant Program – Preventing and Managing Invasive Plants* Record of Decision (2005b). Some issues vary by alternative design.

The Council on Environmental Quality requires the USDA Forest Service to identify and eliminate from detailed study the issues that are not significant (40 CFR 1501.7). Issues may be eliminated from further analysis when the issue is outside the scope of the Proposed Action; is already decided by law, regulation, Forest Plan, or other higher level decision; is clearly not relevant to the decision to be made; or is conjectural and not supported by good scientific or factual evidence. Non-significant issues are part of the project record.

Treatment Effectiveness

The public and other agencies and organizations expressed a strong desire to see the Forest Service utilize the methods necessary to make substantial progress in effective treatment of invasive species. This was mostly expressed as a desire to see more herbicides used where they are the most effective treatment, and to avoid delay which could allow further spread. The Proposed Action and Alternative 3 allow herbicide use across the project area. The alternatives vary in the formulations and application methods that are allowed in riparian areas, which may impact effectiveness.

The indicators used to measure this issue will be: the number of inventoried sites that can be effectively treated; the number of herbicide formulations available for use; the ability to respond quickly to new populations under each alternative; and a general assessment of effectiveness of invasive plant treatments.

Effects to Native Vegetation and Non-Target Plants

Invasive plant treatments, especially herbicides, may harm non-target plants, including culturally significant, threatened, endangered and sensitive species or survey and manage species. Different herbicides have varying degrees of potency and selectivity (e.g., some herbicides affect certain plant families more readily than others), and application methods vary in the potential for off-site effects. As invasive plants decrease, native plants are expected to benefit through increased available habitat. The application of Project Design Features in each action alternative ensure this project is compliant with invasive plant treatment Standard #19, which directs the Forest Service to minimize or eliminate negative effects to non-target species. Indicators for this issue include the amount of risk to native plant communities from treatment and from invasive plants; and effects determinations will be made for Regional Forester's Sensitive plant species and Survey & Manage plant species.

Social/Economic

The public wants to see economics considered when choosing methods of treatment. The different treatment methods vary in how much they cost to implement; and therefore, how much can be completed in any year. Some in the public want to see herbicides used because of cost. Manual and mechanical treatments, such as hand pulling will generally be more costly but at the same time would likely provide more jobs because of the labor involved. Some members of the public would also like to see the Forest Service take the opportunity to provide jobs in the rural areas by considering manual and mechanical methods of treatment. The indicators used to measure this issue will be: estimated cost of completing treatments; number of acres that can be treated under each alternative in a year, given a certain budget; and number of jobs that would be associated with each alternative in a year.

Invasive plants do not respect the boundaries between federal and privately-owned lands. Where invasive plants occur along boundary lines, there is the risk of them spreading to private property. The public does not want to see their efforts at control negated by spread from Forest Service lands. The action alternatives do not vary on this issue; both include treatment of existing sites along the Forest boundary.

Water & Aquatic Species

The public expressed concern with impacts to water quality and fish. Some suggested that herbicide use in riparian areas should be avoided. Herbicides pose a risk of causing mortality or other effects to fish and aquatic species (such as algae, aquatic plants or aquatic insects that fish depend on for food and cover) if water is contaminated by herbicide drift, ground water recharge, washing into streams, or an accidental spill near fish habitat. Manual and mechanical treatments can impact water quality, fish, and other aquatic species by causing sediment, and disturbing riparian structure. Removal of vegetation along streams (such as reed canary grass) can increase erosion and sedimentation or reduce streambank stability, shade, and cover for fish.

This issue is addressed with project design features and by complying with standards and regulations. This project proposes no direct application of herbicides to water. Buffers and restrictions on the application method ensure that adverse effects to non-target species will be minimized or eliminated. Alternative 3 was developed to provide an even more cautious approach to invasive plant treatment within the riparian areas.

The indicators used to measure this issue will be: acres of treatment by treatment method within aquatic buffers; acres of treatment by treatment method within 100 feet of fish-bearing streams and 303(d) listed streams; amount and type of treatment near potable water sources; and effects determinations will be made for Regional Forester Sensitive and federally-listed fish species in the biological assessment process.

Human Health – Public and Worker Exposure to Herbicides

The public expressed concerns about the use of herbicides and what kinds of effects they may have on human health, either through drinking water, through direct contact by forest workers, or contamination of drinking water or eating contaminated special forest products, or recreationists coming into contact with contaminated vegetation. There is concern about long-term and cumulative effects to humans from the use of herbicides. Some believe that the potential cost to human health is too high and other methods should be used to control invasive plants.

The indicators that will be used to measure this issue are: acres treated with herbicides; acres treated in areas where potable water is used; potential for exposure of forest workers. This issue is addressed with project design features and by complying with standards and guidelines. Alternatives do not vary on this issue. Both include precautions to avoid scenarios of concern.

Effects to Wildlife

There is potential for disturbance to wildlife during implementation, and treatments may also disturb certain habitat components. Wildlife may contact herbicides or ingest invasive plants that have been treated with herbicide and become sick or die. This issue is generally addressed through adherence to invasive plant treatment standards and implementation of Project Design Features that are intended to further reduce the risk of adverse effects. Herbicide effects to the following are considered: threatened, endangered, and sensitive wildlife species (TES); survey and manage species; management indicator species (MIS), birds of conservation concern, and landbirds.

Effects to Soil

Invasive plants provide ground cover that could be disturbed by treatments. Herbicide use may harm soil organisms or soil biology. The existence of invasive plants also can negatively affect soils. Effects are based on soil types and the properties of individual herbicides. This issue is addressed through adherence to Forest Plan invasive plant treatment standards. Project design features listed in Chapter 2 were adopted in order to minimize potential adverse effects.

Other Items Considered, Including Required Disclosures:
Range Resources
Scenic and Recreation Values
Congressionally Designated Areas and Other Areas of Special Interest
Civil Rights and Environmental Justice
Prime Lands
Cultural Resources
Wetlands
Short-term Uses/Long-term Productivity
Conflicts with other Policies, Plans, Jurisdictions
Irretrievable and Irreversible Commitment of Resources