

# **RECORD OF DECISION**

## **INVASIVE PLANT PROGRAM**

### **PREVENTING AND MANAGING INVASIVE PLANTS**

#### **PACIFIC NORTHWEST REGION**

**On October 11, 2005, the Regional Forester for the Pacific Northwest Region (Region Six) signed a Record of Decision** that will guide the invasive plant management program on National Forests in the Region. The decision is based on analysis in the *Final Environmental Impact Statement (FEIS) for the Pacific Northwest Invasive Plant Program* (April 2005). Many people participated throughout the 3-year analysis process, including representatives of federal, state and local agencies and organizations. The analysis and decision making process followed applicable policies and procedures under the National Environmental Policy Act (NEPA), National Forest Management Act , and Endangered Species Act (ESA).

**The decision amends the National Forest Land and Resource Management Plans in the Region** by adding new management direction and vacating existing management direction relative to invasive plants. The new management direction increases the emphasis on invasive plant prevention, and expands the invasive plant treatment tools available on National Forest System lands.

**Invasive plants have many undesirable consequences.** They displace native plants; reduce forage for wildlife and livestock; degrade habitat for threatened, endangered, and sensitive species; increase soil erosion and reduce water quality; reduce soil productivity; and change the intensity and frequency of fires. Currently, invasive plants are spreading at a rate of 8 to 12 percent per year. Invasive plants can spread between National Forest system lands and neighboring areas, affecting all land ownerships. Existing management direction (from the 1988 Record of Decision for “Managing Competing and Unwanted Vegetation” and the accompanying “1989 Mediated Agreement”) has not adequately addressed issues specific to invasive plants.

**The new management direction is intended** to decrease the rate of spread of invasive plants, while minimizing adverse effects to land management programs, human health, and the environment. Early detection and rapid response is emphasized to increase the effectiveness and reduce potential for detrimental impacts of invasive plant treatments.

**Four types of management direction** will be added to the Forest Plans in the Region: 1) a desired future condition statement, 2) goals and objectives; 3) standards for preventing invasive plants and treating/restoring infested sites; and 4) an inventory and monitoring framework.

**The management direction includes new standards for preventing the introduction, establishment, and spread of invasive plants.** The prevention standards have the potential to affect a wide array of land management and use activities that are accomplished, contracted or permitted by the Forest Service. Examples of these activities include, but are not limited to: environmental assessment, grazing allotment management, road maintenance and use of quarries, recreational pack stock use, and Forest Service projects aimed at restoring disturbed sites.

**The decision makes several new herbicides available** for treating invasive plants on National Forest system lands in Region Six (see list in Standard 16 attached). These herbicides are likely to effectively treat invasive plants currently known in the Region. Risk assessments demonstrate that these herbicides pose relatively low risk to people and the environment, especially when used in a manner consistent with the new treatment standards.

**Two herbicides analyzed in the FEIS were not approved** for use at this time at the Regional scale (2,4-D and dicamba). The Environmental Protection Agency published their Final Re-registration Eligibility Decision (RED) for 2,4-D in the Federal Register in August 2005. Information on 2,4-D in the RED will be analyzed in an updated Forest Service risk assessment. Standard 16 allows for additional herbicides including 2,4-D to be added in the future at either the Forest Plan or project level to adapt to new information, after following appropriate risk assessment and NEPA/ESA procedures.

**This decision, in itself, does not approve any site-specific projects.** Site-specific treatment decisions will be based on location, biology and size of the target invasive plant species, site conditions, and integrated resource objectives. Invasive plant treatment projects will be subject to future NEPA/ESA analysis before being implemented.

**Legal notice** of this decision will be published in the Portland Oregonian (newspaper of record for Regional Forester decisions) **on or about November 14, 2005**. This decision is subject to appeal (to the Chief of the Forest Service) in accordance with 36 CFR 217.

**The scheduled effective date** for the new management direction is generally March 1, 2006. Enforcement of some standards (e.g. weed-free requirements) will be phased-in.

**The Record of Decision, Final Environmental Impact Statement, and Appendices** are available on line at [www.fs.fed.us/r6/invasiveplant-eis](http://www.fs.fed.us/r6/invasiveplant-eis).

**For further information, contact:** Douglas Daoust, 503-808-2913.

**Email:** [r6\\_IPEIS@fs.fed.us](mailto:r6_IPEIS@fs.fed.us)

**The text** that will be added to Forest Plans in the Region is attached.

## Desired Future Condition

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.

<b>Goals and Objectives</b>	
<b>Goal 1</b> - 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.	
<u>Objective 1.1</u>	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.
<u>Objective 1.2</u>	Educate the workforce and the public to help identify, report, and prevent invasive plants
<u>Objective 1.3</u>	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.
<u>Objective 1.4</u>	Use an integrated approach to treating areas infested with invasive plants. Utilize a combination of available tools including manual, cultural, mechanical, herbicides, biological control.
<u>Objective 1.5</u>	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.

## Goals and Objectives

**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.

<u>Objective 2.1</u>	Reduce soil disturbance while achieving project objectives through timber harvest, fuel treatments, and other activities that potentially produce large amounts of bare ground
<u>Objective 2.2</u>	Retain native vegetation consistent with site capability and integrated resource management objectives to suppress invasive plants and prevent their establishment and growth
<u>Objective 2.3</u>	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.
<u>Objective 2.4</u>	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.
<u>Objective 2.5</u>	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.
<b>Goal 3</b> - 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.	
<u>Objective 3.1</u>	Avoid or minimize public exposure to herbicides, fertilizer, and smoke
<u>Objective 3.2</u>	Reduce reliance on herbicide use over time in Region Six

## Goals and Objectives

**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.

**Goal 5** – Expand collaborative efforts between the Forest Service, our partners, and the public to share learning experiences regarding the prevention and control of invasive plants, and the protection and restoration of native plant communities.

Objective 5.1 Use an adaptive management approach to invasive plant management that emphasizes monitoring, learning, and adjusting management techniques. Evaluate treatment effectiveness and adjust future treatment actions based on the results of these evaluations.

Objective 5.2 Collaborate with tribal, other federal, state, local and private land managers to increase availability and use of appropriate native plants for all land ownerships.

Objective 5.3 Work effectively with neighbors in all aspects of invasive plant management: share information and resources, support cooperative weed management, and work together to reduce the inappropriate use of invasive plants (landscaping, erosion control, etc.).

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**Standards**

The following standards and an implementation schedule are included in the Selected Alternative.

<b>Standard #</b>	<b>Text of Standard</b>	<b>Implementation Schedule</b>
<b>1</b>	Prevention of invasive plant introduction, establishment and spread will be addressed in watershed analysis; roads analysis; fire and fuels management plans, Burned Area Emergency Recovery Plans; emergency wildland fire situation analysis; wildland fire implementation plans; grazing allotment management plans, recreation management plans, vegetation management plans, and other land management assessments.	This standard will apply to all assessments and analysis documents started or underway as of March 1, 2006; this standard does not apply to assessments and analysis documents signed or completed by February 28, 2006.
<b>2</b>	Actions conducted or authorized by written permit by the Forest Service that will operate outside the limits of the road prism (including public works and service contracts), require the cleaning of all heavy equipment (bulldozers, skidders, graders, backhoes, dump trucks, etc.) prior to entering National Forest System Lands. This standard does not apply to initial attack of wildland fires, and other emergency situations where cleaning would delay response time.	<p>This standard will apply to permits and contracts issued after March 1, 2006. Ongoing permits/contracts issued before this date may be amended, but are not required to be amended, to meet this standard.</p> <p>This standard will apply to Forest Service force account operations starting March 1, 2006.</p>
<b>3</b>	Use weed-free straw and mulch for all projects, conducted or authorized by the Forest Service, on National Forest System Lands. If State certified straw and/or mulch is not available, individual Forests should require sources certified to be weed free using the North American Weed Free Forage Program standards (see Appendix O) or a similar certification process.	Forests are already applying this standard on an informal basis; weed-free straw and mulch will be required as available, starting March 1, 2006.

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<b>Standard #</b>	<b>Text of Standard</b>	<b>Implementation Schedule</b>
4	Use only pelletized or certified weed free feed on <b>all National Forest System lands</b> . If state certified weed free feed is not available, individual Forests should require feed certified to be weed free using North American Weed Free Forage Program standards or a similar certification process. This standard may need to be phased in as a certification processes are established.	National Forest managers will encourage the use of weed-free feed across the National Forests in the Region. Pelletized feed or certified weed-free feed will be required in all Wilderness areas and Wilderness trailheads starting January 1, 2007. Pelletized or certified weed-free feed will be required on all National Forest System lands when certified feed is available (expected by January 1, 2009). Weed-free (or pelletized) feed requirements will be listed in individual Forest Closure orders.
5	No standard.	N/A
6	Use available administrative mechanisms to incorporate invasive plant prevention practices into rangeland management. Examples of administrative mechanisms include, but are not limited to, revising permits and grazing allotment management plans, providing annual operating instructions, and adaptive management. Plan and implement practices in cooperation with the grazing permit holder.	This standard will apply to grazing permits beginning March 1, 2006.
7	Inspect active gravel, fill, sand stockpiles, quarry sites, and borrow material for invasive plants before use and transport.  Treat or require treatment of infested sources before any use of pit material.  Use only gravel, fill, sand, and rock that is judged to be weed free by District or Forest weed specialists.	This standard will apply to rock source management beginning March 1, 2006.

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<b>Standard #</b>	<b>Text of Standard</b>	<b>Implementation Schedule</b>
<b>8</b>	Conduct road blading, brushing and ditch cleaning in areas with high concentrations of invasive plants in consultation with District or Forest-level invasive plant specialists, incorporate invasive plant prevention practices as appropriate.	This standard will apply to all road blading, brushing and ditch cleaning projects beginning March 1, 2006.
<b>9</b>	No standard.	N/A
<b>10</b>	No standard.	N/A
<b>11</b>	Prioritize infestations of invasive plants for treatment at the landscape, watershed or larger multiple forest/multiple owner scale.	This standard will apply to invasive plant treatment projects with NEPA decisions signed after March 1, 2006.
<b>12</b>	Develop a long-term site strategy for restoring/revegetating invasive plant sites prior to treatment.	This standard will apply to invasive plant treatment projects with NEPA decisions signed after March 1, 2006.
<b>13</b>	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.	This standard will apply to restoration and rehabilitation projects beginning March 1, 2006.
<b>14</b>	Use only APHIS and State-approved biological control agents. Agents demonstrated to have direct negative impacts on non-target organisms would not be released.	This standard will apply to biological control projects beginning March 1, 2006.

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<b>Standard #</b>	<b>Text of Standard</b>	<b>Implementation Schedule</b>
<b>15</b>	<p>Application of any herbicides to treat invasive plants will be performed or directly supervised by a State or Federally licensed applicator.</p> <p>All treatment projects that involve the use of herbicides will develop and implement herbicide transportation and handling safety plan.</p>	<p>This standard will apply to herbicide treatment projects as of March 1, 2006.</p>
<b>16</b>	<p>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.<sup>1</sup></p> <p>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 aurally. The use of triclopyr is limited to selective application techniques only (e.g., spot spraying, wiping, basal bark, cut stump, injection).</p> <p>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.</p>	<p>This standard will be applied to invasive plant projects with NEPA decisions signed after March 1, 2006.</p>
<b>17</b>	<p>No standard.</p>	<p>N/A</p>

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<b>Standard #</b>	<b>Text of Standard</b>	<b>Implementation Schedule</b>
<b>18</b>	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.	This standard will apply to invasive plant treatment projects with NEPA decisions signed after March 1, 2006.
<b>19</b>	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.	This standard will apply to invasive plant treatment projects with NEPA decisions signed after March 1, 2006.
<b>20</b>	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.	This standard will apply to invasive plant treatment projects with NEPA decisions signed after March 1, 2006.
<b>21</b>	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).	This standard will apply to invasive plant treatment projects with NEPA decisions signed after March 1, 2006.
<b>22</b>	Prohibit aerial application of herbicides within legally designated municipal watersheds.	This standard will apply to invasive plant treatment projects with NEPA decisions signed after March 1, 2006.

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<b>Standard #</b>	<b>Text of Standard</b>	<b>Implementation Schedule</b>
<b>23</b>	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.	This standard will apply to invasive plant treatment projects with NEPA decisions signed after March 1, 2006.

1. ATSDR, 2004. Guidance Manual for the Assessment of Joint Toxic Action of Chemical Mixtures. U.S. Department Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry.

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**Inventory and Monitoring Framework**

(APPENDIX M from the Invasive Plant Final EIS)

It is assumed every Forest in Region Six has an invasive plants coordinator and is maintaining an up-to-date invasive plant inventory using NRIS/Terra, the nationally accepted protocol. The inventory will be the primary means to plan and prioritize treatments. The inventory will be used as the main vehicle for tracking treatment effectiveness both regionally and on a site-specific basis.

In addition to the monitoring that is already required under various Forest Plans, this inventory and monitoring plan framework is part of all action alternatives in this Environmental Impact Statement (EIS). The framework would guide the development of detailed monitoring plans at the site-specific project scale. Invasive plant treatment and restoration actions are likely to be complex, involve multiple land ownerships and will take years to implement, due to the nature of invasive plant problems. It is likely that a site will be treated multiple times over the years. Tracking these efforts and subsequent progress will be crucial to determining success.

A good monitoring program will be well thought out and have a high probability of detecting change in the resource being monitored (NPS, 2002). The Field Guide to Invasive Plant Inventory, Monitoring and Mapping (USDA FS, 2002) has been developed to guide monitoring efforts in conjunction with NRIS/Terra. It suggests a monitoring regime may start with annual monitoring for the first 3-5 years, decreasing in frequency to every other year for the next 5-10 years and further decreasing monitoring frequency to every 3 years for the next ten years until the seed source has been exhausted (i.e. no new germination taking place).

Monitoring regimes may vary in time and space depending on the species; for example, those that reproduce vegetatively may require a longer span of annual monitoring. The monitoring categories described in this framework (implementation/compliance, and effectiveness (of treatments in meeting project objectives, and effectiveness of protection measures) can be used to implement a

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long-term adaptive management strategy. By implementing an adaptive management approach, managers will identify and respond to changing conditions and new information on an ongoing basis, and assess the need to make changes to treatment and restoration strategies.

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### **Implementation/Compliance Monitoring**

Implementation/compliance monitoring answers the question, “Did we do what we said we would do?” This question needs to be answered on a Regional scale, because adaptive management strategies require determination that actions are taking place as described in the Invasive Plants EIS.

If an action alternative is selected, each Forest Supervisor will be directed to assess compliance with the Invasive Plant Program EIS Record of Decision as a part of Forest Plan Implementation monitoring. Regional Office staff will periodically aggregate this information as a part of program oversight.

An implementation/compliance checklist database, such as the Pacfish/Infish Biological Opinion Implementation Monitoring module database for the eastside, could be used as a template to input and analyze implementation/compliance monitoring data. The use of a consistent reporting format will allow for aggregation of information at various scales. Such a system will be used to determine patterns of compliance.

**Listed Species** -- An implementation/compliance monitoring database would track invasive plant treatment projects that are the subject of Section 7 consultations under the Endangered Species Act (ESA), generate annual reporting of compliance for use by the Services (NOAA Fisheries, U.S. Fish and Wildlife) and Forest Service (FS), and allow for common reporting of data on individual projects. As a minimum, on each project requiring consultation, reporting will be required on compliance with Standards 16, 18, 19, and 20 in the Invasive Plant EIS. Additional standards could be included, as appropriate, for the individual ecoregions, Forests, or projects. For example, Northwest Forest Plan (NWFP) riparian standards relevant to herbicide use or invasive plant control projects could be included in the database for those Forests in the NWFP-covered areas.

### **Effectiveness Monitoring**

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Effectiveness monitoring, relative to project objectives, answers the question, “Were treatment and restoration projects effective?” This question could be answered on either a regional or a project-level scale. Invasive plant infestations require pre-project inventories to determine how, when, and where treatments are to be applied, and post-treatment monitoring to assess the effectiveness (treatment) in meeting project objectives (e.g. restoring structure and composition of native vegetation).

A goal of the Effectiveness Monitoring component in the Regional Invasive Plant Program is to answer the following questions:

Have the number of new invasive plant infestations increased or decreased in the Region or at the project level?

What changes in distribution, amount and proportion of invasive plant infestations have resulted due to treatment activities in the region or at the project level?

Has the infestation size for a targeted invasive plant species been reduced regionally or at the project level?

Which treatment methods, separate or in combination, are most successful for specific invasive species?

Which treatment methods have not been successful for specific invasive species?

The nation-wide NRIS/Terra database, and the upcoming FACTS database, provide common reporting formats to input information and provide a mechanism for addressing the above questions. In addition, current long-term ecological monitoring networks will assist the FS in determining trends of invasive plant infestations at the Regional level.

The NRIS/Terra database could be sorted to answer the above questions because it tracks size and species of infestations as well as treatment methods. The Forest Inventory and Analysis Network (FIA) or the Forest Health Monitoring plots associated with the FIA network could be used to follow invasion trends. Such networks could be used to track trends in the spread or reduction in spread of the

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more dominant invasive plants in the region. Monitoring programs developed at the Forest level would answer more project specific questions.

**Listed Species** - Monitoring that addresses the effectiveness of various measures designed to reduce potential adverse effects from the project, including standards in the EIS, “project design criteria”, “design features”, and “protection measures” may also need to be conducted. This type of monitoring will only be required for a **representative sample of** invasive plant treatment projects that pose a “high risk” to federally listed species. “High risk” projects are defined as projects with the potential to affect listed species, in the following situations:

- Any project involving aerial application of herbicide.
- Projects involving the use of heavy equipment or broadcast application of herbicide (e.g. boom spray or backpack spraying that is not limited to spot sprays) that occur in 1) riparian areas (as defined in NWFP, Pacfish, or Infish, as applicable), ditches or water corridors connected to habitat for listed fish; or, 2) proximity to federally listed plants or butterfly habitat.

For the purposes of determining the need for protection measure effectiveness monitoring, invasive plant treatment methods that are **not** considered “high risk” can include, but are not limited to, the following:

- Broadcast application of herbicide and use of heavy equipment that occurs **outside** of, 1) riparian areas, ditches or water corridors connected to water bodies, or, 2) areas in proximity to federally listed plants or butterfly habitat.
- Manual methods including hand-pulling, grubbing, stabbing, pruning, cutting, etc.
- Mechanical methods using small equipment like chainsaws, or equipment rarely used and not often in proximity to listed fish habitat, like flamers, foamers, hot steam, etc.
- Prescribed fire used expressly for invasive plant control and which occurs outside of riparian areas or habitat for federally listed plants or butterflies.

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- Herbicide applications using spot spray (used with a shield near listed plant locations) with a backpack sprayer, cut stump, injection, wicking wiping, basal bark applications, or other highly selective methods.
- Minor uses of fertilizer to encourage native plant competition or growth.
- Biological controls used in habitat areas for terrestrial wildlife or fish. Use in proximity to listed plants or butterflies should be evaluated on a case-by-case basis.
- Broadcast applications (except aerial) using clopyralid, imazapic, and metsulfuron methyl in proximity to habitat for listed fish or listed terrestrial wildlife.

A collection of several of these low risk projects in close proximity to each other and in proximity to habitat for listed species may constitute a “high risk” project, but this should be evaluated on a case-by-case basis.

Monitoring for “high risk” invasive plant treatments that may affect ESA-listed species or designated critical habitat should determine if standards and/or protection measures were effective at reducing potential effect pathways (e.g. disturbance, sedimentation, exposure to herbicides) and results should be applicable elsewhere. Unique, individual monitoring efforts and protocols have not provided information that is applicable to other areas or projects. Therefore, a Regional approach is outlined in this framework that will help address the needs for protection measure effectiveness at a broader scale. The regional approach will be developed in consultation with other agencies, including but not limited to National Marine Fisheries Service and U.S. Fish and Wildlife Service.

For example, Japanese knotweed is a serious invader of riparian areas and has the potential to alter ecosystems upon which listed salmon depend. The Region may have several Japanese knotweed treatment projects over the next several years and each one may have the potential to adversely affect listed salmon or designated critical habitat if adequate measures are not part of the treatment plan or are not complied with during implementation. Designing consistent monitoring protocol

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will allow a more efficient and effective evaluation of the project protection measures.

To meet the objective of being able to evaluate standards and measures applied at the Regional, sub-Regional, and project level for protection of ESA-listed species and/or designated critical habitat in “high risk” projects, an interagency monitoring protocol ***and reporting schedule*** will be developed by 2007. The expectation being that this protocol would be applied to high risk projects to determine the effectiveness of Regional EIS standards, and additional standards or protection measures applied at finer scales, in reducing potential effect pathways (e.g. disturbance, sedimentation, exposure to herbicides, etc.) for listed species.

In the interim, information obtained from implementation/compliance monitoring reports for “high risk” projects will be reviewed in 2005 and 2006 to inform the development of a consistent monitoring protocol for ensuring that standards and protection measures were effective. This 2-3 year lag time before protocol are developed and effectiveness monitoring is implemented does not apply to aerial application of herbicides. All projects with aerial applied herbicide will include a monitoring plan to assess the effectiveness of measures in protecting ESA-listed species and/or designated critical habitat.

Until a Regional, interagency effectiveness monitoring protocol for ESA-listed species and/or designated critical habitat is developed (2007), the need for effectiveness monitoring on “high risk” projects will be evaluated by Level 1 or other interagency technical teams during Section 7 consultation.

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Recommendations for additional effectiveness monitoring beyond that described in this framework will require that Level 2 or other appropriate interagency management team agree to the recommendations of the technical or Level 1 team for the project. This process will help lead the Region toward efficient and reliable data collection and allow statistical analysis of the data gathered.