Proposed Management Requirements and Mitigation Measures
Mt. Baker-Snoqualmie National Forest Invasive Plant Management

Management Requirements and Mitigation Measures	Objective	Effectiveness and Basis
Coordination with Other Landowners/Agencies		
Coordinate herbicide use within 1000 feet (slope distance) of known water intakes with the water user or manager.	To ensure that neighbors are fully informed about nearby herbicide use.	The distance of 1000 feet was selected to respond to public concern. Herbicide use as proposed for this project would not contaminate drinking water supplies.
Coordinate herbicide use with Municipal Water boards. Herbicide use or application method may be excluded or limited in some areas.	To ensure that neighbors are fully informed about nearby herbicide use and standards for municipal watersheds are met.	1990 Mt. Baker-Snoqualmie National Forest Plan and existing municipal agreements.
Herbicide Applications		
POEA surfactants, urea ammonium nitrate or ammonium sulfate would not be used in applications within 150 feet of surface water, wetlands or on roadside treatment areas having high potential to deliver herbicide.	To protect aquatic organisms.	The distance of 150 feet was selected because it is wider than the largest buffer and approximates the Aquatic Influence Zone for fish bearing streams.
Lowest effective label rates would be used for each given situation. In no case would broadcast applications of herbicide or surfactant exceed typical label rates. NPE would never be broadcast at a rate exceeding 0.5 lbs. active ingredient per acre, and other classes of surfactants besides NPE would be favored wherever they are expected to be effective. In no case would imazapyr exceed 0.70 lbs.	To eliminate possible herbicide or surfactant exposures of concern to human health, wildlife, and/or fish.	SERA Risks Assessments, Appendix Q of the R6 2005 FEIS
Herbicide Transportation and Handling Safety/Spill Prevention and Containment An Herbicide Transportation and Handling Safety/Spill Response Plan would be the responsibility of the herbicide applicator. At a minimum the plan would: ✓ Address spill prevention and containment. ✓ Estimate and limit the daily quantity of herbicides to be transported to treatment sites. ✓ Require that impervious material be placed beneath mixing areas in such a manner as to contain small spills associated with mixing/refilling. ✓ Require a spill cleanup kit be readily available for herbicide transportation, storage and application (minimum FOSS Spill Tote Universal or equivalent). ✓ Outline reporting procedures, including reporting spills to the appropriate regulatory agency.	To reduce likelihood of spills and contain any spills.	FSH 2109.14, Bonneville Power Administration Biological Assessment, Buckhead Knotweed Project, Willamette NF Biological Assessment

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✓ Ensure applicators are trained in safe handling and transportation procedures and spill cleanup. ✓ Require that equipment used in herbicide storage, transportation and handling are maintained in a leak proof condition. ✓ Address transportation routes so that traffic, domestic water sources, and blind curves are avoided to the extent possible. ✓ Specify conditions under which guide vehicles would be required. ✓ Specify mixing and loading locations away from water bodies so that accidental spills do not contaminate surface waters. ✓ Require that spray tanks be mixed or washed further than 150 feet of surface water. ✓ Ensure safe disposal of herbicide containers. ✓ Identify sites that may only be reached by water travel and limit the amount of herbicide that may be transported by watercraft.		
Soils, Water and Aquatic Ecosystems		
Herbicide use buffers have been established for perennial and wet intermittent steams; dry streams; and lakes and wetlands. These buffers are depicted in the tables below. Buffers vary by herbicide ingredient and application method. Tank mixtures would apply the largest buffer as indicated for any of the herbicides in the mixture.	To reduce likelihood that herbicides would enter surface waters in concentrations of concern. Comply with R6 2005 ROD Standards 19 and 20.	Buffers are based on label advisories, and SERA risk assessments. Buffer distances are based on the Berg's 2004 study of broadcast drift and run off to streams, along with Washington State Dept. of Agriculture's DOA's 2003-2005 monitoring results.
All wells and springs used for domestic water supplies would be protected with a 100 foot buffer for wells and a 200 foot buffer for springs. Follow label guidance relative to water contamination.	Safe drinking water.	Label advisories and state drinking water regulations (Washington State WAC 246-290-315).
Fueling of gas-powered equipment with gas tanks larger than 5 gallons would not occur within 150 feet of surface waters. Fueling of gas-powered equipment with gas tanks smaller than 5 gallons would not occur within 25 feet of any surface waters.	To protect riparian and aquatic habitats.	The distance of 150 feet was selected because it approximates the Aquatic Influence Zone for fish bearing streams. Filling of smaller tanks has inherently less risk.
Vascular and Non-Vascular Plant and Perennial Fungi Species that are Threatened Endangered or Sensitive (TES), Survey and Manage (S&M), or Species of Local Interest (SOLI)		

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TES,S&M, or SOLI species that are within 100 feet of planned broadcast would be covered by protective barrier, or broadcast application would be avoided in these areas (spot or hand herbicide treatment, or non-herbicide methods may be used).	To ensure TES, S&M, or SOLI vascular, non-vascular, or perennial fungi species are protected.	Forest Service Manual 2670 Survey and Manage Species Direction.
Prior to treatment, botanical surveys would occur if suitable habitat for TES, S&M, or SOLI is present within 100 feet of planned broadcast treatments, 10 feet of planned spot treatments, and/or 5 feet of planned hand herbicide treatments (increased to 10 feet in saturated/wet soils).	To ensure TES, S&M, or SOLI species are protected and surveys are conducted when appropriate.	Forest Service Manual 2670 Survey and Manage Species Direction
Wildlife Species that are Threatened Endangered or Sensitive (TES), Survey and Manage (S&M), or Species of Local Interest (SOLI)		
TES, S&M, and SOLI Wildlife species would be protected from disturbance according to existing guidelines	To ensure TES, S&M, or SOLI species are protected and surveys are conducted when appropriate.	Forest Service Manual 2670 Survey and Manage Species Direction
Public Notification		
High use areas, including administrative sites, developed campgrounds, visitor centers, and trailheads would be posted in advance of herbicide application or closed. Areas of potential conflict would be prominently marked on the ground or otherwise posted. Postings would indicate the date of treatments, the herbicide used, and when the areas are expected to be clear of herbicide residue.	To ensure that no inadvertent public contact with herbicide occurs.	These are common measures to reduce conflicts.
The public would be notified about upcoming herbicide treatments via the local newspaper or individual notification, fliers, and posting signs. Forest Service and other websites may also be used for public notification.	To ensure that no inadvertent public contact with herbicide occurs.	R6 2005 ROD Standard 23 (see table 1).
Historic Properties and American Indian Reserved Treaty Rights		
Indian tribes would be notified prior to treatment so that tribal members may provide input and/or be notified prior to gathering cultural plants or using sacred sites. Notification will generally be programmatic and occur annually.	To ensure that no inadvertent public contact with herbicide occurs and that cultural plants are fully protected.	Government to government agreements between American Indian tribes and the Gifford Pinchot National Forest and Columbia River Gorge National Scenic Area.