Wichman Copy

DECISION RECORD

Reference EA No. OR-053-3-062

PRINEVILLE DISTRICT INTEGRATED WEED MANAGEMENT

Introduction:

On March 16, 1994, the draft Integrated Weed Management Environmental Assessment and Finding of No Significant Impact was signed by the BLM and routed for public comment. The decision record includes a section on the Decison, Summary of the Alternatives Considered, Rationale for Decision, Compliance and Monitoring, Terms/Conditions/Stipulations and for the five comment letters that were recieved a **Comments and Responses** section starting on p. 6. The District responses to the comments were incorporated into the EA as noted by the **bold** type.

Decision:

It is my decision to implement the Proposed Action (Alternative 1) with the all the mitigation/stipulations in the Terms/ Conditions and Stipulations section of this decesion record. This proposed IWM program focuses on weed control practices or techniques, which are keyed to actions that upon implementation would avoid or minimize environmental degradation, while protecting human health and safety. These IWM practices include cultural (preventative) practices, biological control practices (includes insects, pathogens, competitive seedings, and domestic animals), prescribed burning, manual practices, mechanical practices and chemical practices which includes the use of the four approved (Picloram, Dicamba, 2,4-D and Glyphosate) herbicides.

Approved:

Donald L. Smith (Acting) — 6/16/94

James L. Hancock, District Manager — Date

Alternatives Considered:

The alternatives considered and evaluated in the EA were as follows:

Alternative 1: Proposed Action

The proposed action would use all noxious weed treatment practices: cultural (preventative), manual, mechanical, biological, prescribed fire, and chemical (herbicides) in an Integrated Weed Management program. These treatment practices would be available for application for all public lands within the Prineville District, including Special Management Areas (Wilderness Study Areas, Wilderness Areas, Research Natural Areas, Areas of Critical Environmental Concern, Wild and Scenic River corridors and developed recreational sites). This is the most effective, flexible, economical, and environmental safe, but not risk free alternative. An estimated 1/3 to 2/5 of the estimated 3,500 acres to be treated each year (dependent upon funding and workload) would be by the use of chemicals.

Alternative 2: No Use of Herbicides in WSA's or WA's

This alternative is exactly like the proposed action (alternative 1) except under this alternative the use of herbicides would not be permitted in any District WSA or WA. It is estimated that this would decrease the estimated potential amount of herbicides used District wide by 10-20 percent. For any herbicides to be used in a WSA or WA a separate specific EA would be required.

The alternatives considered but not analyzed.

The alternatives of **No Use of Herbicides, No Aerial Herbicide Application and No Action** were all analyzed in the NW Area Noxious Weed Control Final EIS 1985 and Supplemental FEIS 1987 and their respective RODs. No further discussion of these alternatives was included in the EA as the FEIS and RODs conclusions and impacts on the District level would essentially be of the same type and of lesser magnitude.

Rationale for Decision:

My rationale for selecting the Proposed Action (Alternative 1) is as follows. The Federal Noxious Weed Act of 1974 (7 U.S.C. 2801-2813), as amended by Sec 15, Management of Undesirable Plants on Federal Lands, 1990; and the Carlson-Foley Act of 1968 (P.L. 90-583), are the two major federal laws directed specifically at noxious weed control on federal lands. In addition, the State and County laws also place responsibility for noxious weed control on public lands with the federal land management agency.

Maintaining or enhancing biodiversity of on public land ecosystems, while protecting the human health and safety, with a minimum of disturbance to the wildland resources, requires to have all the treatment practices of an Integrated Weed Management program available for utilization. An IWM program that has the ability to use all methods is a flexible program. This flexibility is needed to match a specific control or preventation practice to fit a specific site and/or a weed species particular needs. It does not eliminate all risk to human health and safety or the environment.

The use of cultural practices (prevention) is a key factor for elimination or reducing the speed or spread of noxious weeds. Perhaps, the most important aspect is the early detection through increased awareness, monitoring and inventory.

Mechanical control practices are the most environmental disturbing practice to a specific site's ecosystem, especially if the surface soil and vegetation is removed or disturbed.

Prescribed fire is also very detrimental to the ecosystem on the short term, but beneficial on the long term. However, it may not in most sites with perennial weeds be very effective (by its self) for control purposes.

Manual control practices are the least hazardous and risky to human health and safety and often the least environmentally disturbing. It is often the most desirable, especially if weed site is very small and specific weed species lends itself to manual control practices. However, it is sometimes not practical (such as for deep rooted perennial weeds), and is very dependent upon availability of funding and workforce.

The use of the four approved herbicides in this EA results from the determination that forgoing their use substantially compromises the BLM's efforts to control or reduce the noxious weed infestations on public lands, and without chemical treatment environmental losses of biodiversity would occur and costs for control would be increased.

The EPA and Oregon Dept. of Agriculture have all approved for use in Oregon, the four BLM approved chemicals listed in the this EA, as tiered to the FEIS 1985 and Supplemental FEIS 1987. Also, the updated information and analysis of the four approved chemicals (herbicides) and the additional chemical's analysis and information in the Vegetation Treatment on BLM Lands FEIS 1991 is also part of this EA as a tiered document. The Prineville District proposes to use these four approved chemicals as part of the proposed action section of EA, per stipulations of the FEIS 1985, Supplemental FEIS 1987, RODs and stipulations of EA Mitigation Measures section p. 32 to 34.

As registered herbicides by EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) the EPA must determine whether or not the herbicide poses an unreasonable risk to human health or the environment. Each of the approved herbicides already enjoys a regulatory finding by EPA that it poses no unreasonable risk to human health or the environment in light of the benefits of its use.

However, the BLM's decision, cannot and does not end with reliance of EPA's judgements under FIFRA. Past studies supporting the registration of commercial products containing active ingredients proposed for use in this EA and tiered FEISs do not always coincide with current protocols for human health research. New studies and **disagreement** among experts about past studies raise more questions. Yet, still other evidence confirms the studies supporting registration. Science has data gaps and science does not fully inform BLM about the risks involved. It also does not mean that these herbicides are completely safe, as safe does not mean risk free. Rather, safe means that each herbicides environmental hazards and risks are acceptable ones to take.

In addition, the BLM acknowledges that herbicides and formulations data considered for use in the FEISs did not completely dispel the contention that herbicides may constitute a hazard to either the environment or human health. The conflicting studies and data gaps giving rise to discord about whether the herbicides may cause health effects or the fact that science has possibly failed to establish that herbicides are completely safe could justify forgoing their use. However, it is probably never possible for science to prove to everyone's satisfaction or ability to prove beyond a doubt. The Prineville District's proposed use of the EPA approved chemicals will continue until science shows that the herbicides are either in fact unsafe or likely to result in human health effects.

The environmental risks, when placed into perspective, are out-weighted by the benefits of using herbicides as an integral part of an Integrated Weed Management program.

The EA's requirements (in the Proposed Action section and/or Mitigation section) that all herbicide applications to BLM public lands follow: herbicide label instructions, having specific and updated Material Safety Data Sheets (MSMSs) at site, herbicides applied by only State (ODA) certified and licensed applicators, herbicides generally being applied only once per year per site, applied within BLM maximum application rates that are lower than maximum label applications rates, would support the statement that under routine operations the public should not suffer adverse health effects as a result from the use of the proposed and approved herbicides.

This analysis in the EA and tiered FEISs and RODs on the IWM program in the Prineville District, leads to the conclusion of that, "No significant impact to human health and environment," are expected from adopting the Proposed Action (Alternative 1 including Mitigations) as stated per EA, and tiered to discussions and analysis of FEIS 1985 and Supplemental FEIS 1987, FEIS 1991 and RODs.

Compliance and Monitoring:

The monitoring and compliance procedures as identified in the EA as part of the Proposed Action, Mitigation section and the Monitoring section will be adhered to as written. The effectiveness of the mitigating measures identified in this EA will be monitored through periodic inspections. Post-treatment surveys and evaluations will be conducted to evaluate the effectiveness of treatment practices used, and specific site information gathered will be used to improve future project design.

Terms / Conditions / Stipulations:

The following District mitigations/stipulations will apply to the District's Integrated Weed Management (EA OR-053-3-062) for all noxious weed control activities under both alternatives:

1. Cultural (prevention) activities such as inspection (weed surveys), regulation (ROWs), sanitation (wash and clean vehicles) and education) will be encouraged and enforced for all high priority multi-use recreational areas, especially those along the John Day River and Deschutes River corridors, the Bend-Sisters-Redmond Urban Interface and the Prineville Reservoir.

2. Physical control practices (Mechanical) such as mowing, tilling, disking, seedbed preparation, and prescribed burning (if over 5 acres) treatments will require a separate EA. Small mechanical treatment areas of less than 5 acres may only require a CE.

3. All manual control practices (hand pulling and hand tools) will be done before seed ripe or dispersal and the plant residue collected as needed for burning (piles) or bagged and removed from site(s). On small isolated sites manual control may be given priority consideration dependent upon weed species and site requirements, before any herbicide application especially, in WSAs, WAs and ACECs.

4. IWM biological control practices methods such as introduced insects, competitive seedings, pathogens or grazing (goats or sheep) will be given consideration District wide. ODA approved biocontrol agents (insects or pathogens) will be given emphasis for release to control/contain larger infestations where containment is major goal. The approval for release of beneficial insects or pathogens must use the same procedures as herbicides using the Biological Control Agent Release Proposal (BCARP) and Record (BCARR). Only ODA approved biological control agents will be allowed for release after District and State Office approval (see appendix 3).

5. A Special Status Plant and Animal survey or clearance will be done prior to any treatment.

6. A cultural survey or clearance is required before any soil surface disturbing activity from physical weed control practices (manual, mechanical or prescribed fire) occurs.

7. All herbicide use will comply with USDI rules and policy, BLM policy and guidelines, Oregon State laws and regulations, OR Department of Agriculture (ODA) laws and regulations, Environmental Protection Agency (EPA) , federal pesticide laws (FIRCA), Oregon Department of Environmental Quality (DEQ) regulations, Local County Weed District Priorities and requirements and by Law must follow product label requirements.

8. All pesticide (herbicide) applicators are required to submit proposals using 1.) a Pesticide Use Proposal (PUP) form (which BLM may approve for use of up to 3 years, if same chemical, same target weed, and same area); 2.) a Pesticide Application Record (PAR) to be completed after application and promptly submitted to the district office.

9. All herbicide applications will only be applied by a Oregon State licenced and certified applicator.

10. [redacted] and guidelines and information found in "Oregon Pesticide Applicators Manual" (Miller 1993) as updated will be followed

11. Areas of known or suspected sensitive amphibians will have as a minimum 100 foot buffer strip from live water for all herbicide applications, with the exception for the use of Rodeo.

12. Herbicide Use Restrictions are as follows:

a. No vehicle mounted boom sprayers or handguns will be used within 25 feet of surface (live) water.

b. No booms would be used in riparian areas where weeds are closely intermingled with trees and shrubs.

c. Liquid herbicides can be applied (at a height of 0.5 ft to 2.5 ft. above ground) to areas for spot treatments with hand spraying (backpack) equipment (single nozzle, low pressure and volume) to within 10 feet of live water. Use of mule or horse mounted equipment would also be allowed.

d. Spreader equipment (broadcast) could be used to apply granular formulations applied at a height of about 3.5 feet, to within 10 feet of the high water line of live water.

e. Contact Systemic Herbicides (such as Glyphosate - Rodeo or Accord) may be allowed using hand wipe applications on individual plants up to the existing high water line. No aerial application of Glyphosate is allowed.

f. When wind speeds exceed 5 mph, no spray equipment will be used in riparian areas or near water, and no aerial applications are allowed in riparian or wetland areas.

g. No application of herbicides will occur if wind speeds exceed 8 mph.

h. All aerial application of herbicides will be done only by helicopter and allowed within the constraints of the Final NW Area Noxious Weed Control Program EIS (1985) as supplemented 1987, and ROD pages 1-3 (May 5 1987). A buffer strip of 100 feet will be established between target weed areas and any live water/riparian areas.

i. No aerial application of herbicides will be permitted without written approval from the authorized officer.

j. No aerial application of herbicides will be permitted when wind speeds exceed 5 mph.

k. Only 2,4-D, picloram (Tordon), dicamba, and glyphosate (Rodeo and Accord only) and approved combinations will be allowed as per ROD (1987) from Supplemental FEIS (1987). Acceptable formulations, EPA registration #s, maximum rates of application, and mixture stipulations are referenced from BLM Instruction Memo # OR-91-302 (as updated) and from Table 1-3 p. 9 FEIS (1985).

l. All chemicals will be applied only in accordance with Environmental Protection Agency standards specified on the herbicide **LABEL** and the stipulations in this EA.

m. Pesticide Use Proposals for herbicide application within boundaries of Wilderness Study Areas (WSAs), Wilderness Areas, WSR, and Research Natural Areas (RNAs) will be reviewed and evaluated by appropriate Area staff on a year to year basis. Application of herbicide for second or third year of an approved 3 year PUP is dependent upon effectiveness and Resource Area Management approval.

n. Monitoring pretreatment and posttreatment will be done yearly (pre and post spray applications) on all treated areas.

o. In aerial applications a 500 foot unsprayed buffer strip will be left next to inhabited dwellings unless waived in writing by the residents. A 100 foot buffer of unsprayed strip will be left next to croplands and barns.

p. Additional Herbicides if approved (see p. 1 and 12) may be used subject to all the above mitigation measures, label restrictions and within limits of ROD or specific approval recommendations.

q. The maximum rates of application for the four approved herbicides (per Table 3-1 from FEIS 1985): (ai = active ingredients of specific herbicide).

q. (maximum rates of application for the four approved herbicides. con)

Ground Applications (vehicle and hand)

Application of Single Herbicide:

Herbicide	Maximum Rate
2,4-D	3 lb ai/ac
Dicamba	6 lb ai/ac
Glyphosate	3 lb ai/ac
Picloram	1 lb ai/ac

Application of Tank Mixes

Herbicide	Maximum Rate
2,4-D and Dicamba	2 lb ai/ac 2,4-D & 1.5 lb ai/ac Dicamba
Picloram and 2,4-D	0.5 lb ai/ac Picloram 1 lb ai/ac 2,4-D

Aerial Applications (helicopter only)

Herbicide	Maximum Rate
2,4-D	3 lb ai/ac
2,4-D and Dicamba	2.0 lb ai/ac 2,4-D and 1.5 lb ai/ac Dicamba
Picloram	1.0 lb ai/ac

13. All other stipulations and mitigation in FEIS (1985) pp. 1-7 to 1-10, Supplemental FEIS (1987) pp. 119-122, RODs (1986) or (1987) will apply. In addition, the stipulations and mitigation from the FEIS 1991 and its ROD will apply for all additional chemcials (herbicides if or when approved for noxious weed control.

Comments and Responses:

Letter of March 21, 1994, Stuart Garrett, The Native Plant Society of Oregon, feels that we have inadequately addressed the role ORVs can play in the introduction and dissemination of noxious weeds.

1-1 **Comment:** "I feel you have inadequately addressed the role that ORV's can play in the introduction & dissemination of noxious weeds. Vehicles travel from other states, can carry seeds, and move many miles into native plant communities which are difficult to monitor".

1-1 **Response:** ORV use and vehicle access into the District's major recreational areas is a source of weed introduction and is treated as such through Mitigation Section p. 32, Cultural Practices section p. 5 and in Outdoor Recreation section p. 25. In addition, noxious weeds will be addressed in the forth coming Millican ORV and Urban Interface plans and EAs.

Letter of March 23, 1994, Joseph F. Higgins, Wilderness Watch, prefers use of hand pulling and hand tool grubbing for noxious weed control in Wilderness Study Areas (WSAs), and supports biological and cultural controls if agents are native or naturalized to the area. Hopes future WSAs management would eliminate conditions that favor noxious weed invasion i.e overgrazed and disturbed areas.

2-1 **Comment:** "Wilderness Watch would prefer that you use manual control by hand pulling and hand tool grubbing for your noxious weed control in your Wilderness Study Areas. We would also support biological and cultural controls if they utilized agents native or naturalized to the area or preventative measures such as requiring weed free hay".

2-1 **Response:** The use of hand pulling and hand tools is one of the proposed and current methods used in Wilderness Study Areas (WSAs) and will remain a very viable tool for small spot infestations. The specific application of herbicides in the lower John Day River WSAs will be addressed in a separate EA (# OR-053-3-63) as stated in the Proposed Action section p. 4. "A separate EA will be written, where the use of chemical control practices (herbicides) is proposed as part of an IWM program within the District WSAs or Was."

Biological and cultural control practices use a combination of native and introduced species as stated under the Principle Features of the Proposed Action in the Cultural Practices and Biological Control section on pp. 5 and 7. The Oregon Dept of Agriculture (ODA) is responsible and coordinates the biological control agents permitted to be released in the State and BLM is using only those ODA approved host specific introduced agents to attack specific noxious weeds.

2-2 **Comment:** "We also hope your future management of the Wilderness Study Areas will eliminate conditions that favor invasion by noxious i.e. overgrazed and disturbed areas and encourage the return of a naturally functioning, healthy ecosystem".

2-2 **Response:** Thank you for your comment. We agree.

Letter of April 12, 1994, Michael M. Borman, Vegetation Diversity Project, National Biological Survey Cooperative Research and Technology Unit, supports this well thoughtout EA with editorial changes for correctness and clarity and hopes that budget constraints identified on page 4 paragraph 4 will not obviate effort that has gone into development of this EA or overly restrict your weed control efforts on the District. Weed encroachment is truly a problem and if it is not dealt with effectively soon, it will create much greater problems for management later.

3-1 **Comment:** "I don't have copies of the Northwest Area Noxious Weed Control Program 1995 FEIS and the 1987 Supplemental FEIS, therefore, I cannot comment on content of this EA as a tiered product to those EISs."

3-1 **Response:** No request was made to this office to see any of the above FEIS documents.

3-2 **Comment:** "In general, I feel that this EA is a very comprehensive and well-thoughtout product. Most of the corrections I suggest are written in the margins of the text and are editorial in nature, primarily spelling errors and suggestions to improve clarity".

3-2 **Response:** Editorial changes have been made.

3-3 **Comment:** "On page 1, paragraph 2, the term "noxious" is used interchangeably with the term "invasive alien" which is not correct usage. Noxious is an official state or county designation. An invasive alien is not necessarily a noxious weed. The distinction should be made clear."

3-3 **Response:** Yes we agree and text on p. 1, second paragraph has been changed to reflect distinction as follows: **"It is vital to continue and expand control efforts on all public lands before noxious weeds, which are officially designated noxious by State Dept. of Agriculture and/or county Weed Boards, through their "aggressive and prolific nature" explode out of control and take over native rangelands."**

3-4 **Comment:** "I feel that quoting Asher (1993) and (Cheater (1992) on page 1, paragraph 2 as a means of justifying the Purpose/Need for the proposed action is inappropriate. Those quotes reflect personal opinion based largely on observations and conservations with others. I tend to agree with their opinions, but these publications are intended to reach the public and policy makers to get their attention and focus an interest and hopefully some resources on the issue of weed infestation. They are, however, not substantive enough to provide justification required for the Purpose and Need for Proposed Action. The same criticism is appropriate for the Hoglund (1992) reference on page 2, paragraph 2. You can say the same thing without the quote".

3-4 **Response:** Thank you for your comment. We disagree.

3-5 **Comment:** "References are made in the first 4 pages to the various types of practices. Those practices are not defined until beginning page 5. Identify for the reader where the definitions can be found."

3-5 **Response:** These various types of practices are covered in the Principle Features of Proposed Action and are referenced as such in Table of Contents and under the Proposed Action on p. 3.

3-6 **Comment:** "In Table 4, page 10, you provide an estimation of acreage to be treated during 1993 through 1998. On what basis are these estimates made?"

3-6 **Response:** For clarification, an addition to text on p. 10 Table 4. is as follows: "1/ **Treatment acreage is based upon best estimated projections from existing weed surveys and current workload, but estimated out year treatments is subject to available funding and workload capabilities.**"

3-7 **Comment:** "Page 30, last paragraph states that a potential for reduction of available food sources and/or cover could result in impact to avian (bird) species through weed removal. Rather than focusing only on what might be lost, why not identify what might be gained for morning doves and other neotropical migrant bird species with native and/or seeded introduced species replace the treated weed species. Focus on the positive rather than only on the negative in this context."

3-7 **Response:** Text was added on p.31 second paragraph to state: **"Replacement of noxious weed and seed used as cover and bird food with native species or by competitive seeding with native or introduced species, which are able to be utilized by neotropical migrant birds or morning doves, would reduce impacts from noxious weed removal."**

Letter of April 17, 1994, (received April 20, 1994) Kathleen Simpson Myron, Oregon Natural Desert Association (ODNA), "is seriously concerned with probable effects on the health of the Oregon High Desert ecosystem resulting from the implementation of the proposed actions of the EA, but also with the health of all those humans coming in contact with these chemicals, informed workers, and the generally uninformed public, as well as private landowners and their workers.

4-1 **Comment:** "What is the significance, the meaning, of the signed and dated FONSI, given that your cover letter of March 16, 1994 asks that comments be submitted to your office by April 18, 1994?"

4-1 **Response:** The signed FONSI and public review and request for comments on EA is part of NEPA process, which BLM by law and policy is committed to follow.

4-2 **Comment:** "The FONSI states "No significant impacts to the human environment would occur based upon the analysis of the FEIS 1985 and Supplemental FEIS 1987." New information on the effects of herbicides on wildlife and on humans has become available since that EIS and Supplement, and more is currently in press and soon to be published. A reproductive physiologist and an endocrinologist have discovered treads in human health and research which indicates serious male reproductive problems are related to environmental contaminants -- chemical contaminants which are estrogenic. (Apparent long range effects include human sperm counts 50% of what the counts of 50 years ago, and greatly increased numbers of case of testicular cancer, undescended testes, and prostate cancer in the last ten to 40 years. Effects on wildlife are apparently no less tragic than those on humans.) The effects appear irreversible."

4-2 **Response:** The EPA and Oregon Dept. of Agriculture have all approved the use of the BLM approved chemicals listed in the this EA, as tiered to the FEIS 1985 and Supplemental FEIS 1987. In addition, and updated listed herbicides and chemical analysis and information in the Vegetation Treatment on BLM Lands FEIS 1991 is also part of this EA as a tiered document. The Prineville District proposes to use these approved chemicals as part of the proposed action section of EA, per stipulations of the FEIS 1985, Supplemental FEIS 1987, RODs and stipulations of EA Mitigation Measures section p. 32 to 35. For clarification a text addition was added to the mitigation section on p. 35 to reflect the maximum rates of application for the four approved herbicides (per Table 3-1 from FEIS 1985) as follows:

"q. The maximum rates of application for the four approved herbicides (per Table 3-1 from FEIS 1985): (ai = active ingredients of specific herbicide).

Ground Applications (vehicle and hand)

Application of Single Herbicide:

Herbicide	Maximum Rate
2,4-D	3 lb ai/ac
Dicamba	6 lb ai/ac
Glyphosate	3 lb ai/ac
Picloram	1 lb ai/ac

Application of Tank Mixes

Herbicide	Maximum Rate
2,4-D and Dicamba	2 lb ai/ac 2,4-D & 1.5 lb ai/ac Dicamba
Picloram and 2,4-D	0.5 lb ai/ac Picloram 1 lb ai/ac 2,4-D

Aerial Applications (helicopter only)

Herbicide	Maximum Rate
2,4-D	3 lb ai/ac
2,4-D and Dicamba	2.0 lb ai/ac 2,4-D and 1.5 lb ai/ac Dicamba
Picloram	1.0 lb ai/ac

As registered herbicides by EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) the EPA must determine whether or not the herbicide poses an unreasonable risk to human health or the environment. Each of the approved herbicides already enjoys a regulatory finding by EPA that it poses no unreasonable risk to human health or the environment in light of the benefits of its use. However, the BLM's decision, cannot and does not end with reliance of EPA's judgements under FIFRA. Past studies supporting the registration of commercial products containing active ingredients proposed for use in this EA and tiered FEISs do not always coincide with current protocols for human health research. New studies and **disagreement** among experts about past studies raise more questions. Yet, still other evidence confirms the studies supporting registration. Also, science has data gaps and science does not fully inform BLM about the risks involved. It also does not mean that these herbicides are completely safe, as safe does not mean risk free. Rather, safe means that each herbicides environmental hazards and risks are acceptable ones to take. The use of herbicides also results from the determination that forgoing their use would substantially compromise the District's efforts to control or reduce noxious weed populations.

The EA's requirements that all herbicide applications to BLM public lands follow: herbicide label instructions, having specific and updated Material Safety Data Sheets (MSDSs) at site, herbicides applied only by State (ODA) certified and licensed applicators, herbicides generally being applied only once per year per site, with herbicides applied being within BLM maximum rates that are lower than maximum label application rates, would support the statement that under routine operations the public should not suffer adverse health effects as a result from the use of proposed and approved herbicides. (see response to comment 4-3 and 5-22)

This analysis in the EA and tiered FEISs and RODs on the IWM program in the Prineville District, leads to the conclusion that "No significant impact to human health and environment" are expected from adopting the proposed action (Alternative 1) as stated per EA, and discussions and analysis of FEIS 1985 and Supplemental FEIS 1987, FEIS 1991 and RODs.

4-3 **Comment:** "ONDA believes the BLM must consider this more recent research before proposing herbicide use on public lands in Oregon. Because the implications of this more recent information are that significant impacts to the human environment would occur if the chemicals (singly and in various combinations and/or formulation are used, ONDA believes the serious negative effects of these chemicals -- on native species, but especially on humans, aquatic animal life, water quality and soil health --must be disclosed and factored in. Those humans handling these chemicals are especially at risk."

4-3 **Response:** In addition, the BLM acknowledges that herbicides and formulations data considered for use in the FEISs did not completely dispel the contention that herbicides may constitute a hazard to either the environment or human health. However, the EA and tiered FEIS's do support the statement that under routine operations the public should not suffer adverse health effects as a result of the

BLM's using any of the proposed BLM and EPA approved herbicides. For clarification a text addition is added on p. 8. last paragraph as follows: **"Additional information, herbicide formulations and updated analysis (risk assessment) of the four approved chemicals along with the "Additional Chemicals" (see p. 12) is in the FEIS 1991, its Appendix E and ROD. This is incorporated into this EA as a tiered document and referenced information. Only those formulations that have been approved by BLM, EPA and ODA, which have been proven not to contain inert ingredients on EPA list 1 or 2, other than petroleum distillates will be used.** The conflicting studies and data gaps giving rise to discord about whether the herbicides may cause health effects or the fact that science has possibly failed to establish that herbicides are completely safe could justify forgoing their use. However, it is probably never possible for science to prove to everyone's satisfaction or ability to prove beyond a doubt. The Prineville District's proposed use of the EPA and ODA approved chemicals will continue until science shows that the herbicides are either in fact unsafe or likely to result in human health effects. The environmental risks, when placed into perspective, are out-weighted by the benefits of using herbicides as an integral part of an Integrated Weed Management program. (Also see comment 4-2 and 5-16 5-22).

4-4 **Comment:** "ONDA incorporates here by reference the April 4, 1994 letter written by Staff Ecologist Joy Belsky, Ph.D., on behalf of the Oregon Natural Resources Council to the Lakeview Resource Area of the Lakeview District BLM in response to that district's EA No. OR-013-03-01, and ONDA's own comment letter on that same EA. Many of the problems identified in these letters and many of the concerns are also applicable to the Prineville District documents. Copies of both letters are enclosed with this comment letter."

4-4 **Response:** Thank you for the information. This District supports the view and responses of the BLM Lakeview District Office, and we will let that district respond to your specific letter and comments to their Integrated Noxious Weed Control Program EA No. OR-93-013-03-01.

4-5 **Comment:** "The discussion on human health (page 31) identifies the "worst-case [as]...someone could get cancer from exposure to herbicides used in BLM's IWM." And that "[r]isks of one in 10,000 for occupational (voluntary) and one in one million for the general public (involuntary) are willing accepted." And finally, that "[i]n fact, human health would benefit by the reduced probability of human contact with noxious and poisonous weeds resulting form control activities

Please cite the source of this information and conclusions drawn in these statements. In light of the currently available information, some of which has been available since 1989, ONDA finds these conclusions flawed. Just exactly how would human health benefit so greatly from reduced probability of human contact with "noxious and "poisonous weeds" that human exposure to mutagenic and carcinogenic substances are found insignificant? As Dr. Belsky repeatedly states in her April 4th letter: the information available completely repudiates many of the assertions made in the Lakeview EA -- and by extrapolation, the falsely reassuring assertions made in the Prineville EA."

4-5 **Response:** Thank you for your comment and information. The Human Health section of the EA is referenced to the numerous pages of the FEIS 1985 and Supplemental FEIS 1987, updated information and analysis of the four approved herbicides for noxious weed control were also included in the FEIS 1991, its FEIS Appendix E and ROD for

"Vegetation Treatment on BLM Lands in Thirteen Western States". A text addition for clarification will add the following to the Human Health section of the EA on p. 32. ""**In addition, the summary discussion of herbicides and human health from section "2. The Herbicides' Risks to Human Health" in the Supplemental FEIS 1987 ROD and the detailed updated analysis in FEIS 1991 pp 3-64 to 3-94, and Appendix E FEIS 1991 addresses the issues and impacts of human health and use of (risk) of herbicides.**" (Also see response to comments 4-2 and 4-3 and 5-12, 5-16, and 5-22).

An example of weeds that need to be reduced due to their possible human/weed interactions is Posion and Western Water Hemlock, both are extremely poisonous plants commonly found along riparian areas where there is high visitor use by the public.

Letter of April 18, 1994, (faxed copy received 4/18/94), Karen Coulter, Blue Mountain Biodiversity Project, "who recommends that BLM's Prineville District not use any herbicides for noxious weed control or any other purpose. We are willing to help facilitate noxious weed control by safe, ecologically sound methods but if you persist in using or proposing to use herbicides, we will use all the resources and connections available to us to fight the herbicide use. We have had success in the past with public organizing and are willing to go to court over this. We hope that you will be sensible enough to avoid such a battle. Make "Ecosystem Management" and "protection of biodiversity" more than just public relation hype to mask continued destruction of the environment and human communities. It's time to face the seriousness of ecosystem destruction and toxic contamination and change course in reality to enable continued survival of the natural world on which we all depend. Each destructive project leads us further to our own destruction".

5-1 **Comment:** "Please include the enclosed comments from the Blue Mountains Biodiversity Project re: Noxious Weed Management on the Umatilla National Forest addressed to Dave Herr of the Umatilla National Forest and dated April 9, 1994 as part of our comments on the Prineville District's IWM EA No. OR-053-3-62. The text of these comments on the Umatilla's proposed noxious weed management program is generally relevant also to our concern re: the Prineville District's proposed IWM noxious weed control program for 1994-1998 with the exception of specific references to the forest Service or the Umatilla. The Bureau of land Management is also part of the guiding direction behind the Eastside Ecosystem management Project and should be held to this projects's publically expressed goals of achieving true ecosystem-scale management and protecting biodiversity".

5-1 **Response:** Thank you for your information and concerns about noxious weed management on the Umatilla National Forest and comment. The Eastside Ecosystem management Project's publically expressed goals would support an IWM program using all available control practices including herbicides as necessary management tools to protect, maintain and retain the Eastside Ecosystem's biodiversity from the existing and threatening (new weed species) invasions of noxious weeds.

5-2 **Comment:** "First, we object to the lack of full consideration of a full range of alternatives, including one specifying no herbicide use at all".

5-2 **Response:** The tiering of this EA is fully appropriate and in accordance with standards of the NEPA Handbook (H-1790-1) chapter 3 C. or 40 CFR 1508.28 "Tiering" (a) and (b)). As stated in EA on p.14 under 3. Alternatives Considered But Not Analyzed, the issue of considering and expanding alternative of No use of Herbicides, No

Aerial Herbicide Application and No Action, had already been analyzed and decided upon in the BLM's Northwest Area Noxious Weed Control Program Final Environmental Impact Statement (FEIS) (Dec-1985) and Supplement FEIS 1987 and their respective Record of Decisions. The conclusion of "No further discussion in this EA of these alternatives will be necessary, since the conclusions and impacts would be essentially the same." is still valid.

5-3 **Comment:** "It is insufficient and inadequate to tier this EA (#OR-053-3-62) for initiation in 1994 to a Final Environmental Impact Statement of Dec 1985, a Record of Decision signed April 7, 1986, a Supplemental Environmental Impact Statement of Mar. 1987, a Record of Decision of May 5, 1987 and a U.S. 9th Circuit Court implementation date of 4/7/88. The reasons we find such tiering to documents six to nine years old inadequate are as follows: 1) the public that had a chance to review and comment on these older documents is not entirely the same public that is reviewing the currently proposed action, yet the public reviewing this currently proposed action may have more at stake re: the outcome of this action than those who reviewed the earlier document. For instance, I did not live in the Prineville District during the period from 1985 to 1988 and did not know about the existence of the E.I.S. process to which the above mentioned documents refer: nor did I have a chance to comment at any point during that process. Yet I now live in the Prineville District and am buying land in the area and plan to live here during the proposed implementation period of this project 1994-1998. Therefore I, my family, my land and my animals could be subject to exposure to the herbicides propose for use by this EA during this period. I have already been exposed to aerial drift spray of 2-4-D along with the rest of my family on the land we lived on before moving to the Prineville District. We moved to this area partly because the land we left had been contaminated by 2,4-D, which was already making us sick. We wanted to move to somewhere where we would not be exposed to 2,4-D or any other herbicide and could grow our own organic vegetables, fruit, eggs and goat milk, as we have been doing on our new land. ..... To tier the limitation of alternatives to only those including the use of herbicides through the use of documents produced and approved far prior to the introduction and implementation of the current proposed project is to unjustly curtail our ability to protect ourselves from exposure to dangerous toxins. People's and other species' health, safety and viability should not hinge on considerations of convenience, expedience or greed on the part of the federal agencies and chemical companies. We are prepared to take this matter to court to protect ourselves if the decision is made to by BLM to use herbicides. I'm sure it will be easy to garner much public support of out position once the local public is educated as to the risks these herbicides present to their health, their families, their food , their water and contamination of the land. Our concerns also extend to the impairment of biodiversity in the area (and in some cases these impacts may extend outside the immediate project area)".

5-3 **Response:** Thank you for your comment and information. See response 5-2

5-4 **Comment:** "The proposed use of herbicides in Wilderness Study Areas (WSAs), Wilderness Areas, Areas of Critical Environmental Concern, Research Natural Areas and Wild and Scenic River corridors defeats the purpose of these areas' official designations in that their ability to serve as natural "control" areas by which to study the human-caused impacts to other managed areas would be impaired or eliminated and in that the natural biodiversity and viability of species populations these designations were intended to protect and preserve would be threatened by the introduction of toxic

herbicides. Many of these herbicides are non-selective as to the plants they kill and most or all have the ability to spread through the ecosystem, threatening other life forms and ecosystem functioning. The herbicides may spread through the food chain , through water, through stream sediment, through soils etc. Herbicides are obviously an inappropriate form of management to use in these designated areas according to the spirit and intent and public understanding of these designations.

5-4 **Response:** The BLM is charged to protect the natural resources and enhance the native biodiversity on all public lands including Special Management Areas (SMAs). Since noxious weeds are an extremely serious threat to that biodiversity within SMAs, we plan as stated in EA on p. 13 to use all available tools and "determine the best combination of IWM weed control practices in accordance with the provisions of this EA." Those IWM practices include the use of herbicides in WSAs and WAs under alternative 1.

5-5 **Comment:** "However, we are opposed to <u>all</u> use of herbicides as destructive of biodiversity and threatening to species population viability; purity of water, air, food, and soil and as threatening to public health".

5-5 **Response:** Thank your for your comment. We disagree and the analysis, proposed actions, and mitigation of the EA and tiered FEIS 1985 and Supplemental FEIS and RODs support our view (also see response to comments 4-2, 4-3 and 4-5).

5-6 **Comment:** "Another major objection we have to the proposed use of herbicides by the Prineville District is the District's failure to try all other methods of control first before resorting to herbicides. Instead they are planning to use herbicides without resorting to having tried all other available, ecological sound control methods first on the populations on noxious weeds in question. In fact, the District even priorities the use of chemical control over other means of control for many different species of noxious weeds in this Environmental Assessment (Table 3, p. 9) despite the fact that this same table shows that other control methods are considered for use for almost all species. In some cases, only chemical control is proposed (eg. African rue, Field bindweed, Yellow nutsedge, Eurasian Watermilfoil, Camelthorn) in violation of BLM's obligation to the public (and to the environment) to consider and try using other means of control --and to exhaust all other possibilities of other means of control--first before proposing the use of or using herbicides. There are many other, more environmental benign and public health-protective alternative means of control that must be prioritized. Cost, convenience expedience and profit factors--and also effectiveness of control, where necessary--must be given less significance than environmental and public health, safety and viability".

5-6 **Response:** A balanced IWM program uses all control practices available, this EA proposes to uses all these practices including herbicides. Table 3 on p. 9 summarizes those treatment priorities in table form as stated in EA (under Principle Features of Proposed Action section pp. 4-11. The specific treatment practice selected is based upon the effectiveness of control measures, availability of treatment capabilities (such as approved ODA biological control agents), and costs (such as those associated with effectively reseeding an area by competitive seeding where steep slopes and rockiness or WSA designation may preclude using mechanical equipment). It also reflects that physical control measures (manual or mechanical practices including prescribed fire) are not always site specific (slopes, rockiness, access to site) effective or

practical. It also is noted with the footnote 2/ that each treatment priority will vary according to infestation size and location. For clarification a text change to footnote 2/is as follows: **"infestation size, location, public health and safety, accessibility and effectiveness of specific treatment. A key factor in effective control is implementation of cultural practices keyed to early detection and early application of control practices to prevent noxious weed populations becoming established."**

5-7 **Comment:** "This undue prioritization of chemical (herbicide) control over other means may also be seen in Table 4, p. 10 under IV. "Chemical Control Practices", where almost a third of the total acreage is proposed for pesticide/herbicide use in 1994, more than one-third of the total acreage is proposed for pesticide (herbicide) use in 1995, almost two-thirds of the total acreage is proposed for pesticide (herbicide) use in 1996 and more than one-third of the total acreage in 1997 and 1998 is proposed for pesticide (herbicide) use. This hardly reflects prioritization of other means of control over herbicides!"

5-7 **Response:** Table 4 on p. 10 reflects the current status and the estimated workload for out years under this IWM program. The use of herbicides for the most part are in conjunction with control work the various County Weed Depts are conducting as part of their own program and most are asking the BLM to participate as a "Good Neighbor" and cooperator (which we are required to do by law and policy) in controlling the various counties designated Noxious Weeds on the highly fragmented public lands (except for Highway 20) along the major transportation corridors rights-of-ways (ROWs) for the U.S., State, and county highways, BLM public access roads and in some cases the powerlines ROWs. Acres are estimates (usually higher than any one projects actual treatment acreage), from the Pesticide Use Proposals (PUPs). The PUPs project area remains constant, but as the population dynamics of weeds change within project area due to control efforts and variations in precipitation and specific spreading mechanism of weed and human interactions, acres of specific treatment may change.

5-8 **Comment:** "Page 12 of the EA notes that additional herbicides are tiered to and incorporated from the FEIS for Vegetation Treatment on BLM lands into this EA if approved. The additional herbicides that could be used are then listed, but there is no analysis of their environmental or human health impacts in this EA. How is the public supposed to comment on the proposed use of these additional herbicides in the absence of any information in the EA on their inherent risk to humans, other species and ecosystem functioning? Most people commenting would not have sufficient time within the allowed comment period in which to obtain the FEIS and to thoroughly evaluate the potential impacts of the proposed additional herbicides and submit written comments on these impacts before the comment deadline is passed. It would be common for the public not to realize that impacts could be incorporated in implementation of the IWM program through these additional herbicides and for already overloaded environmental activists not to have sufficient time to go through the process necessary to uncover and respond to these hidden impacts not incorporated in the EA. (I know this was impossible for us to do within the comment period.) Therefore none of these herbicides should be used (we are against <u>any</u> herbicide use".

5-8 **Response:** No request was made to this office for any additional information on the "Environmental Impact Statement Vegetation Treatment on the BLM Lands (Thirteen Western States) 1991 (FEIS 1991) or its ROD. A text addition was added for clarification on p.

12 under Additional Herbicides as follows: **"The use of these additional chemicals is allowed in the FEIS 1985, which states on p. 8, "Other or new herbicides could be proposed for use in the future, but before their use, a hazard assessment similar to those in Appendix K will be conducted and appropriately documented." This was done in the FEIS 1991, its Appendix and ROD.** At the present time (May 1994), these additional herbicides mentioned on p. 12 of the IWM EA are not approved for use in Oregon or the Prineville District see p. 1 of EA).

5-9. **Comment:** "Potential impacts to biodiversity include damage to aquatic invertebrates and amphibeans (sic). The Prineville District Integrated Weed Management Environmental Assessment of 1994 (elsewhere referred to as "this EA") states: "Aquatic macroinvertebrates and amphibians are among the most sensitive animals to changes in environment due to inhabiting both aquatic and terrestrial ecological niches. Aquatic invertebrate (snails and caddisflys) due to their aquatic larval stages are very sensitive to minute changes in water quality or exposure to herbicides. About 10 out of 15 invertebrate species listed in Appendix 5 are aquatic." (p. 20) But then, with little justification,, the conclusion is drawn that none are expected to be impacted from IWM practices including herbicide applications under either alternative. What surveys have been done on the Prineville District for any or all of the species listed on p.21 as sensitive aquatic invertebrates such as Caddis flies on the District? Consider this a Freedom of Information Act request for the survey protocol, survey forms and survey results for sensitive amphbeans (sic) (including all those listed on p. 21 of this EA) and sensitive macroinvertebrates. In the absence of adequate surveys (recent, comprehensive, by trained professionals in the field and adequate mitigation concerning known populations of sensitive amphibeans (sic) and invertebrates, the conclusions reached of "no significant impact" under "9. Special Status Animals" pp. 20-21 are invalid and the project must be canceled pending such surveys, knowledge and adequate provision for mitigation or avoidance. There is inadequate analysis of the potential impacts to special status animals in this EA."

5-9 **Response:** The FOIA portion of this comment was answered by this District by the letter send to you on May 12, 1994. The analysis of impacts due to herbicides on Special Status Animals was covered in the EA and further covered in tiered FEIS and Supplemental FEIS. An additional mitigation measure will be added to mitigation section of the EA and incorporated into the proposed action as follows:
"11. Areas of known or suspected sensitive amphibians will have as a minimum 100 foot buffer strip from live water for all herbicide applications, with the exception for the use of Rodeo."

5-10 **Comment:** "Similarly, in the absence of existing surveys of special status plants and prior knowledge of their status and exactly what mitigation measures are proposed, it is impossible for the public or the environmental community to adequately address potential impacts to special status plants through this EA. BLM assurance that "surveying of treatment area and avoidance or change to less disruptive methods (manual) for special status plant areas will minimize the impacts to these communities (p.21) is not enough. We need to know exactly how BLM proposes to avoid these communities or change to "less disruptive methods" and where these plant communities are in order to properly assess the threat to these plant communities. We also need to know in advance which plants would be affected and what herbicide is proposed for treatment of plants in the vicinity. How can we agree to the parameter of a project without knowing the specifics involved, including the

specific impacts? This is not a legitimate process for obtaining public comment/input on proposed environment impacts."

5-10 **Response:** EA states how process would work and the degree of plants affected. Most of the weed control work is concentrated in highly disturbed areas (ROWs and old agriculture fields) where the presence of Special Status plants is basically non-existent.

5-11 **Comment:** "On p. 23 of this Prineville District IWM EA it stated that: "Picloram, Dicamba and 2,4-D, being somewhat mobil herbicides, can move through the soil profile and potentially into shallow groundwater tables. This is of great concern to us re; the spread of these herbicides into the ecosystem and the contamination of growundwater and soils. This concern alone should prohibit the use of Picloram, Dicamba and 2,4-D given their toxic composition. The Prineville District encompasses range land (with the cattle becoming meat consumed by humans, also sheep), farm land producing food, springs on which human and animal residents depend for clean water, recreational sites and living areas (residential) by which humans could be affected by contaminated soil and water and wildlife, fish and insects could be affected by contaminated soils and groundwater--also non-target plants. The risks are great enough with the use of toxic herbicides to warrant erring on the side of conservation and public safety rather than on the side of optimistic projections about lack of impacts that can't be guaranteed.

5-11 **Response:** Thank you for your comment. The proposed impacts to soil and water were discussed in the EA. The proposed EA actions and mitigation measures as well as the analysis of chemicals proposed in FEIS and Supplemental FEIS, clearly address the impacts and risks of using herbicides and share your concerns of your comment.

5-12 **Comment:** "Proposed herbicide use in recreational sites is of concern to us in that herbicides could threaten plants, animals and people in these sites--in the last case, especially children. People coming to recreational sites are not expecting nor wanting to deal with toxic hazards. They certainly did not leave the cities to relax in the country with the continued presence of toxic risks threatening their safety and happiness. Children play in the dirt, eat berries, dabble in shallow water and otherwise are often at greater risk than adults to herbicide contamination. Other means of noxious weed control should be used."

5-12 **Response:** Chemicals are only applied in recreational areas by very selective means and usually spot treatments only, using all approved safety standards in applications. They are only applied by ODA approved State of Oregon licensed applicators following all EPA approved (label and product warnings) for entry etc. In addition, most often they are applied during the mid week days and early part of growing season (not during peak use periods or during the higher visitor use days on the weekends. Also some of those same berries and noxious weed plants are very toxic to humans, especially children.

5-13 **Comment:** Drift to non-targeted areas is a potential impact (specified on p.27 of this EA) of great concern to us. There should be no aerial spraying of herbicides or other chemicals. Spraying 2,4-D and other health-threatening herbicides is nothing short of suicidal. I will not voluntarily allow myself, my land, or my family to be sprayed with 2,4-D or other dangerous herbicides again. The cumulative impacts of repeated exposure to these toxic chemicals is not addressed in this EA and must be. People must have the right for their land, their animals and themselves and their families not to be sprayed with toxic chemicals. My and my family's exposure to

2,4-D did not happen in the Prineville District but is nonetheless completely relevant to our continued health and safety in the context of potential repeated exposure to 2,4-D and other toxic herbicides. In other words, the potential for past exposure to herbicides elsewhere as well as on the District in question and the potential for increased health risk as the result of repeated exposure after past exposure to herbicides must be addressed. This EA does not address such cumulative impacts of repeated exposure to herbicides. Repeated exposure to suspected carcinogens such as 2,4-D can increase (and may be expected to increase) the risk of cancer to the exposed victim (in this case, myself and my family.) Repeated exposure to other potential health threats from herbicides may also be expected to increase the risk of those health threats. Therefore, lack of analysis of the cumulative impact to public health and species viability of biodiversity of repeated exposure to herbicides is a serious and inexcusable omission in this EA."

5-13 **Response:** For clarification a text statement is added to the EA on p. 31 as follows: **"The cumulative analysis of expected impacts for workers, humans and wildland resources along with risk assessment of using these herbicides was addressed in the FEIS 1985 and Supplemental FEIS 1987 and their respective RODs. In addition, impact analysis for additional chemicals as well as the currently four approved herbicides (Picloram, Dicamba, 2,4-D and Glyphosate) were analyzed and updated in the FEIS for Vegetation Treatment on BLM Lands (Thirteen Western States)", May 1991, its Appendixes May 1991 and ROD July 1991.** A text addition was added to mitigation measure # 7 on p. 33 as follows: **"and by Law must follow** all product label requirements." In addition, a mitigation measure was added as follows: **"10. Material Safety Data Sheets (MSDSs) for each herbicide being applied will be at site with applicator, and guidelines and information found in "Oregon Pesticide Applicator Manual (Miller 1993) as updated will be followed."** Also see response to comments 4-2,4-3, 4-5 and 5-22)

5-14 **Comment:** "Another problem is the non-selective nature of many of the proposed herbicides toward plants. Eg "Glyphosate...is abroad spectrum, non-selective herbicide that affects most perennial plants, annual and perennial grasses, sedges and broadleaf plants." (p. 27) This is not just a concern for sensitive plants, but also for habitat diminishment in general. Application of glyphosate has been shown in a three year-research study to cause declines in birds (including imperiled neo-tropical songbirds), small mammals and invertebrates due to degradation of habitat as well as other potential contamination effects--i.e. the decline in cover, protection form the sun, cooling of water in streams from riparian plants, food sources in plants destroyed for the herbicide, etc. as well as berries and other food plants contaminated by herbicides then eaten. These impacts to biodiversity are unacceptable.

5-14 **Response:** Your mentioned environmental concerns i.e. habitat diminishment and so forth are the same reasons we use a IWM program including herbicides to reduce noxious weed populations. The use of glyphosate is generally applied using backpack or ATV handgun applications only for very small spot treatments. The total annual proposed (estimated) use of glyphosate in this EA is for 2-3 PUPs, covering about 30 acres of project area (actual treatment area would be less).

5-15 **Comment:** "The statement on p. 27 on the EA, "Management directed towards maintenance of biodiversity and native plant ecosystems requires the use of all aspects of an IWM." is simply false when it is considered that all aspects of an IWM are assumed to include herbicides and when all impacts of herbicides on biodiversity and

native plant ecosystems are taken into account. The threat of herbicides to biodiversity and native plant ecosystems far outweighs potential benefits of herbicide use to biodiversity and native plant ecosystem due to the pervasive nature of contamination and spread through the ecosystem and food chain of herbicides and their toxic ramifications.

5-15 **Response:** Thank you for your comment. We disagree that our statement is false.

5-16 **Comment:** "Re: p. 28, #19--It seems unlikely that there would be adequate care and effort taken to move livestock and wild horses away from herbicide-contaminated areas for long enough periods of time to protect them from poisoning. It also seems obvious that this would be more labor-intensive and costly than prevention of poisoning through the use of non-toxic control measures instead of herbicides. Further, what about all the other smaller and wild animals in these areas at risk? If wild horses and livestock are susceptible to contamination by the herbicides, then it must follow that deer, elk, pronghorns and a whole host of smaller wild animals who are herbivores also need protection from the herbicide-treated areas. If the threat of herbicide poisoning is serious enough to require movement of wild horses away from affected areas, it must be sufficient to affect grazing wildlife, yet these impacts to ungulates and other herbivorous wildlife are not addressed in this EA.

5-16 **Response:** As stated in EA "impacts to livestock and wild horses are discussed on pp. 43-45 of FEIS-1985. It also referenced Table 3-2 on p. 44 as summarizing the effects of domestic livestock eating the various noxious weeds or a few poisonous plants. A statement for clarification is added to text p. 28, second paragraph as follows: **"All chemical treatments are generally applied in a form or at such low rates that they do not affect livestock and label instructions are required to be followed if livestock are present. Major treatments under the proposed action would be applied when livestock are not in treated pasture, spot treatments may occur at any time. As analyzed in the FEIS-1985, the elimination of livestock from the treatment areas relates to label restrictions of specific chemical when animals consuming forage treated with certain chemicals (Picloram, 2,4-D and Dicamba) cannot be slaughtered for food within the period of time specified on the herbicide label. In addition, dairy animals should not be grazed on treated acres, again for the specified time on herbicide label.** The wildlife concerns and impacts were discussed and referenced in EA to FEISs. (see response to comment 5-19 and 5-20)

5-17 **Comment:** "Under #20, Forestry, p. 28: Exotics like annual rye should not be used for reseeding if they have potential to establish themselves in the area. Rather native grasses should be used whenever possible or, if necessary, short-lived legumes that return nutrients to the soil but will not perpetuate themselves on the site."

5-17 **Response:** Annual rye is not expected to establish itself, but a text change on p.28 is added after "like annual rye," as follows: **"native grasses and short lived legumes,"**

5-18 **Comment:** "Herbicides are more destructive and unnatural to crucial soil communities than the use of fire or manual control methods. There are ways to control the impacts of prescribed burns through timing of use, only using fire under appropriate moisture and wind conditions, etc. The spread of herbicides is much harder to control or prevent and has more toxic, far-reaching ramifications. The

description of the soil behavior of 2,4-D, Dicamba/Banvel, Glyphosate/Rodeo and Picloram/Tordon on p. 29 should be enough to rule out the use of these chemicals on the Prineville District. For instance, it is stated that 2,4-D degrades faster in moist soils having higher organic matter content. Soils in the Prineville District tend to be mostly dry with low organic matter content, implying a longer residence time for 2,4-D in these soils. 2,4-D also tends to rise up out of the soils again into the air and water after rainfall events, creating a cycle of recurrent contamination. Mobility through the soils (spreading it through the ecosystem) is relatively high for 2,4-D and even higher for soils having lower organic matter content, as is typical for the Prineville District. Dicamba/Banvel is also characterized as highly mobil and mainly lost through microbial decomposition rather than the photodecomposition which would be more predominant in these desert-like soils. Persistence for glyphosate/Rodeo in soils is stated to be about 2 months and potentially longer in sandy soils! That is a lot of time for impacts to take place to plants, wildlife and humans, and for glyphosate to be transported in stream sediments out of the immediate project area. Picloram/Tordon can be leached, is said to be moderately to highly persistent in soil, staying in the soil for up to a year and within the top 12 inches--a continuing threat to plants, forage, crops, springs, irrigation water, wildlife, etc.--this is especially of concern in an agricultural and ranching area like the Prineville District so heavily dependent on soils, grasses and crops. None of these chemicals should be used."

5-18 **Response:** The District Soil Scientist reviews every Pesticide Use Proposal and includes mitigation measures and/or changes the chemicals proposed for use if deemed appropriate for environmental reasons, both fire and mechanical weed control practices have a greater impact to the soil resources than herbicides. Again, the use or not to use chemicals is not an alternative of this EA, and they are needed as part of a total IWM program.

5-19 **Comment:** "There is insufficient (indeed, laughable analysis of the risks to wildlife from the use of herbicides in this EA. It is not enough to say that there are risks dependent upon application rates, dermal penetration rates and the inherent toxicity of the compounds (as stated on p. 30, # 24). What are the exact health and other risks to which species by which chemicals according to what scenario of use? We do not have sufficient information to judge the severity of risk to particular species or to now exactly what is being proposed. The "order of decreasing risk to wildlife" fails to specify how server the risks from these chemicals are. Tiering this assessment of risk to other pre-existing documents fails to elaborate the specific risks of this particular proposal open to public comment. This makes informed public comment impossible as to the specific risks that could require mitigation avoidance to other response. Statements like "No life-threatening impact is likely to result from application of any treatment method..." and "No impacts under either alternative are expected to the fish species and aquatic organisms from herbicide application." need to be substantiated. This is not a good faith exercise but a scientific evaluation of risk--assessment of potential impacts. How were these conclusions of 'no life-threatening impact" or no impacts "expected" reached? The public has the right to know what data and methodology these conclusions have to support time. Research used to reach these conclusions must be cited. If there is insufficient research to allow these conclusions, the conclusions must be thrown out and risks reassessed or the project canceled."

5-19 **Response:** To include all the specific impact analysis and references of FEIS 1985, Supplemental FEIS 1987 and updated

herbicide information and references in the Vegetation Management FEIS 1991 into this EA is beyond the scope of this EA and that information is incorporated as a tiered document per NEPA guidelines. Impacts of "No life-threatening" or "No impacts under either alternative are expected to the fish species and/or aquatic organisms is a result of those FEISs analyses and the specific application and environmental review practices and mitigation measures adopted in this EA.

5-20 **Comment:** "Again, saying that a reduction is available food sources and/or cover "may impact some species is not adequate. Which neotropical migrant and other bird species would be affected and how much would they be affected? How serious would the consequences be? How much decline in these species could result? What mitigation is proposed or possible? Without such information (see bottom, p. 30), informed public response is difficult at best and the project should not proceed."

5-20 **Response:** A text clarification is added on p. 31 as follows **"The amount of acreage treated (mostly along road Rights-of-Ways see Table 4 and Appendix 2) with chemicals is so small District-wide that impacts on any one population of birds is expected to be minimal and not quantitative."** It is suspected that a far greater impact would be that birds would be killed by vehicles when they were utilizing weed species (untreated) along road rights-of-ways. Also see comment 3-7.

5-21 **Comment:** "Under #25 "Social and Economic" on p. 31, it should be noted that more economic benefit goes to local communities from control methods other than herbicide use as they tend to be more labor intensive. With herbicide use, most of the profit goes to the chemical companies."

5-21 **Response:** A text addition and modification on p. 31 is as follows: **"The local economy is benefitted by all IWM control practices, through** increases in local spending, labor, equipment and materials. **However, labor intensive manual and mechanical control practices (contracts) may provide a more direct economic benefit in the form of employment and wages."**

5-22 **Comment:** "Under #26 "Human Health" on p. 31, the last statement on the second paragraph is deceptive. Just because Oregon's current population is only estimated to be about 2.7 million, that does not mean that there is less likely to be cancer in Oregon's population from the proposed project (as implied by paralleling the OR population statement with the risk to the general public of one out of 10 million individuals for someone to be at risk and contract cancer form the herbicide use in the Prineville District. Further, we reject with great anger the use of the statement that "Risks on one in 10,000 for occupational (voluntary) and one in one million for the general public (involuntary) are willingly accepted." (Emphasis ours.) Willingly accepted by whom? We never willingly accepted these risks and still don't. Further workers are often unaware of the true risks they face (eg. warning labels are often removed form toxic chemical containers: workers are often not given adequate protective gear to use; workers are seldom if ever given full information about all the potential health risks involved so occupational risks of cancer are not really "voluntary" at all. Human health is far less threatened by noxious and poison weeds than by toxic chemical use--the last sentence is very (and probably intentionally) misleading. Evaluation of health risk in this EA is inadequate and highly immoral."

5-22 **Response:** We disagree. The human health analysis of impacts were summarized from the tiered and referenced FEIS 1985, Supplemental FEIS 1987, their RODs. However, for text clarification on p.32 the following is added: **"The use of only Oregon State (ODA) certified and licensed applicators for all herbicide applications on BLM public lands, using only BLM, ODA and EPA approved herbicides, following all state requirements per license and information in Oregon Pesticide Applicators Manual (Miller 1993), all instructions per specific herbicide LABELS (as required by Law), using proper and required Personal Protective Equipment (PPE), Material Safety Data Sheets with applicator at site, and specific EA proposed application and mitigation stipulations reduces the human health, and environmental risks and impacts of using herbicides in the Prineville District IWM program to levels below those accepted in the FEIS 1985 and Supplemental FEIS 1987 and their RODs. This does not mean that these herbicides are completely safe, as safe does not mean risk free, rather safe means that each herbicide's environmental hazards and risks are acceptable ones to take based upon best available knowledge and proper use."** Also see response to comment 4-2, 4-3, and 4-5.

5-23 **Comment:** "Before herbicides can be used, there must be an assessment of the current and past methods used to control noxious weeds. This assessment would have to prove that other methods have been implemented fully and consistently and have proven ineffective and inadequate to control the spread of noxious weeds. A full range of alternatives to herbicides should have been proposed and implemented without the any use of herbicides prior to proposing or implementing the use of herbicides".

5-23 **Response:** The alternative for the use or non-use of herbicides was decided by BLM in the FEIS 1985 and Supplemental FEIS 1987 their respective RODs and updated chemical analysis was done for the four approved chemicals and the possible additional chemicals in the Vegetation Treatment on BLM Lands (in Thirteen Western States) FEIS 1991 and ROD 1991. This EA is tiered to those documents and decisions (see page 1), and that herbicides are an integral part of the Prineville District's IWM program.

It is stated in the Principle Features of the Proposed Action why the District needs all available means to control weeds including the use of herbicides.

5-24 **Comment:** "Herbicides contain many inert ingredients of unknown and varying levels of toxicity which have not been address in this EA. It is essential that all of these inert ingredients be disclosed by agencies to the public so that informed decisions can be made."

5-24 **Response:** Inert ingredients for the EPA and BLM approved chemicals were analyzed in FEIS 1985, expanded upon for the Supplemental FEIS 1987 and updated for the Vegetation Treatment FEIS 1991. BLM is using only those EPA approved chemicals formulations that have been reported by EPA to contain no problems with the chemicals inert ingredients constituents. Also see response to comment 4-3, and Supplemental FEIS p. 52 response to comment 37-3 to 37-6).

5-25 **Comment:** "Full, independent scientific study of the health impacts and the cumulative health and ecological impacts of each herbicide proposed for use should be (but is not) included in this EA. Already the family of a Forest Service worker who died (from suspected 2,4-D effects) has been awarded $1.5 million. Continued use of herbicides in the light of current knowledge goes beyond negligence into the realm of criminality.

"Consider this a Freedom of Information Act request for a summary of field survey methods and results used to determine the effectiveness of non-herbicide and any herbicide control methods used to date on the Prineville District; including dates, control methods, locations and duration and frequency of use."

5-25 **Response:** BLM relies on the scientific analysis of the EPA approval process for its analysis of approved chemicals. The FEIS 1985, Supplemental FEIS 1987 and up-dated analysis in the Vegetation Treatment FEIS 1991 as tiered to by this EA covers the expected cumulative and ecological impacts for the proposed chemicals to be used. See response to comments 5-16, 5-22 and 4-2,4-3,and 4-5. The FOIA paragraph request was answered in letter sent to you by this office, dated May 12, 1994.

PRINEVILLE DISTRICT
INTEGRATED WEED MANAGEMENT

EA Number: OR-053-3-062

US Department of the Interior

Bureau of Land Management

Prineville, Oregon

March, 1994

EA Team Leader:

Lawrence C. Thomas, Envirnomental Protection Specialist — Date: June 9 1994

Reviewed By:

Ron Halvorson, District NEPA Coordinator — Date: 6/9/94

Approved and Accepted

Dick Cosgriffe, Central Oregon Resource Area Manager — Date: 6/13/94

James G. Kenna, Deschutes Resource Area Manager — Date: 6/9/94

TABLE OF CONTENTS

LIST OF APPENDIXIES

LIST OF MAPS

LIST OF TABLES

PRINEVILLE DISTRICT INTEGRATED WEED MANAGEMENT

EA Number: OR-053-3-062

BLM Office: Prineville District Office

Resource Areas: District-wide, both CORA and Deschutes Resource Areas

Location of Proposed Action: All Public Lands District-Wide (see Map 1)

EA Team Leader: L.C. Thomas

A. PURPOSE/NEED FOR PROPOSED ACTION

The purpose of the proposed action is to continue and expand the District's noxious weed control and eradication efforts using an ecosystem based Integrated Weed Management (IWM) program covering all public lands District-wide. The current district-wide Noxious Weed Control Program Environmental Assessment (EA) (No. OR-050-88-86) for calendar years 1988-1993, dated 9-15-88, was out of date effective Sep 30 1993.

Noxious weed eradication or control is a vital tool for ecosystem management because it protects biodiversity and watersheds through maintenance of native vegetative diversity, and improvement of native rangelands. "The single greatest threat" to the native rangeland biodiversity and "recovery "to the less than healthy rangelands" and watersheds is the rapidly expanding invasion of noxious weeds (see Noxious Weeds In Eastern Oregon Oct. 1993 - Asher 1993). It is vital to continue and expand control efforts on all public lands before noxious weeds, which are officialy designated noxious by State Dept. of Argiculture and/or county Weed Boards, through their "aggressive and prolific nature" explode out of control and take over native rangelands. In large part the "invasion of alien plants into natural areas" and the crowding "out of native flora and fauna has been stealthy and silent, and thus, largely ignored" (Cheater 1992).

The proposed action is also required to meet environmental and legal concerns over control of noxious weed expansion into native rangeland, riparian areas, Wilderness Study Areas (WSAs), Wild and Scenic Rivers (WSRs) adjacent private agricultural lands and recreational sites in this District (see Noxious Weed Strategy for Oregon/Washington BLM (Draft) June 1993 - Bolton 1993).

IWM control practices and actions are based upon BLM's main authority and direction for controlling noxious weeds: Federal Land Policy and Management Act of 1976, 43 USC 1700 et seq. (FLPMA); and Public Rangelands Improvement Act of 1978, 43 USC 1901 et seq. (PRIA). The Federal Noxious Weed Act of 1974 (7 U.S.C.2801-2813) as amended by Sec. 15, Management of Undesirable Plants on Federal Lands, 1990 (PL 93-629) and the Carlson Foley Act of 1968 (PL 90-583) direct weed control activities on federal lands. The State and County laws also place responsibility for noxious weed control on public lands with the federal land management agency.

This Integrated Weed Management (IWM) EA No. OR-053-3-062 for initiation in FY 1994 is the District-wide update. This EA is tiered to the Northwest Area Noxious Weed Control Program Final Environmental Impact Statement (FEIS-Dec 1985), and Record of Decision (ROD-April 7, 1986), the Supplement Environmental Impact Statement (SEIS-Mar 1987) and ROD (May 5, 1987) and U.S. 9th Circuit Court implementation date of 4/7/88.

In addition, the noxious weed sections, including the expanded list of EPA-approved herbicides found in the Final Environmental Impact Statement for Vegetation Treatment on BLM Lands (Thirteen Western States), (May 1991) , its Appendix (May 1991) and ROD (July 1991) will be incorporated into the District's Integrated Weed Management (IWM) program and this EA. These additional chemicals will be incorporated only after final approval from the Solicitors Office, U.S. Justice Dept and 9th U.S. Court review. The expanded list of herbicides are listed in the proposed action (Additional Herbicides p. 12) and their use will be as stipulated in the proposed action of the FEIS (May 1991) and its ROD.

Implementation and Objectives

This District-wide proposal is to implement the second updated/new IWM EA to allow control of noxious weeds on all public lands, consistent with the agreement reached with the 9th Circuit Court of Appeals, and guidelines outlined in the April 7, 1986 and May 5, 1987 Records of Decision for FEIS (1985) and Supplemental FEIS (1987). The Prineville District IWM EA and Program's primary objectives for noxious weed control correspond in summarized form in Table 1, to those found on p. 119 of the Supplemental FEIS (1987). It also incorporates and uses weed control strategies and guidelines of Appendix 4 from the Noxious Weed Strategy and Guidelines for OR/WA (Draft) BLM June 1993 (Bolton 1993).

The overall objective of the proposed action will be to feature/balance all aspects of an IWM plan for noxious weed control (see Table 1). The major goal of this IWM is to implement a program and/or practices which reduce the populations or eradicate where possible the targeted noxious weeds and "alters the habitat which supported the weeds in the first place" (Hoglund 1991).

Table 1. Prineville District's IWM Objectives

1. **Potential New Invaders** (Priority I Weeds): Educate the public, users and employees of potential noxious weeds not yet discovered or occurring within district. Information exchange focused to yearly inventory (see Appendix 6) and seasonal monitoring as part of IWM (See Tables 2,3,4,5,8 and Appendix 1, 2 and 3).

2. **Eradication of New Invaders** (Priority II Weeds): Eradication of noxious weeds (highest District priority for funding) before they become established on any public lands within the District. An IWM that emphasizes an immediate response, yet balanced ecosystem based approach which includes Cultural (preventative) practices; Physical (manual, mechanical, prescribed fire) practices; Biological (competitive seeding, biological control agent releases) practices and Chemical (herbicide, fertilization) practices for noxious weed control. These practices and methods are tiered to surveys, information exchange about adjacent lands, educational awareness for weed identification, site specific information on all infestation sites and identification and treatment of the causes of infestation to prevent reintroduction (See Tables 2,3,4,5,8 and Appendix 1, 2, 3, 6 and 11).

3. **Established Infestations** (Priority III Weeds): Control or reduce existing infestations or populations of noxious weeds to below levels that may cause undue and unnecessary environmental degradation or impair economic productivity on BLM public lands and/or spread of noxious weed onto adjacent private lands. Treatment priority given to "breakouts" and tied to long term environmental, human and economic concerns. Treatment measures based upon practicality/cost/effectiveness compared to success. Approved and effective biological control agent releases would be focused on main infestations. (See Tables 2,3,4,5,8 and Appendix 1, 2,3, 6 & 11).

Conformance with Applicable Land Use Plans

The IWM proposed actions for controlling noxious weeds is subject to and in conformance with the following land use Final Environmental Impact Statements and associated plans:

1. Brothers/LaPine Resource Management Plan (July 1989) - Record of Decision (ROD) and Rangeland Program Summary (RPS) p. 126

2. Two Rivers Resource Management Plan (June 1986) - Record of Decision (ROD) and Rangeland Program Summary (RPS) p. 31

3. John Day Resource Management Plan (Aug 1985) - Record of Decision (ROD) and Rangeland Program Summary p. 12

4. Lower Deschutes River Management Plan and Environmental Impact Statement (Jan 1993) Vol. 1 p. 82

5. John Day River Management Plan and Environmental Impact Statement (Draft) (October 1993) p. 92

B. PROPOSED ACTION AND ALTERNATIVES CONSIDERED

1. Proposed Action

The proposed action is to implement an updated/new Integrated Weed Management (IWM) program. This proposed action would emphasize a proactive (all available control methods) for an ecosystem based approach for control (eradication) of noxious weeds on all public lands within the Prineville District.

Its actions are tiered to all referenced plans (FEIS, SFEIS and RODs) and incorporated stipulations, mitigations and guidelines for noxious weed control measures.

These IWM control measures include Cultural Practices (preventative), Physical Control Practices, Biological Control Practices and Chemicial (herbicide) Control Practices (see IWM practices in Principle Features of Proposed Action section pages 4-11). These measures will be available to be used on all District public lands to include Wilderness Study Areas (WSAs), Wilderness Areas (WAs), Areas of Critical Environmental Concern (ACECs), Research Natural Areas (RNAs), Wild and Scenic River corridors (W&SR) and recreation sites within the Prineville District.

The proposed action and all alternatives will incorporate all features of the mitigation section as part of the proposed action.

Control actions will be implemented following objectives 1,2 and 3 of Table 1. They will also follow priorities addressed by the County-State-BLM in the Cooperative Agreement Relations/Actions section (p. 12) to address BLM noxious weed control priorities, which are tiered to the State and Counties' noxious weed lists. These lists prioritize the designated weeds into a (T), (A), (B), (C) or (Q) class (see Appendix 1).

The District priority areas for noxious weed treatment/control work, inventory and monitoring on the public lands have been prioritized into six basic categories or zones (see table 2).

Table 2. District Priority Treatment Areas or Zones

Priority	Description of Area
1.	Areas adjacent to private agricultural croplands.
2.	Areas on or adjacent to major public rights-of-ways: Federal, state and county highways and associated gravel stockpile sites, railroads, ditches, canals, pipelines (PGT) and powerlines (BPA and local utilities).
3.	Areas within WSAs, WAs, ACECs and RNAs not treated previously.
4.	BLM managed administrative sites such as office, warehouse, storage or fire guard stations, developed recreation sites or campgrounds, as well as primitive undeveloped campgrounds and recreational areas along the lower John Day River and lower Deschutes River.
5.	All other rights-of-way, BLM roads, reservoirs and springs, areas adjacent to rivers, especially lower Deschutes River and John Day River, streams, canals, and riparian areas.
6.	All remaining affected public lands.

A separate EA (# OR-053-3-63) for the lower John Day River downstream from the Clarno area, including Lower John Day River (#5-6), North Pole Ridge (#5-8), and Thirtymile (#5-1) WSAs will address site specific impacts due to the proposed use of Cultural (preventative) Practices, Physical (manual and prescribed fire) Practices and Chemical (herbicide) Practices to control specific noxious weeds problems.

BLM noxious weed priority and treatment methods are shown on Table 3. The District's projected (estimated) average annual (1993-1998) noxious weed treatment acreage by treatment method is shown in Table 4.

The noxious weeds identified by State class A,B, and T lists plus the class A, B and C lists from county weed districts will receive first priority for funding and control on BLM lands in all counties. These State and County Class A, Class B, Class T and/or Q and C weeds lists (usually updated annually) summarized in Appendix 1 and prioritized in Table 3 for BLM public lands will be requested from each county each year. The Class A and T weeds will have priority (funding) over Class B weeds which will have priority (funding) over Class C weeds for control actions. Not every county's list is the same. In those areas having multiple infestations of different weed species, the highest priority weed is the major target, although the eradication/control of a lesser priority weed if present would also occur.

Control work in the District will only be done within District budget, funding and planning limits in accordance to stipulations tiered to FEIS-1985, SEIS-1987 and ROD guidelines and mitigation as described with above stated documents.

Close cooperation will be maintained with the Oregon Dept of Agriculture (ODA) and the appropriate county and other agencies' noxious weed coordinators (within and adjacent) to the District to ensure continued cooperation and updated coordination in noxious weed inventory, control and eradication efforts.

The 1993-1996 period of current/proposed noxious weed control activities are shown in Appendix 2. These activities during period 1996-1998 are expected to continue and expand as estimated in acreage and number (see Table 4).

Principle Features of Proposed Action

The principle features for an ecosystem-based approach to an IWM program is the coordination and cooperation of noxious weed control efforts on all affected lands (public, state or private). BLM policy limits its efforts for treating only public lands, but adjacent federal, state (ODA and ODFW), and private efforts in cooperation/coordination with the county weed departments will be the principle feature of BLMs coordination efforts. These efforts are focused on both indirect Cultural (preventative) actions and direct Physical, Biological or Chemical actions on the weeds themselves, such as handpulling, discing, prescribed fire, biological control agent (insect, pathogens) releases or herbicide applications. The indirect actions focus on the site specific environmental or biophysical aspects. These indirect actions tie into the social and human behavior aspects of the particular weed problem focused on enhancing the natural controls, modifying people's attitudes for the needed or required maintenance activities to prevent establishment of a weed or a change of environmental requirements needed by the weed (Hoglund 1991). These activities are the focus of Cultural Practices.

Direct actions (treatments) are targeted to actions on the specific weeds themselves. These actions are presented in the Physical Control Practices, Biological Control Practices and Chemical Control Practices (see pp. 5-12). These features along with inventory and monitoring, and interrelationships with state, county and local governments, are described on pp. 1-11 and 14-18 of the FEIS (1985), and on pp. 2-9 of the Record of Decision (1987) and Appendix 4 (Bolton June 1993). They are tiered/incorporated into this EA as referenced material.

Cultural Practices

Cultural Practices as summarized and listed below are incorporated into the proposed action in this EA and described in further detail in Noxious Weed Strategy for OR/WA BLM - Appendix 4 (Bolton 1993.) They are both indirect and direct practices designed to minimize the spread of existing infestations, but also to prevent weed establishment. These cultural practices are a key component of the District's IWM, and are not only the best control practices, but are also some of the most effective and cheapest long term practices.

These cultural practices will be used wherever possible, to reduce the risk of unknown sources of contamination, reduce spread (seed sources) and identify new infestations.

1. Clean all heavy equipment used on BLM land (including Rights-of-Ways) prior to moving onto BLM lands or before changing geographic areas.

2. **Require weed free hay** for the feeding of hay to livestock and big game animals on the public lands. Inspect all feeding sites during the summer after they are used.

3. Use only certified seed that has been checked for noxious weed seed prior to seeding public lands (Cook 1991).

4. Reclaim disturbed sites/areas as soon as practical with a BLM approved seed mixture. Temporary fencing of newly seeded sites within grazing allotments may be required to assure establishment of new seeding. Sites should be rested from grazing for at least two growing seasons after planting (per BLM District policy - p. 97 Brothers/LaPine RMP).

5. Monitor all vegetation manipulation and revegetation projects, i.e. prescribed fire areas, timber harvest activities, seedings, juniper control areas or other disturbed sites like rock (material) pits for noxious weed infestations and initiate control efforts as needed. "Activities that cause bare soil on range and pastureland should be minimized" (Leininger 1988).

6. To reduce the areas of enhanced opportunity for potential noxious weed invasion, evaluate sites within the priority treatment zones # 1-6 of Table 2 for vegetative management practices and initiate changes in management in those zones where native or seeded vegetation is in a downward trend.

7. Limit, restrict or discourage recreational, especially ORV use in weed infested areas (Leininger 1988).

Physical Control Practices

Physical control practices are Manual, Mechanical and Prescribed Fire

Manual control practices (hand pulling and hand grubbing with hand tools such as shovel, hoe, pulaski) are covered by this EA. They are usually highly labor intensive, often requiring periodic retreatment efforts within the same growing season. In addition, manual practices may include the need to collect plant residue (dependent upon site, species and plant maturity) by bagging or piling and burning, for proper disposal. They may be relativly ineffective against deep rooted perennials such as Leafy Spurge, Dalmation Toadflax, Russian Knapweed, Purple Loosestrife or Rush Skeleton Weed. Best results are often on small satellite patches of a few plants to less than 1 acre, and targeted to annual and biennial noxious weeds (see Table 3 and Appendix 2). Depending upon the targeted weed species, it may also be one of the few currently available options for control within riparian areas and areas very close to water.

Manual control efforts (hand pulling and hand tools) would be limited to less than 5 acres per infestation site. Control efforts may be permitted after Resource Area staff review of the same site specific information and/or

mitigation stipulations as required for Pesticide Use Proposals (PUPs) (see Chemical Control Practices p. 8) and Resource Area management approval.

Manual control practices may be used immediately, to prevent or reduce establishment of a weed seed source, where newly discovered sites involve just a few plants. An example of this was during the weed surveys in the lower John Day River canyon during FY 1993. This is where one to a few plants of Rush Skeleton Weed (private lands) and Purple Loosestrife (public lands) were discovered and manually removed at time of discovery.

All mechanical control practices (such as mowing, tilling, discing, plowing or competitive seedbed preparation activities) would require proper timing. They often require repeated periodic retreatment within the same growing season or a yearly repeat the following season. These practices are often used in combination with other actions such as prescribed fire (before) and seeding (after) mechanical practices are used. These methods are highly disruptive to surface soil characteristics and vegetation including desirable native shrubs, non-targeted grasses and forbs species. Some perennial weeds are not treatable in this way due to their ability to spread by roots (see Table 3 and Appendix 2). Slopes are a limiting factor for the application of these methods and slopes greater than 10 percent are not recommended for mechanical treatment.

All mechanical control surface soil disturbing practices such as mowing, tilling, discing, plowing or competitive seedbed preparation activities would require a separate site specific environmental assessment.

Prescribed fire is considered a control method under Physical Control Practices. This practice is very much a part of the District's IWM and is used both as a practice by itself (dependent upon target weed and site characteristics) and as tool combined with other before and after practices for noxious weed control. Fire as a tool by itself is often not effective in eradication of most weed species and may open up areas for increased weed infestations. It will be used as a clean up tool for piles of weeds collected for proper disposal under manual or mechanical methods. It will most often be used as a site preparation tool for small (less than 5 acres) sites or sites 5 acres to hundreds of acres in size. This site preparation generally consists of burning off noxious weed vegetation in fall-winter months to remove dead, matted vegetative material (such as Medusahead Rye or Russian Knapweed); reduce seed levels; open up dense stands of dead weed stalks (such as Scotch Thistle) for physical access.

The physical access is required often as a site preparation for the application of other control methods such as manual or mechanical practices, competitive seeding or application of herbicides. (see Table 4 and Appendix 2) After a stand is cleaned up, the amount of time and work effort required by other practices is often less than if prescribed fire had not been used.

In follow up applications of herbicides, generally the amount of herbicide required for treatment is less and application is more effective on newly sprouting noxious vegetation or seedlings not protected by old plant residue.

All prescribed fire over 5 acres in size would require a separate site specific analysis.

All prescribed fire activities would be conducted in accordance with BLM's Fire Management Policy (BLM Manual 9210). All prescribed fires would require the preparation of an approved prescribed burn plan before every burn. The burn plan must be approved by the District Fire Management Officer and Resource Area Management. In addition, all required smoke management stipulations or burning permit requirements would be part of the approved prescribed burn plan.

Biological Control Practices

Biological Control Practices are either introduced or natural competition. These can be insects, pathogens, native or non-native competitive seedings (certified seed only) and grazing by domestic livestock (sheep, goats, cows, geese or others). The District is primarily using both insects and competitive seedings (see Table 4 and Appendix 2).

Domestic grazing as a control practice would have to meet specific allotment management resource and grazing objectives (see EA No OR-054-3-20) and approved District Plans on p. 3, under Conformance with Applicable Land Use Plans section.

Along lower Bridge Creek in the Wheeler Co., the (EOARC) research project is utilizating cattle under very controlled conditions (season, utilization and numbers of AUMs) for a noxious weed control utilization study on Russian Knapweed).

Competitive seedings using either native or introduced species, if using mechanical seedbed preparation or seeding practices are subject to a separate site specific analysis. If seeded sites are greater than 5 acres they would also require a separate site specific analysis.

Those competitive seeding sites less than 5 acres in size using only manual methods of seeding are covered by this EA. Seeding these small sites may be permitted after Resource Area staff review of the same site specific information and/or mitigation stipulations as required for Pesticide Use Proposals (PUPs) (see Chemical Control Practices p. 8) and Resource Area management approval.

The District's use of its approved Biological Control Agents (see Appendix 2 and 3) for treatment priorities will be coordinated closely with the ODA to introduce biological control agents to weed populations where site specific criteria meets management goals. As can be seen on Tables 3 and 5 most BLM priority weeds listed do not have ODA approved biological control agents available for control efforts.

Table 3 gives the relative treatment priority for each specific weed identified. The (*) weeds indicate that the Oregon Dept. of Agriculture (ODA) has had some measure of success in introducing and establishing biological control practices/agents for controlling noxious weed infestations (Coombs 1992).

The list of currently approved District Biological Control Release Proposals (1993) submitted by ODA for this District under BLM/ODA contract #1422h952-C-2-2073 are shown in Appendix 3. They have met all environmental testing criteria for host species, per requirements and an EA is on file with USDA and Oregon State Dept. of Agriculture.

However, immediate control/eradication is not possible since **eradication is not feasible using biological control agents alone.** It is a slow and long process that will be used by the District for slowing the spread and containment of larger established populations.

Biocontrols effectiveness "works best on large weed concentrations and worst on isolated patches" (Kummerow 1992). "Biocontrol is no cure-all. Many exotic species aren't amendable to it; sometimes the recruits turn out to be duds; and it's often difficult and expensive to find the right agent - four to six years of research carrying a price tag of $1 million for each target alien" (noxious weed) "is typical" (Devine 1994).

The biological control agent release sites will be coordinated through the ODA, County Weed Districts or Weedmasters and BLM Resource Area Offices per stipulations of the District approved Biological Control Agent Release Proposals (BCARPs) (see Appendix 2 and 3).

The District Wide BCARPs have been approved (1993-1998) for biocontrol agents dispersal, dependent upon availability of agent and upon specific release sites being selected. Those sites selected will and need to be protected from disturbances due to other various management actions. That protection will ensure that the biocontrol agents released will have a good chance of establishing viable populations for both control activities at the site and acting as biocontrol nursery for collection and redistribution to other sites.

Chemical Control Practices

Chemical Control Practices include the use of Pesticides (approved FEIS 1985 and SEIS 1987) herbicides including 2,4-D; Dicamba; Dicamba + 2,4-D; Picloram (Tordon); Picloram + 2,4-D; Glyphosate (Rodeo or Accord only); and Glyphosate + 2,4-D) and Fertilization (see Appendix 2).

A separate EA will be written, where the use of chemical control practices (herbicides) is proposed as part of an IWM program within District WSAs or WAs, such as in the lower John Day River area.

Chemical Practices using any herbicide applications on District require submission of a Pesticide Use Proposal (PUP) at the Resource Area / District level and then BLM State Office approval or in a few specific cases (due to location or selected herbicide/noxious weed targeted) U.S. Dept. of Interior approval (Information Bulletin No. 93-407). PUPs are required to be reviewed by the Resource Area staff and approved by the Resource Area Management prior to submission for State Office approval. The Resource Area offices will review or provide site specific information and/or mitigation stipulations concerning:

1. Special Status plants and animals.
2. Archeological Resources (sites and Native American concerns, such as traditional areas (see Mitigation section D.7)
3. Vegetation, soil and water resource concerns
4. Fish and wildlife concerns
5. Special Management Area concerns
6. Other resource site specific mitigation concerns

Most of the District's herbicide applications are currently being applied as minor spot treatments along highway and county road rights-of-way, or recreational sites. Additional sites are pending as a backup to other IWM practices such as prescribed fire and seeding activities (see Appendix 2.

The currently BLM approved herbicides of 2,4-D; Dicamba; Dicamba + 2,4-D; Picloram (Tordon); Picloram + 2,4-D; Glyphosate (Rodeo or Accord only); and Glyphosate + 2,4-D will be applied only in accordance to all label stipulations and specific requirements of all tiered documents. The will only be applied by a Oregon State certified and licensed applicator. All herbicide stipulations of the mitigation section (section E) will apply. Additional information, herbicide formulations and updated analysis (risk assessment) of the four approved chemicals along with the "Additional Chemicals" (see p.12) is in the FEIS 1991, its Appendix E and ROD. This is incorporated in this EA as a tiered document and referenced information. Only those formulations that have been approved by BLM, EPA and ODA, which have been proven not to contain inert ingredients on EPA list 1 or 2, other than petroleum distillates will be used. Table 5 shows the relative susceptibility of the BLM listed noxious weeds to the four currently approved herbicides.

Table 3. BLM Noxious Weeds Priority List, Growth Form, Reproduction Methods, and Treatment (Witson 1991) (Burrill 1993)) (Hawks 1985 and 1989)

BLM List	Noxious Weed Species 1/ (Approved ODA Bio Agents # *)	Growth Form	Reproduction Methods	Treatment Priorities 2/
1.	Yellow StarThistle ******	Annual (W)	Seeds	Chem,Bio,Man,Mech,
2.	Leafy Spurge *******	Perennial	Roots/Seeds	Chem,Bio
3.	Mediterranean Sage *	Biennial	Seeds	Bio,Man,Mech,Chem
4.	Dalmation Toadflax *	Perennial	Seeds/Roots	Chem,Man,Mech,Bio
5.	Tansy Ragwort **	Biennial	Seeds	Chem,Bio,Man,Mech
6.	Rush Skeleton Weed ****	Perennial	Roots/Seeds	Chem,Bio
7.	Scotch Thistle	Biennial	Seeds	Man,Mech,Chem,
8.	Diffuse Knapweed *****	Biennial**	Seeds	Chem,Bio,Man,Mech
9.	Spotted Knapweed ****	Biennial**	Seeds	Chem,Bio,Man,Mech
10.	Russian Knapweed *	Perennial	Roots/Seeds	Chem,Bio
11.	St.Johnswort- Klamath Weed ***	Perennial	Roots/Seeds	Chem,Bio
12.	WhiteTop-Hoary Cress	Perennial	Roots/Seeds	Chem,Man,Mech
13.	Puncture Vine **	Annual	Seeds	Chem,Man,Mech,Bio
14.	Canada Thistle ***	Perennial	Roots/Seeds	Chem,Bio
15.	Bearded (Common) Crupina	Annual (W)	Seeds	Chem,Man,Mech
16.	Medusahead Rye	Annual	Seeds	Man,Mech,Chem
17.	Musk Thistle **	Biennial	Seeds	Man,Mech,Bio,Chem
15.	Matgrass	Perennial	Seeds	Mech,Man
19.	Squarrose Knapweed	Perennial	Seeds	Chem,Bio,Man,Mech
20.	Dodder	Parasitic	Seeds	Chem,Man,Mech
21.	Kochia	Annual	Seeds	Man,Mech,Chem
22.	African Rue	Perennial	Seeds	Chem
23.	Purple Loosestrife **	Perennial	Roots/Seeds	Bio,Chem,Man,Mech,
24.	Scotch Broom **	Woody Shrub	Seeds	Chem,Man,Mech,Bio
25.	Johnson Grass	Perennial	Roots/Seeds	Chem,Man,Mech
26.	Western Water Hemlock	Perennial	Seeds	Man,Mech,Chem
27.	Poison Hemlock	Biennial	Seeds	Man,Mech,Bio,Chem
28.	Milk Thistle	Annual (W)	Seeds	Man,Mech,Bio,Chem
29.	Halogeton	Annual	Seeds	Chem,Man,Mech
30.	Jointed Goatgrass	Annual	Seeds	Chem,Man,Mech
31.	Field Bindweed (Perennial Morning Glory)	Perennial	Roots/Seeds	Chem
32.	Jimson Weed	Annual	Seeds	Man,Mech,Chem
33.	Yellow-Common Toadflax *	Perennial	Roots/Seeds	Chem,Bio
34.	Perennial Pepperweed	Perennial	Roots/Seeds	Chem,Man,Mech
35.	Bull Thistle **	Biennial	Seeds	Bio,Man,Mech,Chem
36.	Russian Thistle	Annual	Seeds	Chem,Bio,Man,Mech
37.	Teasel	Biennial	Seeds	Man,Mech,Chem
38.	Spikeweed	Annual	Seeds	Chem,Man,Mech
39.	Spiny Cocklebur	Annual	Seeds	Chem,Man,Mech
40.	Wild Prosso Millet	Annual	Seeds	Chem,Man,Mech
41.	Italian Thistle	Annual (W)	Seeds	Chem,Man,Mech
42.	Dyers Woad	Biennial	Seeds	Chem,Man,Mech,
43.	Showy milkweed	Perennial	Roots/Seeds	Chem,Man,Mech
44.	Wild Carrot	Biennial	Seeds	Man,Mech,Chem
45.	Yellow Nutsedge	Perennial	Roots/Nutlets	Chem
46.	Purple Starthistle	Biennial	Seeds	Chem,Man,Mech,
47.	Iberian Starthistle	Biennial	Seeds	Chem,Man,Mech
48.	Eurasian Watermilfoil	Aquatic	Veg Parts/Seeds	Chem
49.	Wooly Distaff Thistle	Annual (W)	Seeds	Chem,Man,Mech
50.	Camelthorn	Perennial Shrub	Seeds/Roots	Chem

1/ District Wide Approved ODA submitted BCARP #s *-****** (see Appendix 2 & 3.
** Short Lived Perennial, (W) winter annual or sometimes biennial)

2/ Treatment Priorities will vary according to infestation size, location, public health and safety, accessibility and effectiveness of Specific treatment. A key factor in effective control is implementation of cultural practices keyed to early detection and early application of control practices to prevent noxious weed populations becoming established.

The approximate estimated total acres to be treated based upon projected funding available for weed control by the various treatment methods each year for 1993 to 1998 are shown in Table 4.

Table 4. Average Annual Estimated Treatment Acreage (1993-1998) 1/

Treatment	1993	1994	1995	1996	1997	1998
I. Cultural Practices (District Wide)	-	-	-	-	-	-
a. Prevention (Inspection, regulation, sanitation & education)						
b. Livestock Manipulation						
c. Wildlife manipulation						
d. Soil Disturbance						
e. Rock (material) Sources						
f. Public Use						
II. Physical Control Practices						
a. Mechanical Practices* (mowing, tilling, & disking)	307	1,265	1,033	517	1,161	250
b. Manual Control** (hand pulling & hand tools)	53	172	150	150	150	150
c. Prescribed Fire (Burning) * (Burn plan required for all burns initial and second burns)	1,682	1,065	517	1,161	500	1,000
III. Biological Control Practices						
a. Natural Competition * (insects, pathogens, or competitive seeding)	187	1,260	1,033	517	1,161	500
b. Introduced Competition (insects -BCAs, pathogens, competitive seeding)	11 BCA	20 (BCA)	30 (BCA)	40 (BCA)	50 (BCA)	50 (BCA)
IV. Chemical Control Practices						
a. Fertilization (increased competition, nitrogen)		5				
b. Pesticides (herbicides) (2,4-D, Picloram, Dicamba, Glyphosate, others if approved)	886	1,164	1,664	2,014	1,500	1,500
Totals	**2,707**	**3,649**	**3,387**	**3,816**	**3,351**	**3,450**

Acres (*) in Table 4 are duplicated if control measures are combined such as in Physical Control methods; mechanical, manual controls or prescribed fire, are projected/proposed to be used prior to seeding. Cultural Practices are used prior to seeding and some cases of grazing (see Appendix 2 for specific proposals projects for FY 93-96). Some (**) proposals are both manual and chemical.

1/ Treatment acrege is based upon best extimated projections for existing weed surveys and current workload, but estimated out year treatments is subject to available funding and workload capabilities.

Table 5. BLM Noxious Weed List Priority and Susceptibility to Approved Chemicals
(Draft FEIS 1985 and Burrill 1993)

BLM List	Noxious Weed Species (Approved ODA Bio Agents # *)	Growth Form	Weeds Chemical Susceptibility 1/ 2,4-D	Dicamba	Picloram	Glyphosate
1.	Yellow StarThistle ******	Annual (W)	F	G	E	F
2.	Leafy Spurge *******	Perennial	P	F	G	F
3.	Mediterranean Sage *	Biennial	I	I	I	I
4.	Dalmation Toadflax *	Perennial	F	G	G	G
5.	Tansy Ragwort **	Biennial	G	I	I	I
6.	Rush Skeleton Weed ****	Perennial	F	G	E	I
7.	Scotch Thistle	Biennial	G	E	E	I
8.	Diffuse Knapweed *****	Biennial	E	E	E	I
9.	Spotted Knapweed ****	Biennial	F	E	E	I
10.	Russian Knapweed *	Perennial	P	G	G	G
11.	St.Johnswort- *** Klamath Weed	Perennial	P	I	I	I
12.	WhiteTop-Hoary Cress	Perennial	P	F	F	G
13.	Puncture Vine **	Annual	G	E	E	E
14.	Canada Thistle ***	Perennial	F	G	E	E
15.	Bearded (Common) Crupina	Annual (W)	I	I	I	I
16.	Medusahead Rye	Annual	N	E	N	E
17.	Musk Thistle **	Biennial	E	G	E	E
18.	Matgrass	Perennial	N	N	N	E
19.	Squarrose Knapweed	Perennial	F	I	I	I
20.	Dodder	Parasitic	P	I	I	E
21.	Kochia	Annual	F	F	E	G
22.	African Rue	Perennial	I	I	I	G
23.	Purple Loosestrife **	Perennial	-	-	-	G
24.	Scotch Broom **	WoodyII	I	I	I	G
25.	Johnson Grass	Perennial	N	N	N	E
26.	Western Water Hemlock	Perennial	G	G	E	E
[illegible].	Poison Hemlock	Biennial	G	G	E	E
[illegible].	Milk Thistle	Biennial (W)	E	E	I	I
29.	Halogeton	Annual	F	I	F	I
30.	Jointed Goatgrass	Annual	N	P	N	E
31.	Field Bindweed (Perennial Morning Glory)	Perennial	G	G	G	G
32.	Jimson Weed	Annual	P	F	E	E
33.	Yellow-Common Toadflax *	Perennial	N	F	G	G
34.	Perennial Pepperweed	Perennial	F	G	F	I
35.	Bull Thistle **	Biennial	F	E	E	G
36.	Russian Thistle	Annual	G	E	E	G
37.	Teasel	Biennial	I	I	I	G
38.	Spikeweed	Annual	U	U	U	U
39.	Spiny Cocklebur	Annual	E	E	E	E
40.	Wild Prosso Millet	Annual	U	U	U	U
41.	Italian Thistle	Annual (W)	G	G	E	I
42.	Dyers Woad	Biennial	G	E	G	G
43.	Showy Milkweed	Perennial	P	P	G	G
44.	Wild Carrot	Biennial	F	G	G	G
45.	Yellow NutSedge	Perennial	F	N	F	F
46.	Purple Starthistle	Biennial	E	G	G	E
47.	Iberian Starthistle	Biennial	E	G	G	E
48.	Eurasian Water Milfoil	Aquatic	-	-	-	U
49.	Wooly Distaff Thistle	Annual (W)	U	U	U	U
50.	Camelthorn	Perennial Shrub	U	U	U	U

E = Excellent (95% kill, 1 treatment), G = Good (95% kill, 2-3 treatments), F Fair (60-85% kill, one treatment), P = Poor ((10-65% kill, one treatment), N = none (plant resistant)
I = Insufficient data., U = Unknown, or Unusable
1/ Dependent upon factors such as plants age, residual root reserves, & site environm

Additional Herbicides

Additional herbicides are tiered to and incorporated from the FEIS for Vegetation Treatment on BLM Lands (Thirteen Western States) into this EA if approved (see p 1. under section A). These additional herbicides are as follows: Atrazine, Bromacil, Bromacil + Diuron, Chlorsulfuron, Clopyralid, Diuron, Hexzinone, Imazapyr, Mefluidide, Metsulfuron Methyl, Simazine, Sulfomefuron Methyl, Tebuthluron and Triclopyr (with all stipulations of FEIS 1991 and ROD regarding application tiered to and incorporated into the proposed action). The use of additional chemicals is allowed in the FEIS 1985 which states on p. 8, "Other or new herbicides could be proposed for use in the future, but before their use, a hazard assessment similar to those in Appendix K will be conducted and appropriately documented." This was done in the FEIS 1991, its Appendis and ROD.

Current Activities

The current/proposed control efforts for Fiscal Year 1993-1996 are summarized in Appendix 2 as to county, location, target species, acres and method of control. Most of these priority areas/weeds will also be the continuing priority for FY 1997 - 1999. IWM control practices (initiated in FY 1993) along portions of the Lower John Day River will increase in 1994 - 1996. This increased proactive approach to the lower John Day River area is needed for all WSAs and along the Wild and Scenic River designation areas, since these public land areas have serious and expanding noxious weed infestations (Noxious Weed Inventories - 1986, 1989, and 1993). These infestations of mainly Diffuse Knapweed, Russian Knapweed, Whitetop and Dalmation Toadflax are acting as seed sources for further expansion on 1) public lands of especially high resource values and 2) private agriculture (wheat) lands. Some of these perennial weeds which spread by roots, such as Dalmation Toadflax, Russian Knapweed and Whitetop are difficult to control without the use of chemicals.

Cooperative Agreement Relationships/Actions

At this time the Prineville District has working relationships (current/past contracts or agreements) with the State ODA (State BLM/ODA cooperative agreement), and Crook/Wheeler, Deschutes, Gilliam, Grant, Jefferson, Morrow, Sherman and Wasco counties for noxious weed control work being done on public lands.

Additional cooperation is being addressed through information and or control work with local irrigation districts, Oregon Dept. of Transportation (ODOT), Bonneville Power Administration (BPA), Pacific Gas Transmission (PGT), adjacent/local U.S. Forest Service offices and other local agencies. These control actions for the most part deal with noxious weed control along various rights-of-way (ROW). Information is being exchanged also with the other counties within the District to include Hood River, Klamath, and Lake counties. A working relationship for control actions within these counties will be initiated as noxious weed conditions/needs warrant.

Besides field treatment (**Control**), the counties are also involved in 1) **Inventory** of noxious weeds, especially where public lands interface with other ownerships; 2) **Monitoring** and **Evaluating** the effectiveness of eradication and/or control actions; 3) **Future planning needs** such as preparing site treatment proposals (PUPs or BCARPs) combined with other IWM control practices for outlying years; and 4) **Updating** current and existing noxious weed control contracts with BPA, PGT, ODOT or County Road Depts. and/or other agencies with appropriate Pesticide Use Proposals (PUPs), Pesticide Application Records (PARs) or Biological Control Agent Release Proposals/Records (BCARP/Rs) when public lands administrated by BLM are involved even if in an existing approved ROW corridor.

Project Design IWM Treatments/Mitigation

The common management practices or project design features tiered to this

7-11, Table 1-3. p. 9 gives mixtures and maximum rates of chemical application; FEIS (1985) Appendix I; and are supplemented in the text revisions section pp. 119-127 of the Supplemental FEIS (1987).

In addition, all mitigation measures adopted in both FEIS and SEIS Record of Decisions as modified by this EA's (more stringent) stipulations, are part of the proposed action and project design features.

New Sites

As information gathering and sharing of weed information is the "first and most important component of an IWM program" (Piper 1991), it is essential to educate all employees to the known and potential District weed problems. The key factor of a IWM program is the continuous weed inventory effort, and information exchange which is focused on surveying, monitoring and record keeping activities. Inventory and monitoring activities during the next few years will discover new infestations/populations of both Table 3 and 4 prioritized weeds on public lands. These increased efforts and educational awareness of noxious weeds by district personnel may also discover sites/populations of noxious weeds or new invaders not targeted or classified for control by BLM, State or counties. For each of these sites found, the noxious/targeted weed population at each site will be characterized. This will require specific locations noted on map, identified for land status, rate of spread determined, and potential for control/eradication. These actions are critical for the selection of IWM control practices causing the least environmental disturbances tied to the proper selection, timing and levels of action needed.

These new noxious weed sites will then be subject to all the District's IWM Objectives and control/eradication actions set forth in this EA.

Special Management Areas

When noxious weeds are discovered within exixting or proposed Special Management Areas (SMAs) such as WAs, WSAs (see Map 2), RNAs, developed recreational sites, ACECs, W&SRs (see discussion under section C. for WSAs, ACECs, and W&SR) , they will be controlled/eradicated in accordance to specific SMAs needs/limitations. The control methods selected would be specific to targeted weed species, site specific characteristics, biodiversity goals and weed population densities. The following areas (Table 6) are considered to be treatable as existing SMAs:

Table 6. Special Management Areas in the Prineville District

WSAs (see Map 2)	**RNAs**	**ACECs**	**W&SRs**
Aldrich Mountain (2-103)	Benjamin	Badlands	Crooked R.
Badlands (5-21)	Forest Creeks	Horn Butte	(Lower)
Cougar Well (5-43)	Horse Ridge	Logan Butte	Crooked R.
Gerry Mountain (5-35)	Powell Butte	N.F. Crooked R.	(Chimmney Rock)
Hampton Butte (5-42)	The Island	Peck's Milkvetch	John Day R.
Lower John Day River (5-6)		S.F. Crooked R.	(Main Stem)
North Pole Ridge (5-8)		Spanish Gulch	Lower Deschutes
North Fork Crooked River (5-31)		Wagon Road	Mid. Deschutes
Sand Hollow (5-34)		Winter Roost	N.F. Crooked R.
Sheep Gulch (2-98 Strawberry Complex)			S.F. Crooked R.
S.F. Crooked River (5-33)			White River
Spring Basin (5-9)			
Steelhead Falls (5-14)			
Thirtymile (5-1)			

Staff specialists and the Area Managers will determine the best combination of IWM weed control practices in accordance with the provisions of this EA. These practices would be determined based on the expected success of weed control efforts and the short and long term consequences. A discussion

of IWM cultural, physical, biological and chemical control practices which will be used on SMAs is located on pages 3-13.

A separate EA will be written where the use of chemical control practices (herbicides) is proposed as part of an IWM program within District WSAs or WSs.

In WSAs noxious weeds will be controlled and eradicated in accordance with the provisions of Chapter III.H.4.e of BLM Manual H-8550-1, Interim Management Policy and Guidelines For Lands Under Wilderness Review, as follows:

III.H.4.e.

> Vegetative Manipulation. This includes chemical, mechanical, and biological methods to control noxious weeds or poisonous plants. In "grandfathered" grazing operations, if vegetative manipulation had been done on the allotment before October 21 1976, and its impacts were noticeable to the average visitor on that date, the improvement may be maintained by applying the same treatment again on the land previously treated.
>
> Otherwise, vegetative manipulation may be used only for control of small areas of poisonous plants or in emergencies for control of insects and disease when there is no effective alternative. Limited exceptions are specified as follows.
>
> -- Noxious farm weeds may be controlled by grubbing or with chemicals when they threaten lands outside the WSA, or are spreading within the WSA, provided the control can be effected without serious adverse impacts on wilderness values.
>
> -- Prescribed burning may also be used where necessary to maintain fire-dependent natural ecosystems.
>
> -- Reseeding may also be done by hand or aerial methods to restore natural vegetation. (There is also a provision for reseeding in emergency reclamation projects, described in section G of this chapter.

In WAs, noxious weeds will be controlled or eradicated in accordance with provisions of .37.A.3.h.(1) through (4) of BLM Manual 8560, Management of Designated Wilderness Areas, as follows:

> (1) Seeding. The need of seeding must be carefully analyzed. Seeding will be approved only for:
>
> > (a) Areas where human activities have caused the loss or threatened the existence on indigenous species.
> >
> > (b) Areas where human activities have denuded or cause loss of soil, providing the actions or activities responsible for the deterioration have been corrected and natural vegetation is insufficient and ineffective.
>
> (2) Plant Control. Plant control must be approved only for:
>
> > (b) Noxious farm weeds by grubbing or with chemicals when they threaten lands outside wilderness or are spreading within the wilderness, provided the control can be effected without serious adverse impacts on wilderness values.
>
> (4) Fertilizing. Fertilization may be used only as an aid to revegetation of disturbed areas approved in item (1).

Alternative 2 No Use of Herbicides in WSA's or WA's

Under alternative 2 all methods and areas would remain open for full use of all IWM practices exactly like alternative 1 (proposed action) except under this alternative the use of herbicides would **NOT** be permitted in any WSA or WA (see map 2).

This differs from the proposed action (alternative 1) which would permit herbicide use on all lands district wide. The use of herbicides in WSAs was not analyzed in the last District wide IWM EA (EA # 050-88-86).

3. Alternatives Considered But Not Analyzed

The alternatives of **No Aerial Herbicide Application, No Use of Herbicides** and **No Action** have been analyzed in the NW Area Noxious Weed Control Final EIS (1985) and Supplement FEIS (1987) and their respective RODS. No further discussion in this EA of these alternatives will be necessary, since the conclusions and impacts would be essentially the same.

The alternative of **No Action** is defined as no noxious weed control efforts being applied to public lands. This is not viable, due to the requirements by Federal, State and County regulations and laws, which mandate active control actions for known and newly discovered noxious weed infestations. Aggressive noxious weeds expansion or "invasion of native communities" and which causes "a reduction of biodiversity" (Barbe 1991) is against BLM policy and mandates (per section A page 1). This reduction of biodiversity results in negative impacts to all wildland resources, but directly affects native vegetation, watersheds, wildlife habitat, wilderness and recreational needs.

C. DESCRIPTION OF AFFECTED ENVIRONMENT

The Prineville District is located in the central and north central portion of Oregon (see Map 1 and 2) and manages over 1.58 million surface acres in eleven counties. A general description of the environment is addressed on pages 19 to 33 on the Northwest Area Noxious Weed Control Program FEIS-1985. In general, the District noxious weed problems and potential problem noxious weeds, which are affecting and may affect the public lands, can be expressed as to the number of different weed species and to the number of common targeted weed species. The state and counties have expressed a shared keen interest for eradication and control by expending money, time and effort. Appendix 1 summarizes these concerns by listing the State's and each county's Noxious Weed List prioritized to T, A, B, C and Q noxious weeds.

A more detailed description of the affected environment can be found in the following documents which are on file in the Prineville District Office 185 East Fourth St., Prineville, OR. 97754:

Brothers/Lapine Resource Management Plan (July 1989)
Two Rivers Resource Management Plan (June 1989)
John Day Resource Management Plan (June 1985)
Lower Deschutes River Management Plan and EIS Draft (May 1991)
Lower Crooked River Chimney Rock Segment Management Plan and EA Draft (July 1992)
Lower Crooked River Wild and Scenic (Chimney Rock Segment) Management Plan (Oct 1992)
Middle Deschutes/Lower Crooked River Wild and Scenic Rivers Management Plan and EA Draft (August 1992).
North Fork Crooked River Management Plan (April 1993).
John Day River Management Plan and EIS Draft (Oct 1993).
White River Wild and Scenic River Management Plan (Nov 1993)

D. ENVIRONMENTAL CONSEQUENCES

The actions proposed and described in section A of this EA will cause environmental impacts presented in Chapter 3 and summarized in Table 1-4 (Alternative 1) of the FEIS (1985). They were further addressed in Chapter 3 pp. 1-24, Appendices K pp. 65-92 and N pp. 93-117, and amended in Text revision section pp. 120-121 in the Supplemental FEIS (1987). Analysis discussions in the FEIS (1985) and Supplemental FEIS (1987) have determined that no impacts of importance would occur to the following resources: Climate, Geology, Topography, Utilities, Communication Sites, and Energy Use.

No impacts have been identified which exceed those addressed in the previous FEIS (1985), Supplemental FEIS (1987) and RODs referenced in earlier portions. The site specific components of the environment which may be affected as a result of alternatives 1 and 2 in this up-dated IWM EA are as follows:

1. Areas of Critical Environmental Concern (ACECs)

Under either alternative 1 or 2 the impacts would be the same as both treat ACECs the same.

Areas of Critical Environmental Concern (ACECs - see Table 10 Brother/LaPine RMP and Map 9 Two Rivers RMP, and SMA in section A. page 13), due to their varied nature and differing management goals, will or may require special modification/mitigation requirements to any noxious weed control actions. These modifications will be to prevent or limit any surface disturbing impacts due to vehicle access, spraying of sensitive plants, or other resource impacts that may cause damage to the surface and vegetative resources, through physical, biological or chemical control efforts. It may require a specific weed control action to be modified or not using the most cost effective method for controlling weeds. It will be determined for each ACEC site on an as needed basis.

An example of an ACEC requiring special mitigation modifications (seasonal restrictions of access and spraying) to normal methods for a noxious weed control proposal is Horn Butte ACEC - PUP # 93-OR-054-005 (see Appendix 2).

As much as possible to prevent any surface disturbing activities the preferred methods of control in ACECs would be 1) preventation, 2) manual, 3) chemical, 4) biological and 5) mechanical.

2. Air Quality

Air quality impacts were assessed in the previous FEISs and RODs per impacts from use of chemicals and the determination that the very low volatility of the proposed chemicals to be used would **Not** impact air quality.

The use of prescribed burning as a management tool in the IWM under physical control practices followed by manual or mechanical actions for areas greater than 5 acres, would be addressed in the site specific EA as part of its impacts.

The amount of smoke released from a small (5 acre or less) fire located away from urban areas would not cause an impact of any duration or intensity.

The impacts are the same under both alternatives 1 and 2.

3. Cultural Resources

Weed control practices may directly or indirectly impact cultural resources. Physical (manual, mechanical or prescribed fire) weed control practices which result in direct surface disturbance may adversely affect the surface manifestations of prehistoric or historic sites while herbicide application may indirectly impact vegetation important to traditional Native American plant gathering practices.

Impacts to cultural resources would be modified or avoided by requiring cultural resource surveys prior to all surface disturbing and prescribed fire activities. Those treatment areas away from the general ROW corridors are of special interest for cultural resource surveys. All PUPs would be reviewed by staff archaeologists prior to implementation.

The impacts of either alternative may be greater where physical practices (manual, mechanical and prescribed fire) are utilized resulting in surface disturbance. The impacts of herbicide use would be less, but vehicle application may also cause surface impacts. The general use of herbicides along major highway ROWs, PGT or utility corridors are not expected to have any impact on unidentified archeological resources.

Under both alternatives, but especially in alternative 2 the increase in manual and prescribed fire control measures may result in additional impacts to unknown cultural resources.

4. Flood Plains

The impacts to floodplains will be a change in vegetation along riparian zones or upper bank alluvial flats. The control of noxious weeds by any means would promote/enhance the native vegetation and stabilize the riparian zones for flood events. Any noxious weed control project would only be a very localized event with minimal surface disturbance. Most physical control activities (mechanical and manual) would be very similar to any adjacent farming activities, but on a smaller scale (acreage). Activities would be carried out over several years and may be enhanced and/or hindered by major flood events. This is especially true along the John Day River where annual spring runoff events may cause localized flooding. This could bring in small local depositions of soil (a new seedbed primed for weed invasion) along with the associated noxious weed seeds, or stimulate existing noxious weeds species (such as Diffuse and Russian Knapweeds, or Dalmation Toadflax through enhanced soil cover and increased soil nutrients). These three species either as single species or in combinations, are becoming established on sites ranging from a few plants to small patches. They are prevalent on islands, on riverbanks between the lower water levels of summer and the high water line of annual spring flood events and the immediately adjacent alluvial flats. IWM practices including any herbicide applications would prevent/limit surface soil disturbing impacts to riverbanks or changes to protective riparian floodplain vegetation and buffer zones between live water. Stipulations specific to riparian zones are required if herbicides are applied (see Mitigation section E pp. 32-34).

Under Alternative 1, the ability of herbicides, or a combination of IWM practices would greatly contribute to the successful treatment of these three species. The difficulty of access for multiple treatments using physical practices alone could allow for the rapid expansion and explosive growth of these weeds throughout the lower John Day River. Chemical control practices are often the only available effective means to control these deep rooted perennial weeds.

No mechanical treatments would be permitted under either alternative 1 or 2 within floodplains or alluvial bottomlands in WSAs, except for those areas that may have been fields previously and would possibly fit the grandfathered clause. No such fields are known to fit the grandfathered definition at this time.

Under alternative 2, extensive areas of the lower John Day River would be off limits to herbicide use, due to WSA designation. This would limit further the ability to control rapidly increasing Diffuse and Russian Knapweeds and Dalmation Toadflax within the river floodplain.

5. Hazardous Materials

Most herbicides are considered hazardous materials. Thus, their inhouse (BLM) use, application, transportation, and storage will be kept to a minimum as required for each specific job.

To ensure safe handling and use, **all chemical/herbicide** applications **will** only be done by an Oregon state certified applicator following **all** applicable product label stipulations and State requirements (DEQ, ODA, OSHA) as well as all federal EPA laws and (FIFRA) regulations.

Use of these herbicides will not exceed the use, rates, mixes, active ingredient amounts applied per acre, methods of applications and safety precautions as specified by FEIS and SFEIS, RODs and stipulations in this EA (mitigation section E). All product label instructions will be followed. The inherent risks to safety and public health, and/or spills etc. associated with using a hazardous material, were covered in the referenced FEIS and ROD documents.

Impacts would be the same under either alternative, except an increased chance of a accident could occur in WSAs under alternative 1 (proposed action) due to their remoteness, and possibility of having to move chemicals into remote canyon areas by flying (helicopter) during times of low water, or by boat (raft or jet boat) during times of high flows.

6. Native American Religious Concerns

Impacts to Native American religious concerns especially plant gathering activities are expected to be minimal under both alternatives because of required cultural resource surveys and PUPs reviews. Impacts may be greater if weeds in traditional gathering areas are not treated, since weeds can out compete most native vegetation.

Consultation and coordination with the four tribal governments maintaining traditional interests in the Prineville District will address areas sensitive to weed control activities. The four tribes included are the Confederated Tribes of Warm springs, the Confederated Tribes of the Umatilla, and the Klamath Tribe of which all tribal governments ceded lands to the U.S. Government in ratified treaties. The Prineville District also includes lands of traditional interest to the Burns Paiute for which no treaties were ratified. Treaty rights provide for off-reservation gathering activities by the Umatilla and Warm Springs Tribes.

The heritage-related interests of contemporary Native American include the perpetuation of traditional practices, such as plant gathering. Federal legislation and Department policy recognize that federal land-managing agencies have a continuing trust responsibility to honor terms of the treaties and to protect the rights of the Indian Nations, as well as the resources that provide for those rights.

7. Prime and Unique Farmland

Most of the District's prime farmlands are defined by soil series phases (SCS May 1993) as needing irrigation or limited by degree of seasonal flooding. By law (see section A), the BLM is required to address the noxious weed problems on public lands especially if they are acting as seed sources for infestation of adjacent private agricultural lands. Weeds are affecting private agricultural lands, especially along the John Day and Deschutes River canyons, where rapidly expanding infestations (Scotch Thistle, Knapweeds, Dalmation Toadflax) are acting as seed sources. This represents increasing costs and impacts to the adjacent canyon top wheat fields of Sherman, Wasco and Gilliam counties.

Additional small old/recent agricultural acreage acquired by BLM in land exchanges have prime farmland soils along the floodplains, river terraces or bottomlands. These areas adjacent to Bridge Creek (Mitchell and Sutton Mtn. area) and John Day River (Clarno area) need be treated to return these lands from weed infested lands to productive range, wildlife habitat and/or agricultural leased lands.

Impacts to prime and unique farmlands, under both alternatives are greatest to those private lands immediately adjacent to expanding noxious weeds sites.

Under alternative 1, especially where prime and unique farmlands are adjacent to WSAs all measures including herbicide applications would be used in cooperation with the local weed masters or adjacent land owners.

Under alternative 2, where prime and unique farmlands are adjacent to WSAs, and where herbicide usage is not allowed, the use of fire and/or manual control practices are the only immediate physical treatment practices available. This may impact other resources to a greater degree than herbicides. The use of biological control agent releases may in the long term be effective also, but approved and effective biocontrol agents for the weed species of concern may or may not be approved, available, or method needed for timely and effective control or eradication (see Biological Control Practices section on pp. 7-8) of the these small, very localized infestations of noxious weeds (see tables 3, 5; and appendix 1, 2 and 3).

8. Solid Waste

The District noxious weed program could generate small amounts of vegetative refuse (manual or mechanical control) that may need to be disposed of as waste or burned to prevent seed dispersal. The proper disposal of all herbicide containers must follow State DEQ rules, label requirements and FIRCA regulations.

Small amounts of vegetative residue material may cause impacts as fill material to local landfills or site specific small burn piles. These impacts are expected to be the same, but proper, economical and feasible disposal of vegetative material most likely will be dependent upon location and distance to the county landfill. In remote sites disposal of residue material may be by burning, especially if site access is difficult (WSAs).

9. Special Status Animals

The use of any control methods could temporarily (relocation) or permanently (if sprayed, burned or injured or cut up in mechanical or manual treatments) disrupt the daily individual behavior of wildlife inhabitating or occupying the treatment areas. The special status animal species (fish, amphibians, reptiles, birds, mammals and invertebrates), (Oregon Natural Heritage Program (ONHP) 1993) expected to inhabit the Prineville District are listed in Appendix 5. on pp.54-56. The risks and impacts to wildlife by the use of IWM practices, including chemicals, has been analyzed in the tiered FEIS (1985) pp. 45-56, and Appendix K pp. 201-204 and in the Supplemental FEIS (1987) pp. 9-10 and Appendix K pp. 65-92 and RODs.

In summary, the expected risks and impacts to wildlife are greatest for whichever practice causes the largest soil surface disturbance to cover or vegetation as a single block. For specific IWM practices, the impacts ranging from greatest to lowest are from prescribed fire, mechanical, manual or chemical (spot treatments) and biological. The potential impacts are greater on smaller less mobile animals than on larger ones. The greatest disturbance to wildlife will last the duration of the specific treatment activity or longer if localized specific habit niche (home) is destroyed or abandoned. These residual impacts may last until the return to natural conditions. The impacts of not treating noxious weeds in a timely manner would allow for the potential expansion to the detriment of existing native vegetation and a corresponding loss of extremely valuable wildlife habitat.

Aquatic macroinvertebrates and amphibians are among the most sensitive animals to changes in environment due to inhabitating both aquatic and terrestial ecological niches. Aquatic invertebrates (snails and caddisflys) due to their aquatic larval stages are very sensitive to minute changes in water quality or exposure to herbicides. About 10 out of 15 invertebrate species listed in appendix 5 are aquatic. None are expected to be impacted from IWM practices including herbicide applications under either alternative.

Amphibians are also very sensitive to changes in water quality or exposure to herbicides especially in their aquatic egg and tadpole stages. Additional impacts would occurr to amphibians (sensitive skin membranes) as they also inhabit the adjacent riparian and terrestial zones, where some impacts may be expected through either physical or chemical control practices dependent upon size of area treated .

The following are the sensitive amphibians (ONHP 1993) found in the District:

Name:	**Species:**	**Sensitivity**
Tiger Salamander (Blotched)	Ambystoma tigrinum (melanostictum)	ODFW - status unknown (very rare)
Western Toad	Bufo boreas	ODFW - vulnerable
Cope's Gaint Salamander	Dicamptodon copei	ODFW - status unknown
Cascade Frog	Rana cascadae	C2 - species
Leopard Frog	Rana pipiens	ODFW - vulnerable
Spotted Frog	Rana pretiosa	C2 - species

Under alternative 1, the impacts to fish and aquatic species (such as salmonids, amphibians or macroinvertebrates), which are the most sensitive to environmental impacts dealing with water quality (sedimentation or siltation) and/or exposure to herbicides, are expected to be very limited (minimal). This is due to the riparian buffers for mechanical work, and to the nature of the herbicides authorized, maximium rates approved for application, application methods, and the use of Glyphosate (Rodeo only) immediately adjacent to or near water. The required riparian buffers and application stipulations that keep chemicals away from live water (see Mitigation section E. pp. 32-34) will also mitigate and prevent impacts to fish and aquatic species.

All weed control projects and PUPs will be reviewed to insure avoidance or mitigation of impacts to special status animals, including seasonal restrictions as needed (like Horn Butte ACEC for Longbill Curlew nesting habitat).

Under alternative 1 or 2, no known life threatening impact to special status animals is likely to result from the application of any treatment method.

Under alternative 2, however, potential weed expansion in WSAs and WAs is greater without the use of chemicals. Prescribe fire with its greater potential impacts to small animals, and manual control may be the only available control practices, but by themselves these are not effective control measures for the deep rooted perennial weeds such as Russian Knapweed or Dalmation Toadflax. Perhaps the use of biological control agents (if available), whose effectiveness for noxious weed control (reduction in populations but not eradication) is long term at best (see Biological Control Practices pp. 7-8), could be used. This delay in control or eradication may lead to further loss of valuable wildlife habitat or watershed deterioration in WSAs or WAs.

10. Special Status Plants

Both alternatives would allow surface disturbing activities and herbicide (direct and drift) use (except WSAs and WAs areas for alternative 2), which would make any unidentified populations of special status plants a potential target subject to the same impacts as to targeted noxious weed or vegetation. To avoid this impact, under both alternatives **All** noxious weed proposals would be surveyed for special status plants before any work would start. Special status plants found in the District are listed in Apendix 4. on p. 53.

The surveying of treatment areas and avoidance or change to less disruptive methods (manual) for special status plant areas will minimize the impacts to these communities. Focus of weed treatment will be for preventation and annual monitoring to target beginning weed invasions early, before problems are too extensive for manual control. Most, if any, herbicide applications would be only for very selective spot spraying in small areas which would preclude use of other practices and protect much larger adjoining areas.

11. Water Quality/Water Resources

Surface Water

It is expected that the fate of herbicides applied under alternative 1 in this EA will be consistent with the tiered FEIS and Supplemental FEIS or RODs documents. Impacts under alternatives 1 and 2 are essentially the same except for the possibility of increased use of prescribed fire in WSAs instead of chemical use.

The increased use of fire over herbicide use could open up larger areas of bare and denuded ground to a short term exposure to severe precipitation events resulting in an increase in surface erosion increases due to loss of protective vegetative cover. Herbicide use generally allows the dying plant material to remain on site. In addition, where 2,4-D, Picloram, Dicamba are used (see Vegetation/Range section D.18. p. 26) grasses remain unaffected. This allows the protective ground cover to remain on site and reduces the potential effects of large precipitation events to watersheds.

The use of prescribed fire for weed control activities over 5 acres in size would require a separate EA to analyze the impacts to watersheds.

Impacts from alternatives 1 or 2 to both surface and ground water should not exceed those anticipated and analyzed in the FEIS (1985), on pp. 39-40 and Supplemental FEIS (1987) pp. 4-8 and as those summarized in Table 1-4 Text revisions section pp. 120-121.

The required stipulation of standard buffer zones (see Mitigation section E. pp. 32-34) of varying widths where chemicals are and may be used, depending upon site specific conditions, and any specific mitigation requirements in PUPs will mitigate potential - contact of herbicide and live water. These stipulations are covering existing PUPs (see Appendix 2) and would also be applied to all newly discovered noxious weed sites proposed for herbicide treatment.

Any mechanical surface disturbing activities (not allowed in WSAs or WAs) opening up bare ground would increase the chances of increased runoff (erosion) into a stream causing an increase in siltation and sedimentation or turbidity. Under both alternatives, the establishment of riparian buffer zones, would tend to minimize soil disturbance and impacts. This would allow the buffered riparian zones to act as sediment filters during runoff events. This is critical around potential fish habitat, especially small salmonid streams.

Under either alternative most treatments in buffered water and riparian areas would be done manually (hands or hand tools), which would eliminate or mitigate impacts to surface waters.

Under alternative 1, the low rates of herbicide application and careful application in those critical areas next to riparian and buffered zones with live water situations should result in **no** water contamination anywhere. Any herbicide escape into creek or river system due to heavy storm events and surface runoff from previously (recent) sprayed areas of would be so small and so heavily diluted by the increased stream flow and sediment load that it is doubtful if any could be measured or detected from a non-point source.

Under alternative 2, no herbicides would be used in WSAs or WAs, but in all other areas the herbicide use impacts would be the same.

Under alternative 1 and 2, the limitation of no mechanical (excluding prescribed fire) treatment in WSAs would severely reduced the direct potential impacts to water resources. It may preclude the effectiveness of other practices as a tool for treatment when combined with seeding, as direct reseeding would be limited to broadcast treatments.

Ground Water

Under alternatives 1 and 2 no impacts are expected to ground water resources due to any surface disturbing activities.

Picloram, Dicamba, and 2,4-D, being somewhat mobile herbicides, can move through the soil profile and potentially into shallow groundwater tables. To some degree, this feature makes them more effective for killing vegetation by getting to the roots. This is especially needed for those weeds which spread by both roots and seed, or those which are a deep rooted perennial (see table 3).

Generally, it is not expected that any sites would be over very shallow ground water (less than 5 feet), with the exception of the area south of Lapine and the BLM wareyard in Prineville. If noxious weeds are found in this area a site specific restriction to type, timing of application (seasonal) or the use of other means for control may be required.

Impacts from herbicide applications, due to the small amounts and dosages (lbs of active ingredients per acre applied) and small acreages (mostly spot treatments) of herbicide used in the District's mostly arid and semi/arid precipitation zones (9 to 13 inches) will not impact ground water resources. In addition, their application on soils having xeric, torric or aridic soil moisture regimes; along with their physical (sun and light) and biological decomposition (see soils impact section); over mostly deep (300+ ft) regional groundwater aquifers, and required special treatment stipulations (buffer strips) when in riparian and next to live water situations (see Mitigation Measures in section E. pp. 32-34) with shallow stream aquifers, no herbicide is expected to reach ground water tables.

12. Wetland/Riparian

Wetland or riparian area treatments for control of noxious weeds would be limited to manual control and/or chemical control limits as referenced and stated in the water resources (section 11.). No impacts are expected to exceed those tiered to FEIS, SFEIS and RODs.

However, most of the artificial waterways in the priority zones 2 and 5 (ditches, canals, and reservoirs) contain native and introduced riparian species, including certain listed noxious weeds. These artificial riparian areas will be impacted where control of weeds is necessary to prevent spread into adjacent agricultural fields. Special care is required if herbicides are used in or next to any irrigation water sources.

13. Wilderness

It is anticipated under alternative 1 that noxious weed control and eradication including the use of herbicides, is needed in the District's Wilderness Study Areas. The WSAs in the Lower John Day River Canyon (5-1, 5-6, 5-8, and 5-9) (see Map 2) are known to be infested with noxious weeds (Russian and Diffuse Knapweeds, Dalmation Toadflax, Whitetop and several species of thistles). Aldrich Mountain WSA (2-103) is infested with Medusahead Rye (EA 054-1-37 and 054-3-100). If these weeds were left unchecked it could dramatically impact and change the native vegetation, watershed and wildlife habitat characteristics within the WSAs. The weeds, acting as seed sources, are currently affecting the off site agricultural lands resulting in increased costs for weed control.

The BLM's policy for the control poisonous plants and/or noxious weeds is discussed in this EA under Special Management Areas pp. 13-15 and on p. 7 of FEIS (1985). Impacts due to the use of herbicides would be consistent with the discussion on p. 48 of FEIS (1985).

Chemical (herbicide) control practices would occur only after a careful site specific field review. The primary control practice would be use of a combination of manual, prescribed fire, and chemicial (spot treatment applications).

The use of site specific, appropriate, effective and ODA approved biological control agents (see Appendix 3) may be used, but not at the expense of leaving infestations in WSAs without any other control measures being applied.

In WSAs a combination of all IWM practices (except mechanical) will be necessary in most cases to control/eradicate the weed infestations. This is especially true for deep rooted and perennial weeds such as Dalmation Toadflax or Russian Knapweed, which spread by rootstocks and are very difficult to control by manual and prescribed fire means. The wildland resource impacts of prescribed fire will be less where herbicides can be used and herbicides would be more effective for some targeted weed species when used in combination with fire. The impacts from herbicides would be mitigated to acceptable standards using the mitigation measures incorporated in the proposed action section (see Mitigation Measures section E. pp. 32-34).

Under both alternatives, the prescribed fire effects, limited to 5 acres or less in this EA, would not create long lasting or unusually visible impacts.

Under 1 and 2, the use of larger prescribed fires, however may be used, if specifically addressed in a separate EA.

Larger (greater than 5 acres) prescribed fires may be expected if alternative 2 is selected, since under this alternative herbicide usage will not be allowed in WSAs. This is true in WSAs (5-1, 5-6 , 5-8, 5-9, and 2-103) where weed infestations are and have been discovered to be expanding.

Currently fire is being used outside WSAs as a part of a combination of IWM practices. Its use without seeding or chemical spot treatments afterwards may severely limit its effectiveness for long term control on sites with deep rooted perennial weeds (such as Russian Knapweed), or on sites where persistent large sources of noxious weed seed are present (such as Yellow Starthistle). It also may temporarily open up denuded surface areas, for increased invasion of other weed species (such as knapweeds, Medusahead Rye, or thistle) from adjacent areas.

14. Wild and Scenic Rivers (W&SRs)

Impacts from weed control activities will be focused to avoid conflicts between recreation use and active weed control efforts (see Appendix 2). These potential conflicts will continue to increase, due to increases in recreational use and annual spring/summer weed control efforts. Weed control efforts are geared to prevent deterioritation of the native vegetation by noxious weed expansion, thus providing protection to the Outstanding Remarkable Values of the W&SR canyons (see Table 6).

This increase in noxious weeds is due in part to past overgrazing practices and extreme runoff events resulting in changes to the vegetation on riverbanks. It is also directly proportionate to the current abundance of adjacent and upstream weed sources and the increases in people use/access. This is especially true in the heavy recreational use W&SR areas (lower Deschutes and John Day Rivers), particularily the camp sites along the streambanks and riparian areas. Outside of extreme flood events, the increased recreational populations use of the W&SRs is the prime preparer of seedbeds for various weed species due to the native vegetation cover being trampled and reduced, recreation traffic bringing in seeds, and increasing prevalance of disturbed surface soil for seed germination.

Weed control efforts under both alternatives are expected to provide beneficial impacts by providing protection to the native vegetation in the to Wild and Scenic Rivers areas.

15. Access and Lands

Under both alternatives, access to weed sites could be a major control factor favoring or limiting which control practices may be selected or for economic reasons limit amount of control work done during a single season.

In areas with difficult access like that along the lower John Day River and portions of lower Deschutes River, weed control logistics may require a unique blend of IWM control measures to control/eradicate the noxious weeds. This is especially important to control noxious weeds found on the tops of the canyons (WSAs in some cases) adjacent to wheat fields and on the relatively inaccessible and adjacent side canyons to protect or enhance riparian and potential salmonoid spawning/fishery values.

Public access into an area may have to be curtailed/limited, if the area has a high weed population. This may be a temporary preventative control measure to prevent an outbreak and/or spread prior to control measures being applied.

All land acquisitions, exchanges and R&PP actions need to have as part of appraisals and/or use actions methods to account for land values associated with noxious weed infestations. The lands actions also will need to address noxious weed concerns/control measures on all Lands and ROW actions, so that all control actions on public lands meet BLM requirements.

16. Outdoor Recreation

Recreational sites (undeveloped and developed) will continue to receive active noxious weed control through herbicide use (see Appendix 2). Very small infestations may be manually treated. It is also possible through educational efforts, to actively begin a weed pulling program on a few selected targeted weed species by recreation users, especially in inaccessible areas. The high levels of public use in the District's major recreational areas (such as the lower Deschutes River) will cause continued reintroduction of noxious weeds from outside sources and continue to create bare ground, a site for weed invasion. Recreational developements on future sites would consider and incorporate design features to mitigate unregulated ORV and exposed bare soil areas.

Competitive seeding or reseeding and limiting access by vehicles or people may be measures needed to increase ground cover. Some of these control measures, including herbicides, may cause a temporary disruption to public use.

Additional weed sites will expand the control efforts required and an increased usage of herbicides is expected, especially certain along the District's W&SR areas. The lower John Day River was inventoried during FY 1986, 1989, and 1993, and as expected numerous, mostly small but rapidly expanding infestations of noxious weeds (mainly Diffuse and Russian Knapweeds and Dalmation Toadflax) were found on riverbanks and islands (within the high water line) and adjacent to river on alluvial flats. Inventory work on the lower Deschutes (1992) found that Scotch Thistle is a major problem in recreational flats next to the river.

These newly found sites, mostly in and among the 250 primitative undeveloped camping areas (generally 0.5 to less than 2 acres in size), will be treated under alternative 1 and alternative 2 with the appropriate IWM methods. Herbicides will be used where handpulling or grubbing is determined to be ineffective or not practical, (no herbicides used in WSAs under alternative 2) as per guidelines mitigation set forth in this EA. (see Mitigation Measures section E).

Additional inventory for noxious weed sites and control actions will be required on public recreational lands adjacent to Prineville Reservoir, where forthcoming management of public lands above the high water level may be transferred to BLM. These actions again will be consistent with this EA.

Alternative 1 impacts are expected to be mostly visual to the recreational user and very short term. The use of herbicides would allow native grasses to buffer visual impacts to the visitor. Timing the use of herbicides would have to be coordinated to minimize spraying during high visitor use periods, thereby avoiding impact of direct contact immediately (within 24 hours) after spraying.

Alternative 2 impacts may be increased due to the more visually noticable impacts of prescribed fire in WSAs or by the expected larger weed patches if herbicides are not available for use.

17. Paleontology

No surface impacts are expected from either alternative, since no surface disturbing physical activities (mechanical or manual treatments) will be allowed in paleontological areas. No vehicle use across exposed beds (except for existing roads/trails for application of chemicals or biological control agent releases will be allowed.

Any noxious weed control activities applied to areas of significant paleontological resources, would be of the chemical and/or biological nature.

There would be no difference between impacts from either alternative, since all these areas currently have no designation as WSAs. Impacts associated with chemical or biological control agent releases is expected to have no impact to paleontological resources.

18. Vegetation/Range

Terrestrial vegetation in both alternatives is the primary environmental component that would be the most affected by the proposed IWM implementation. Treatments for noxious weed control would affect both targeted weeds and non-targeted vegetation on small areas that are treated to protect much larger adjoining areas. The various impacts to vegetation using manual, mechanical, prescribed fire, biocontrol and chemical methods of control for noxious weeds were discussed on pp. 40-42 in FEIS (1985) and pp. 7-9 in Supplemental FEIS (1987). They are also summarized in Table 1-4 on pp. 120-121 of FEIS (1987).

The impacts under alternative 1 would be similar to alternative 2. The use of physical treatments including mechanical and prescribed fire would affect all vegetation within the targeted area regardless if noxious or native. The degree of vegetative disturbance would be dependent upon the duration and type of control practice applied. Depending upon weed species and site environment, the use of prescribed burning may stimulate noxious weed production from seeds or roots and a follow up to burning may require a spraying or other measures over a period of time.

Alternative 1 would allow the use of chemical treatments, which could affect all vegetation within the targeted area. These chemical treatments would vary in size, scope, timing, and would in general be limited to the targeted area of actual chemical application. Generally the use of a boom (vehicle) applied herbicides would be less selective to the area sprayed as compared to a vehicle handgun, ATV mounted handgun or backpack applied hand spraying operations. The use of a handgun and backpack would be less selective over Glyphosate (Rodeo) in hand-wipe application sites. Chemicals allowed, maximum treatment application rates, mixes and application methods are shown in Table 1-3 on p. 9, discussed on pp. 8-11 of the FEIS (1985), and revised on pp. 119-123 Supplemental FEIS (1987), (see herbicide stipulations for this EA in Mitigation Section E. pp. 32-34).

Most of the targeted terrestrial broadleafed noxious weeds and the non-targeted broadleaf plants within the sprayed area would be killed by the use of 2,4-D, Dicamba,(both selective) and Picloram (nonselective) as proposed (see table 5). These herbicides would effectively kill or damage most broadleaf plants, thus if native and noxious weeds are within the spray area both would be killed. The grasses may suffer slight damage due to varied sensitivity to herbicides, depending upon microclimatic and site specific conditions, but they will recover and should increase in vigor and density due to reduced competition.

Table 3-2 on page 7 of the Supplemental FEIS provides a short list of native plants and their relative susceptibility to 2,4-D, Dicamba and Picloram. The effects of killing non-targeted broadleaf species should be minimal because most target areas would be small, spot spraying in patches less than 5 acres in size, and herbicides for the most part will be applied with ground equipment and or hand spraying equipment. The surrounding adjacent native broad-leaf vegetation and most grasses within the target area would not be affected.

Since drift to non-targeted areas is a potential impact, stipulations to aerial spraying buffer strips and wind speeds (see Mitigation section E p 30-32) are in effect to minimize drift potential. In addition, the stipulations state that Dicamba will **not** be applied aerially by itself. Dicamba will only be applied aerially in a mix with 2,4-D. Picloram (Tordon) will **not** be applied aerially as a mix. Glyphosate will not be applied aerially. All aerial applications will be done by a helicopter.

Glyphosate (Rodeo amd Accord formulation only), is a broad spectrum, nonselective herbicide that affects most perennial plants, annual and perennial grasses, sedges, and broadleaf plants. It is a herbicide that is not generally used or labeled for rangelands, but rather used along waterways, reservoirs, and recreational areas. Glyphosate will **not** be applied aerially.

Under both alternatives most of the impacts would be the same, due to weed control focused on noxious weeds along State and county road ROWs. These weeds in the major (priority 2) ROWs and administratively developed sites (priority 4) have been and will continue to be disturbed as a result of maintenance/use actions. These areas contain few native species. Since they are the major vehicle movement and highest visitor use areas they are also usually the first areas of noxious weed invasion. They are areas of continued concentrated effort of chemical control (herbicides) by the county weed departments (under contract with BLM).

Under alternative 2 the impacts associated with using prescribed fire instead of herbicide will cause temporary impacts to native vegetation in the targeted areas. This EA limits the use of prescribed fire to 5 acres or less. It is this limit that would minimize any impacts to the vegetative visual aspects of a WSA. It is also the ability of native grasses to be stimulated by fire that would make most fires a temporary and natural appearing impact.

Use of prescribed fire covering larger areas will be addressed in separate EAs. However, the selection of alternative 2 (non-use of herbicides in WSA's) would create the need to use larger prescribed fires as one of few cost effective measures to treat some noxious weed infestations. However, fire is not generally that effective against perennial weeds that have capabilites to sprout from roots. It is not as effective by itself as it could be when combined with other IWM practices such as follow up competitive seeding and spot spraying with herbicides.

Management directed towards maintenance of biodiversity and native plant ecosystems requires the use of all aspects of an IWM. It requires the full use of control measures available under alternatives 1 and 2 (except for herbicide limits in WSAs) Non herbicide use in WSAs would limit the effectiveness of other control measures against weeds that require herbicides for control purposes.

All IWM measures are needed per Alternative 1 since the noxious weed's ability to out compete most native plants, due in part to its "tough and aggressive nature" by its "ability to flower early, to produce many seeds, grow quickly, and to germinate under a broad range of conditions" (Devine 1994). In addition, their lack of host diseases and insect feeders, requires the use of IWM measures to for control of noxious weed infestations on all public lands.

Under alternatives 1 and 2 the control of poisonous plants and/or noxious weeds, especially in regards to maintenance of seedings and vegetative control projects is allowed and required on all public lands (see Special Management Areas in section A). In Corrdinated Resource Management Plan (CRMP) areas (none in WSAs) noxious weeds will be a component in analysis for control from all surface disturbing activities. Monitoring, prevention, and eradication of noxious weeds in CRMPs will be done in accordance to mitigation and procedures of this EA.

All IWM noxious weed applications, especially chemical and biological will be noted into the specific range allotment file as part of that file's permanent record. Yearly monitoring results should also be included (see Appendix 2 and Table 8).

19. Livestock and Wild Horses

Alternative 1 and 2 impacts to livestock and wild horses are discussed on pp. 43-45 of the FEIS-1985. Table 3-2 on p. 44 of that same document summarizes the effects of domestic livestock eating the various noxious weeds or a few poisonous plants.

All chemical treatments are generally applied in a form or at such low rates that they do not affect livestock and label instructions are required to be followed if livestock are present. Major treatments under the proposed action would be applied when livestock are not in the treated pasture. spot treatments may occur at any time. As anlyzed in the FEIS 1985, the elimination of livestock from the treatment areas relates to label restrictions of specific chemicals when animals consuming forage treated with certain chemicals (Picloram, 2,4-D and Dicamba) cannot be slaughtered for food within the period of time specified on the herbicide label. In addition, dairy animals should not be grazed on treated acres, again for the specified time on the label.

Under alternative 1 and 2 the impact of weed control activities would be generally the short term elimination of livestock grazing or require wild horse movement away from herbicide sprayed areas. Small spot treatment areas would not require movement.

Under both alternatives noxious weed control practices are not expected to impact livestock or horses as their mobility would allow them to be moved away from treated areas. A withdrawal from grazing (seasonal) of up to 2 years for rest regrowth may be required, if prescribed fire or competitive seeding over 5 acres is selected under physical or biological control.

Any localized temporary impacts to vegetation would be of short duration, thus, loss of forage impacts would be for the most part minor. Increased control over livestock grazing operations and wild horse actions may be required if noxious weed infestations are being spread by their continued current pattern of use. Sheep and goats may be used as a part of biological control activities to reduce populations of noxious weeds.

20. Forestry

Control activities and impacts from alternatives 1 and 2 are the same to the forestry resources. Weed control efforts are focused on harvested sites and access roads used in harvest activities. Control activities are expected to have only a minimal impact to the forestry resources. These actions would occur during both preharvest in controlling weeds along access roads and during sale activities to prevent spread of weeds on to cutting or harvest areas by trucks and logging equipment. Post harvest activities would be to eradicate noxious weeds as discovered on all portions of the sale sites. The use of a cover/nurse seed grass mix, like annual rye, native grasses and short-lived legumes, to lessen the bare surface soil exposure time to noxious weed seed invasion could be part of sale stipulations if determined necessary in timber sale EA.

This may be necessary in Grant Co. with the diverse weed populations on both private and USFS lands. It also may be necessary to have all equipment, especially vehicles, cleaned and inspected by BLM personnel before coming onto the work site as part of prevention practices.

21. Soil Resources

Impacts to the soil resource throughout the District using any of the control methods, should not exceed those impacts expected and analyzed on pp. 36-38 of FEIS-1985 and pp. 2-4 of Supplemental FEIS-1987. The direct impacts to the soils would be the temporary surface disturbances associated with physical (prescribed fire, manual and mechanical) control practices.

Impacts are expected to be small from either alternative due to small surface acreage disturbances and loss of vegetative cover or the use of herbicide spot treatments (see Appendix 2). Most soil/watershed impacts are due to direct

impacts from mechanical disturbance (such as plowing, discing, or seedbed preparation), or increased erosion potential due to changes in vegetative cover. These small (in most cases several years of spot treatments if herbicides, and less than 5 acres other (over 5 acres physical practices require a separate EA), would be mitigated in one to two years with native regrowth or sooner if seeded.

Using prescribed fire as a control measure for noxious weeds (which have for the most part low fuel loads) would not cause great changes in surface soil physical and chemical (nutrient levels) characteristics. The greatest effect would be the short term loss of soil productivity due to a temporary change in vegetative cover, surface organic matter and soil organisms in the surface few inches. Thus, unless fire conditions were extreme (very large, very hot or long duration) soil surface characteristics should return to prefire conditions after several growing seasons.

Alternative 2, with the greatest use of fire, would have the most impact. No impacts for prescribed fire over 5 acres are expected as none are proposed.

The fate of herbicides and behavior on the soil microbiotic community varies to specific chemical and site specific soil characteristics. Behavior actions of herbicides in soils are summarized below in Table 7 (FEIS-1985 and Table 3-1 from SFEIS -1997 p. 3).

Table 7. Chemical/Soil Behavior of Approved Herbicides/Chemicals

Chemical	Soil Behavior
2,4-D	Degradability in soil depends on microbial activity but is faster in moist soils having higher organic matter content. Persistence is short usually a month or less, and mobility is relative high, especially in soils having lower organic matter content. Photodecomposition and volatilization (in most formulations generate only small losses in 2,4-D activity.
Dicamba/Banvel	Moderately (3 to 12 months) persistence, does not adsorb readily to soil colloids or particles, and is highly mobile. Mainly lost from soil by microbial decomposition. Photodecomposition or chemical degradation is minimal.
Glyphosate/ Rodeo or Accord	Strongly adsorbed by soil particles. Adsorption is higher with organic and phosphate rich soils and lowest in sandy soils. Decomposed rapidly and completely by microorganisms. Persistence is about 2 months, but maybe longer in sandy (80%) soils.
Picloram/Tordon	Highly stable in plants, can be leached, relatively nonvolatile. Moderately to highly persistent in soil, depending upon climate and rate of application, at 1 lb ai/acre generally up to a year and within top 12 inches. Relatively mobile depending upon net water actions. Degradation results from sunlight and slow microbial action.

In most cases, except where glyphosate is used, native grasses would not be impacted or affected by the use of proposed herbicides within restrictions related to rates of application. This would be beneficial to soil surface features and provide protection for watershed and visual concerns in sensitive Special Management Areas.

22. Minerals/Geology

There should be no impacts associated with this IWM on geological resources.

However, in disturbed mining areas if noxious weeds are left untreated these areas would act as seed sources for further spread. The survey and treatment of of noxious weed in these areas of active mining, pits, clay pits, gravel storage

areas, or cinder pits and highway yards before material is spread out along roads is an important preventative and control practice for both alternatives.

Mining operations/claims for locatables and saleable need to be administratively required to control noxious weeds on the public lands associated with their claims per each respective county noxious weed control list. This control would normally be annual (as needed) by herbicide (PUP required) or manual, mechanical practice if claim/material pit is active or by reclamation and reseeding if claim/pit is to be closed.

23. Visual Resources

Under alternative 1 and 2, the majority of control work occurs within highway ROWs where disturbance and visual impacts are already extreme. The small acreage and or spot treatments along with the limited damage to native grasses by 2,4-D, dicamba or picloram herbicide applications creates only short term visual impacts that over time blend into the background. New sites generally would be small in size and scope and treatment by any means would be relatively unnoticed.

The temporarily blackened areas (less than 5 acres in size) when treated by prescribed fire as part of an combination of IWM practices would blend into the surrounding native tree/shrub/grass mix, and be masked after 1 growing season by regrowth of native grasses.

24. Wildlife

The use of any control methods could temporarily (relocation) or permanently (if sprayed, burned, flattened, injured or cut up in mechanical or manual treatments) disrupt the daily individual behavior of wildlife inhabitating or occupying treatment areas. The use of any IWM practices including chemicals and risks and impacts to wildlife has been analyzed in the tiered FEIS (1985) pp. 45-56, and Appendix K pp. 201-204 and Supplemental FEIS (1987) pp. 9-10 and Appendix K pp. 65-92 and ROD documents. In summary the chemicals proposed for use in order of decreasing risk to wildlife are Dicamba, 2,4-D, Glyphosate (Rodeo) and Picloram (Tordon). These risks to wildlife are dependent upon application rates, dermal penetration rates, and the inherent toxicity of the compounds

Terrestrial Species

Treatments under alternatives 1 and 2 will temporarily or permanently disrupt the day-to-day life habitats of the wildlife occupying the treatment areas. No life-threatening impact is likely to result from application of any treatment method, except for incidental mammals (mostly rodents), amphibians, birds, reptiles and arthropods from vehicles, prescribed fire (large) and/or mechanical treatments (in fields). In general, the larger the contiguous soil surface disturbed or vegetative cover removed (such as in fire or mechanical seedings), the greater the impacts to wildlife, through either the direct loss of wildlife or indirect impacts due to loss of habitat.

For specific IWM practices, the impacts ranging from greatest to lowest are from prescribed fire, mechanical, manual or chemical (spot treatments) and biological. The potential impacts are greater on smaller less mobile animals than on larger ones. The greatest disturbance to wildlife will last the duration of the specific treatment activity or longer if localized specific habit niche (home) is destroyed or abandoned. Residual impacts may last til the return to natural conditions. The impacts of not treating noxious weeds in a timely manner would allow for the potential expansion to the detriment of existing native habitat (vegetation) and a corresponding loss of extremely valuable wildlife and fishery habitat.

Habitat treated and recovering from dominance by noxious weeds will gradually recover its diversity. Those areas left or dominated by weeds will become monocultured alien blights on the landscape with very little biodiversity.

Impacts to the mobile mammals, birds, reptiles, amphibians and arthropods are expected to be minimal through applied mitigation measures, clearance and review of all proposed weed projects though the Resource Area's wildlife and fishery biologists.

A reduction in available food sources and/or cover could result in impacts to avian (bird) species through weed removal. In particular, it may impact some species such as morning doves and other neotropical migrant bird species which utilize weed species such as scotch thistle seeds for food. Replacement of noxious weeds and seed used as cover and bird food with native species or by competitive seeding with native or introduced species, which are able to be utilized by neotropical migrant birds or morning doves would reduce impacts from noxious weed removal. The amount or acreage treated (mostly along road Rights-of-Ways see Table 4 and Appendix 2) with chemicals is so small District-wide that impacts on any one population of birds is expected to be minimal and not quantitative.

Fish and Aquatic Species

No impacts under either alternative are expected to the fish species and aquatic organisms from herbicide application. None of the approved herbicides (at approved rates of application) showed a tendency for bioaccumulation and long term persistence in the food chain (SFEIS 1987). The fish and aquatic impacts were assessed in the SFEIS p. 9-10 and Appendix K (Aquatic Hazard Analysis p.78, Aquatic Risk Analysis p.86 and Details of the Wildlife Exposure Calculations p.87). In summary, the fish and aquatic impacts from herbicide use in order of decreasing risk would be 2,4-D (especially ester forms), Dicamba, Picloram (Tordon) and Glyphosate (Rodeo formulation).

Impacts from physical practices under either alternative would primarily result from runoff events off bare soil and vegetative removal areas (prescribed fire). This would cause increased opportunities for erosion and increases in siltation and sediment into streams. These are expected to be mitigated through riparian buffer areas and keeping treatment areas in any one watershed small. Additionally, the reseeding and/or natural revegetation processes would keep the window of opportunity for drastic increased erosion events dumping sediment and causing siltation of streambeds generally to 1 growing season.

Not effectively treating weed infestations would hinder riparian and watershed vegetation diversity and thus indirectly impacting the fishery and aquatic habitats.

25. Social and Economic

Social and economic impacts were discussed on pp. 48-50 of the FEIS (1985).

In summarized form, these impacts consider weed control activities being needed and beneficial for productive rangelands, economic production is severely decreased on weed impacted land, ingestion of poisonous plants kill livestock and reduce productivity and weeds spreading from BLM lands are contributing to economic losses on adjacent private lands. The local economy is benefitted by all IWM control practices, through increases in local spending, labor, equipment and materials. However, labor intensive manual and mechanical control practices (contracts) may provide a more direct economic benefit in the form of employment and wages. Polarized reactions between non-chemical use proponents and proponents for a IWM program allowing use of chemicals will occur.

The site specific impacts of alternatives 1 and 2, are essentially the same, as summarized, except the additional social and economic concerns and polarized reactions both pro and con about use or non-use of herbicides in WSAs or Was.

26. Human Health

A detailed hazard analysis was conducted for IWM practices and each of the

four herbicides proposed for use on pp. 50-55 and Appendix N pp. 209-233 in the FEIS (1985). Additional analysis evaluated impacts including a worst case analysis on pp. 11-24 and Appendix N pp. 93-117 in the Supplemental FEIS (1987). In addition, the summary discussion of herbicides and human health from section "2. The Herbicides' Risks to Human Health" in the Supplemental FEIS 1987 ROD and the detailed updated analysis in FEIS 1991 pp 3-64-3-94, and Appendix E FEIS 1991 addresses the issues and impacts related to human health and use of (risk) of herbicides.

The cumulative analysis of expected impacts for workers, human and wildland resources along with risk assessment of using these herbicides was addressed in the FEIS 1985 and Supplemental FEIS 1987 and their respective RODs. In addition, the impact analysis for additional chemicals as well as the currently four approved herbicides (Picloram, Dicamba, 2,4-D and Glyphosate) were analyzed and updated in the FEIS for Vegetation Treatment on BLM Lands (Thirteen Western States, May 1991, its Appendixes May 1991 and ROD July 1991.

It has been determined that the worst-case is that someone could get cancer from exposure to herbicides used in BLM's IWM. The probability of occurrence was projected for two basic populations considered at risk (occupational and general public). The highest probability of cancer for workers in the extreme-case is on the order of one out of 10,000 workers exposed under the lifetime exposure scenario. The highest probability for the general public is on the order of one out of 10 million individuals exposed in the extreme case scenario presented. Oregon's current population is estimated to be about 2.7 million.

In order to provide a perspective on the risks, comparison to accepted risks or the public's willingness to accept certain voluntary and involuntary risks is needed. Risks of one in 10,000 for occupational (voluntary) and one in one million for the general public (involuntary) are willingly accepted. In fact, human health would benefit by the reduced probability of human contact with noxious and poisonous weeds resulting from control activities.

The use of only Oregon State (ODA) certified and licensed applicators for all herbicide applications on BLM public lands, using only BLM, ODA and EPA approved herbicides, following all state requirements per license and information in "Oregon Pesticide Applicators Manual" (Miller 1993), all instructions per specific herbicide LABELS (as required by Law), using proper and required Personal Protective Equipment PPE), Material Safety Data Sheets with applicator at site, and specific EA proposed application and mitigation stipulations reduces the human health, and environmental risks and impacts of using herbicides in the Prineville District IWM program to levels below those accepted in the FEIS 1985 and Supplemental FEIS 1987 and their RODS. This does not mean that these herbicides are completely safe, as safe does not mean risk free, rather safe means that each herbicides's environmental hazards and risks are acceptable ones to take based upon best available knowledge and proper use.

Impacts from non-chemical treatments are analyzed in the FEIS (1985) on pp. 50-55. These impacts are essentially the same for alternatives 1 and 2. These are summarized as to vehicle operations, mechanical equipment hazards, smoke and prescribed fire safety concerns, using hand tools, physical contact and skin irritant from hand pulling certain noxious weeds, poisonous snakes and human interactions. Most infested sites, where physical control practices would be used are in geographically and physically remote locations, where distance to medical help (hospital) may complicate any medical injury.

E. Mitigation Measures

The following District mitigation/stipulations will apply to the District's Integrated Weed Management (EA OR-053-3-062) for all noxious weed control activities under both alternatives:

1. Cultural (prevention) activities such as inspection (weed surveys), regulation (ROWs), sanitation (wash and clean vehicles) and education) will be encouraged and enforced for all high priority multi-use recreational areas, especially those along the John Day River and Deschutes River

corridors, the Bend-Sisters-Redmond Urban Interface and the Prineville Reservoir.

2. Physical control practices (Mechanical) such as mowing, tilling, disking, seedbed preparation, and prescribed burning (if over 5 acres) treatments will require a separate EA. Small mechanical treatment areas of less than 5 acres may only require a CE.

3. All manual control practices (hand pulling and hand tools) will be done before seed ripe or dispersal and the plant residue collected as needed for burning (piles) or bagged and removed from site(s). On small isolated sites manual control may be given priority consideration dependent upon weed species and site requirements, before any herbicide application especially, in WSAs, WAs and ACECs.

4. IWM biological control practices methods such as introduced insects, competitive seedings, pathogens or grazing (goats or sheep) will be given consideration District wide. ODA approved biocontrol agents (insects or pathogens) will be given emphasis for release to control/contain larger infestations where containment is major goal. The approval for release of beneficial insects or pathogens must use the same procedures as herbicides using the Biological Control Agent Release Proposal (BCARP) and Record (BCARR). Only ODA approved biological control agents will be allowed for release after District and State Office approval (see appendix 3).

5. A Special Status Plant and Animal survey or clearance will be done prior to any treatment.

6. A cultural survey or clearance is required before any soil surface disturbing activity from physical weed control practices (manual, mechanical or prescribed fire) occurs.

7. All herbicide use will comply with USDI rules and policy, BLM policy and guidelines, Oregon State laws and regulations, OR Department of Agriculture (ODA) laws and regulations, Environmental Protection Agency (EPA) , federal pesticide laws (FIRCA), Oregon Department of Environmental Quality (DEQ) regulations, Local County Weed District Priorities and requirements and by Law must follow product label requirements.

8. All pesticide (herbicide) applicators are required to submit proposals using 1.) a Pesticide Use Proposal (PUP) form (which BLM may approve for use of up to 3 years, if same chemical, same target weed, and same area); 2.) a Pesticide Application Record (PAR) to be completed after application and promptly submitted to the district office.

9. All herbicide applications will only be applied by a Oregon State licenced and certified applicator.

10. Material Safety Data Sheets (MSDSs for each herbicide being applied will be at site with applicator, and guidelines and information found in "Oregon Pesticide Applicator Manual" (Miller 1993) as updated will be followed

11. Areas of known or suspected sensitive amphibians will have as a minimum 100 foot buffer strip from live water for all herbicide applications, with the exception for the use of Rodeo.

12. Herbicide Use Restrictions are as follows:

    a. No vehicle mounted boom sprayers or handguns will be used within 25 feet of surface (live) water.

    b. No booms would be used in riparian areas where weeds are closely intermingled with trees and shrubs.

c. Liquid herbicides can be applied (at a height of 0.5 ft to 2.5 ft. above ground) to areas for spot treatments with hand spraying (backpack) equipment (single nozzle, low pressure and volume) to within 10 feet of live water. Use of mule or horse mounted equipment would also be allowed.

d. Spreader equipment (broadcast) could be used to apply granular formulations applied at a height of about 3.5 feet, to within 10 feet of the high water line of live water.

e. Contact Systemic Herbicides (such as Glyphosate - Rodeo or Accord) may be allowed using hand wipe applications on individual plants up to the existing high water line. No aerial application of Glyphosate is allowed.

f. When wind speeds exceed 5 mph, no spray equipment will be used in riparian areas or near water, and no aerial applications are allowed in riparian or wetland areas.

g. No application of herbicides will occur if wind speeds exceed 8 mph.

h. All aerial application of herbicides will be done **only** by **helicopter** and allowed within the constraints of the Final NW Area Noxious Weed Control Program EIS (1985) as supplemented 1987, and ROD pages 1-3 (May 5 1987). A buffer strip of 100 feet will be established between target weed areas and any live water/riparian areas.

i. No aerial application of herbicides will be permitted without written approval from the authorized officer.

j. No aerial application of herbicides will be permitted when wind speeds exceed 5 mph.

k. Only 2,4-D, picloram (Tordon), dicamba, and glyphosate (Rodeo and Accord only) and approved combinations will be allowed as per ROD (1987) from Supplemental FEIS (1987). Acceptable formulations, EPA registration #s, maximum rates of application, and mixture stipulations are referenced from BLM Instruction Memo # OR-91-302 (as updated) and from Table 1-3 p. 9 FEIS (1985).

l. All chemicals will be applied only in accordance with Environmental Protection Agency standards specified on the herbicide **LABEL** and the stipulations in this EA.

m. Pesticide Use Proposals for herbicide application within boundaries of Wilderness Study Areas (WSAs), Wilderness Areas (WAs), and Research Natural Areas (RNAS) will be reviewed and evaluated by Resource Area staff on a year to year basis. Application of herbicide for second or third year of an approved 3 year PUP is dependent upon effectiveness and Resource Area Management approval.

n. Monitoring pretreatment and posttreatment will be done yearly (pre and post spray applications) on all treated areas.

o. In aerial applications a 500 foot unsprayed buffer strip will be left next to inhabited dwellings unless waived in writing by the residents. A 100 foot buffer of unsprayed strip will be left next to croplands and barns.

p. Additional Herbicides if approved (see p. 1 and 12) may be used subject to all the above mitigation measures, label restrictions and within limits of ROD or specific approval recommendations.

q. The maximum rates of application for the four approved herbicides (per Table 3-1 from FEIS 1985): (ai = active ingredients of specific herbicide).

Ground Applications (vehicle and hand)

Application of Single Herbicide:

Herbicide	Maximum Rate
2,4-D	**3 lb ai/ac**
Dicamba	**6 lb ai/ac**
Glyphosate	**3 lb ai/ac**
Picloram	**1 lb ai/ac**

Application of Tank Mixes

Herbicide	Maximum Rate
2,4-D and Dicamba	**2 lb ai/ac 2,4-D & 1.5 lb ai/ac Dicamba**
Picloram and 2,4-D	**0.5 lb ai/ac Picloram 1 lb ai/ac 2,4-D**

Aerial Applications (helicopter only)

Herbicide	Maximum Rate
2,4-D	**3 lb ai/ac**
2,4-D and Dicamba	**2.0 lb ai/ac 2,4-D and 1.5 lb ai/ac Dicamba**
Picloram	**1.0 lb ai/ac**

13. All other stipulations and mitigation in FEIS (1985) pp. 1-7 to 1-10, Supplemental FEIS (1987) pp. 119-122, RODs (1986) or (1987) will apply. In addition, the stipulations and mitigation from the FEIS 1991 and its ROD will apply for all additional chemcials (herbicides if or when approved for noxious weed control.

F. Monitoring

A monitoring plan following guidelines of Table 8 will be established to determine success/failures and any other impacts. Modifications to the proposed action in site specific areas would be proposed if necessary and further environmental assessment/public disclosure made.

Table 8 reflects the herbicide application monitoring plan set forth in the Supplemental FEIS (1987) p. 122. As per stipulations from Supplemental FEIS (1987), RODs and this EA, BLM will monitor all noxious weed control projects with special emphasis on chemical and biological control efforts. In order to facilitate such monitoring, the District's Resource Areas will require utilization of the following forms for each proposed application file (file code 9011): Pesticide Use Proposal (PUP) - Appendix 7; Pesticide Application Record (PAR) -Appendix 8; Biological Control Agent Release Proposal (BCARP) - Appendix 9; Biological Control Agent Release Record (BCARR) - Appendix 10; the District Monitoring and Evaluation form/guidelines - Appendix 11; A District Noxious Weed Field Survey Form (Apr 1993) - Appendix 6; and map (USGS 7.5 min topographic preferred-copy to an 8 1/2 by 11 inch sheet) showing location of project.

Table 8. District Herbicide Application Monitoring Plan

Monitoring Element	Methods	Time	Characteristics Evaluated
Pretreatment Survey	Onsite visual inspection	Each Treatment area	Species present, density, endangered species present, control options, methods chosen, Dist. Noxious Weed Field Survey Form Completed (Appendix 9)
Postreatment Survey	Onsite visual inspection	Each Treatment area	Effectiveness, need for retreatment, corrective measures or mitigation
Pesticide Use Proprosal	Review of proposal and herbicide by authorized State certified applicator	Before any herbicide application	Proposal compared to EPA registration requirements and meets EIS and EA stipulations
Water Monitoring	Pre- and post-treatment water samples, if near potable water sources & herbicide could get into water	As needed	Potential water contamination
Coordination monitoring	Weed Mgt plans submitted to W.O.	Yearly	Coordination of plan
Biological	Survey of Bio-control agents release sites	Yearly	State/District establishment, rate of spread effectiveness, of released biological control agents
Surveys for Special Status species	Survey for species before action	Each project	Presence of Special Status Species
Cultural Resource Surveys	Survey for Cultural resources	Each project involving fire or surface soil disturbances	Presence of Cultural Res.
Contract	Admin of Contract	Each contract	Contract stipulations and work accomplish.

The project specific post treatment monitoring and evaluations would be completed as specified on the forms/guidelines per BLM policy. In addition all herbicide treatment sites, biological control agent release sites and yearly weed monitoring results will be noted into the specific range allotment file, subject to available funding and personnel.

All chemical treatments will be applied by OR state certified, licensed pesticide (weed) applicators. All biological control agents will be certified and released through the consultation/approval of the ODA.

Consultation/Coordination

The District's primary consultations were made with the Oregon State Dept of Agriculture (ODA) and the County weedmasters or Road Departments of each county (see list below). Additional consultations were made with Ochoco National Forest (USFS), BPA, and PGT.

These are the people or agencies actively tracking infestations/occurrences and determining the priority treatment areas/needs to control or eliminate noxious weed populations. They will also be the main source of biological control agents (ODA) and main herbicide applications (county weedmasters) within the District.

1. Agencies and Individuals Consulated.

a. Oregon State Department of Agriculture-Salem and Redmond Offices
b. Crook County Extension Agent
c. USFS Ochoco National Forest
d. BPA -- Bill Erickson - ROW
e. State Hwy Dept - ROW
f. PGT -- ROW
g. Crook County Weed Control Dept.
h. Deschutes County Weed Control Dept./Public Works
i. Gilliam Co. Rd Dept
j. Morrow Co Weed Dept.
k. Grant Co SWCD Weed Control Program
l. Hood River Weed District.
m. Jefferson Co Rd Dept.
n. Dept of Public Works
o. Lake County Weed District
p. Sherman Co. Weed Control
q. Wasco Co Weed Dept.
r. BLM Oregon State Office -- Jerry Asher
s. BLM Oregon State Office (Lakeview) -- Bob Bolton
t. BLM Oregon State Office -- Dave Harmon
u. BLM Salem District Office -- Joe Furnish (Special Status Animals - Invertebrates)

2. BLM District Employees Involved with Preparation

a. Lawrence (L.C.) Thomas -- District Weed Coordinator (EA Team Leader)
b. Don Smith -- ADM Resource Services - (Weed Management Review)
c. Harry Cosgriffe -- Central Oregon Resource Manager - (Area Management)
d. Joe Wichman -- Supervisory NRS (CORA) Weed Coordinator
e. James Kenna-- Deschutes Resource Area Manager - (Area Management)
f. Dan Tippy -- Supervisory NRS (Deschutes) Weed Coordinator
g. Ron Halvorson -- District Botanist - (Environmental Coord, Botany, Special Status Plants, ACEC'S, Range and Vegetation)
h. Marci Todd -- Dist. Cultural Resources Program Lead - (Cultural Resources, Native American Religion, and Paleontology)
i. Brad Keller -- Dist. Wildlife Biologist (Special Status Animals, Wildlife)
j. John Heilmeyer -- NRS Riparian (Deschutes) - (Riparian Resources)
k. Rick Demmer -- NRS Riparian (CORA) - (Riparian, Water Resources)
l. Phil Paterno -- Reality Specialist (Deschutes) - (Lands, ROWS, Access)
m. Roy Pearl -- NRS Wilderness (CORA) - (Wilderness, Visual Resources)
n. Syd Williamson -- Forester (CORA) - (Forestry)
o. Dennis Davis -- Dist. Geologist - (Minerals, Geology)
p. Dan Wood -- Supervisory NRS (CORA) - (Wild and Scenic Rivers, Recreation)
q. Shaaron Netherton -- Sup. Outdoor Rec Planner (Desch) (W&SR, Recreation)
r. Lyle Andrews -- Range Conservationist (CORA) (Range, Bridge Cr. CRMP)
s. John Hanf -- Range Conservationist (Desch) - (Range, Lower Deschutes R.)
t. Charles Kayman -- SCA Volunteer (GIS Weed Map 2)
u. James Sippel -- Park Ranger - (Wilderness, Weed Surveys of Lower John Day R.)
v. Ed Perault -- Outdoor Rec Planner (Desch) (W&SR, Recreation)
w. Jan Hanf -- Wildlife Biologist (Desch) (Special Status Animals, Wildlife)

3. References:

Asher, Jerry 1993 "Noxious Weeds in Eastern Oregon" Oct 1993; USDI Bureau of Land Management Oregon State Office, Portland OR.

rbe, Douglas D. 1991 "Characteristics of Noxious Weeds and Their Ecological Impact" Oregon Interagency Noxious Weed Symposium Proceedings Dec 3-4 1991 Corvallis OR.

Bolton, Bob 1993 "Noxious Weed Strategy for Oregon/Washington BLM" USDI Bureau of Land Management, Oregon State Office (Lakeview) Portland, OR.

Burrill, Larry C. 1993, Ray D. William, and Dan Ball; Robert Parker, Chris Boerboom, and Kassim Al-Khitb; Robert H. Callihan, Charlotte Eberlein, and Don W. Morishita; "Pacific Northwest Weed Control Handbook" 1993 OSU; WSU; and Univ of Idaho.

Cheater, Mark 1992 "Alien Invasion" Sep/Oct 1992 Nature Conservancy.

Cook, Ronald L. 1991 "Obtaining Quality Seed for Use in Vegetation Management Projects" Oregon Interagency Noxious Weed Symposium Proceedings Dec 3-4 1991 Corvallis OR.

Coombs, Eric 1992 "Biological Control of Weeds Status Report" 1992 Oregon Dept. of Agriculture Salem, OR

Devine, Robert 1994 "Botanical Barbarians" Jan/Feb 1994 Sierra The Magazine of the Sierra Club.

Hawkes, Robert B. 1985 Tom D. Whitson, and La Rea J. Dennis: "A Guide to Selected Weeds of Oregon" 1985 Oregon Department of Agriculture, OSU.

Hawkes, Robert B. 1989 Larry Burrill, La Rea J. Dennis: "A Guide to Selected Weeds of Oregon (Supplement)" 1989 Oregon Dept. of Agriculture, OSU.

Hoglund, Georgia E. 1991 "Design and Implementation of Integrated Weed Management on Public Lands" Oregon Interagency Noxious Weed Symposium Proceedings Dec 3-4, 1991 Corvallis, OR

ummenow, M 1992 "Weeds in Wilderness: A Threat to Biodiversity" Western Wildlands 1?

eininger, Wayne C. 1988 "Non-Chemical Alternatives for Managing Selected Plant Species the Western United States US Dept. Interior, Fish and Wildlife Service and Colorado State University Cooperative Extension XCM-118 June 1988

Miller, Terry L. 1993 "Oregon Pesticide Applicator Manual" A Guide to the Safe Use and Handling of Pesticides, Oregon State University, Extension Service # 8532, October 1993

Piper, Gary L. 1991 "Principles of Integrated Noxious Weed Management" Oregon Interagency Noxious Weed Symposium Proceedings Dec 3 and 4, 1991 Corvallis OR

Oregon Natural Heritage Program, 1993 "Rare, Threatened and Endangered Plants and Animals of Oregon" Oregon Natural Heritage Program, August 1993 Portland, Oregon

USDA, 1993 "Prime Farmland List for Oregon" May 1993 USDA SCS Portland Oregon.

USDI BLM 1985 "Northwest Area Noxious Weed Control Program (Draft) EIS" Dec, 1985 Bureau of Land Management Oregon State Office Portland, Oregon

USDI BLM 1985 "Northwest Area Noxious Weed Control Program FEIS" Dec, 1985 Bureau of Land Management Oregon State Office Portland, Oregon

USDI BLM 1987 "Supplemental to the Northwest Area Noxious Weed Control Program FEIS" Dec, 1987, Bureau of Land Management Oregon State Office Portland, Oregon

USDI BLM 1991 "Vegetation Treatment on BLM Lands in Thirteen Western State FEIS" May 1991, Bureau of Land Management Wyoming State Office Chenyene, Wyoming

USDI BLM 1992 "Bureau of Land Management Special Status Invertebrate Species" 12/7/92 Salem District Office (Joe Furnish) 12/7/92 Salem, Oregon

hitson, Tom D. 1991; Burrill, Larry C.; Dewey, Steven A.; Cudney, David W.; Nelson, B. Lee, Richard D.; and Parker, Robert; "Weeds of the West" University of Wyoming, The Western Society of Weed Science in cooperation with the Western United States Land Grant Universities Cooperative Extension Services. Jan. 1991.

Appendix 1. BLM Priorities, OR List, USFS List, Class A, B and C County Weed Lists

BLM Priority	NAME Noxious Weed	OR List	USFS Ochoco	CLASSIFICATION OR RATING* Counties CR	DES	GIL	GR	HR	JEF	KL	L	SH	WAS	WR
	Absinth Wornwood (Artemisia trifida)							C						
22.	**African Rue** (Peganum harmala)	A		A										
	Bassia Five-hook (Bassia hyssopifolia)									B				
15.	**Bearded (Common) Crupina** (Crupina vulgaris)	T/A					A		B			A		A
	Blue Flower Lettuce (Lactuca pulchella)						C			B				
	Brown Knapweed (Centaurea jacea)								B					
	Buffalabur (Solanum rostratum)	B							B					
35.	**Bull Thistle** (Cirsium vulgars)	B	B		C	B						C		
50.	**Camelthorn** (Alhagi pseudalhagi)	A										A		A
14.	**Canada Thistle** (Cirsium arvense)	B	B	B	B	B	B	B	B	B	A	A/B	B	C
	Common Burdock (Arctium minus)		A		C		C				A			
	Cocklebur (Broad-leaved) (Xanthium strumarium)						C				A			
	Common Groundsel (Senecio vulgaris)			B					B					C
	Common Mullein (Verbascum thapsus)				C				C				C	
	Common Ragweed (Ambrosia artemisiifolia)	B						B						
	Creeping Buttercup (Ranunculus repens)								B					
	Curly Dock (Rumex crispus)								B					
4.	**Dalmtion Toadflax** (Linaria dalmatica)	B	A	A	B	A	B	A	A	A	A	B	B	A
8.	**Diffuse Knapweed** (Centaurea diffuse)	B	A	B	B	B	A	B	A	A	A	A/B	B	B
20.	**Dodder** Cuscuta spp)	B				A	C		B	A		C		B
42.	**Dyers Woad** (Isatis tinctoria)	B	A		A								C	
48.	**Eurasian Water-milfoil** (Myriophyllum spicatum)	B						B						
	False Hellebore Calif (Veratrum californicum)										B			
31.	**Field Bindweed - Perennial Morning Glory** (Convolvulus arvensis)	B		B		B	C			B		B	C	C
	Giant Ragweed (Ambrosia trifida)							C						
	Gorse (Ulex europaeus)	T						C				A		
29.	**Halogeton** (Halogeton glomeratus)	B									B	A		A
	Hawkweed (Picris hieracoides)							A						

Appendix 1 (cont.)

BLM Priority	NAME Noxious Weed	OR List	USFS Ochoco	CLASSIFICATION OR RATING* Counties CR	DES	GIL	GR	HR	JEF	KL	L	SH	WAS	...
	Hemp Dogbane (common) (Apocynum cannabinum)												C	
	Henbit (Lamium amplexicaule)								C					
	Horsetail Rush (Gaint) (Equisetum telmateia)												C	C
	Horseweed (Conyza canadensis)													Q
47.	**Iberian Starthistle** (Centaurea iberica)	A												
41.	**Italian Thistle** (Carduus pycnocephalus)	B										A		B
	Japanese Knotweed (Polygonum cuspidatum)	B												B
32.	**Jimson Weed** (Datura stramonium)							C				A	C	
25.	**Johnsongrass** (Sorghum halepense)	B				A				A		A		B
30.	**Jointed Goatgrass** (Aegilops cylindrics)	B		A		B			A			C	C	B
21.	**Kochia** (Kochia scoparia)	B			Q/C	B		C	B	B		A	B	C
2.	**Leafy Spurge** (Euphorbia esula)	T	A	A	A	A	[illegible]	A	A	A		A	A	A
	Littlebur (Bur Buttercup) (Ranunculus testiculatus)											C		
18.	**Matgrass** (Nardus stricts)	A								A		A		
	Meadow Knapwood (Centaurea pratensis)	B						B						
3.	**Mediterranean Sage** (Salvia aehtiopis)	B		A	A		[illegible]			A	A	A		A
16.	**Medusahead Rye** (Taeniatherium cuput-medusae)	B	A	A			[illegible]				A	C		C
28.	**Milk Thistle** (Silybum marianum)	B		A			[illegible]					A		B
17.	**Musk Thistle** (Carduus nutans)	B	A	A						A	A	A	A	B
	Perennial (Canada) Goldenrod (Solidago canadensis)								B		B			
34.	**Perennial Pepperweed** (Lepidium latifolium)	B		B						B	A	C		B
	Perennial Sowthistle (Sonchus arvensis)											B	B	B
27.	**Posion Hemlock** (Conium maculatum)	B		B		A	[illegible]	B		A	B	C	C	B
13.	**Puncture Vine** (Tribulus terrestris)	B	A	B		B	[illegible]	A	B	A	A	C	C	B
23.	**Purple Loosestrife** (Lythrum salicaria)	B		A			[illegible]	C						
	Purple Mustard (Blue) (Chorispora tenella)						[illegible]		C					
46.	**Purple Starthistle** (Centaurea calcitrapa)	A												
	Quack grass (Agropyron repens)				C									

Appendix 1 (cont.)

BLM Priority	NAME Noxious Weed	OR List	USFS Ochoco	CLASSIFICATION OR RATING* Counties CR	DES	GIL	GR	HR	JEF	KL	L	SH	WAS	WR
10.	**Russian Knapweed** (Centaurea repens)	B	A/B	B	A	A	B	A	B	A	A	A/B	B	B
36.	**Russian Thistle** (Salsola kali)				C			B			B		C	C
6.	**Rush Skeleton Weed** (Chondrilla juncea)	T		A	A	A	A	A	A	A		A	A	A
	Sandbur (Cenchrus spp)					B							C	
24.	**Scotch Broom** (Cytisus scoparius)	B	A					C					Q	C
7.	**Scotch Thistle** (Onopordum acanthium)	B	A	A	A	B	B		A	A	A	B	B	B
	Short-fringed Knapweed (Centaurea nigrescens)							B						
43.	**Showy Milkweed** (Asclepias speciosa)											B	C	
	Skeletonweed (Lygodesmia juncea)			A										
38.	**Spikeweed (Calif)** (Hemizonia pungens)	B										A	C	
39.	**Spiny Cocklebur** (Xanthium spinosum)	B								B		C	C	C
	Spiny Sowthistle (Sonchus asper)			A										
9.	**Spotted Knapweed** (Centaurea maculosa)	B	A/B	B	B	B	A	B	A	B	A	A/B	A	B
19.	**Squarrose Knapweed** (Centaurea virgata var. squarrosa)	T		A			A					A/B		
11.	**St. Johnswort-Klamath Weed** (Hypericum perforatum)	B	A	A	B	B	A	B	C	A	A	C	C	C
5.	**Tansy Ragwort** (Senecio jacobaea)	T	A	A	A	A	A	B	A	A	A	A	A	A
37.	**Teasel** (Dipsacus sylvestris)		A	B	C		C			A				
	Wavyleaf Thistle (Cirsium undulatum)									B		C		
	Western Ragweed (Ambrosia psilostachya)							C						
	Western Salsify (Tragopogon dubius)								B					
26.	**Western Water Hemlock** (Cicuta douglasii)				B		B	B	B	B	B	C		B
12.	**WhiteTop/Hoary Cress** (cardaria draba)	B	A	A	A	A	B	A	B	B	A	B	B	B
44.	**Wild Carrot** (Daucus carota)			B					A					
	Wild Oats (Avena fatua)				Q				C			B		
40.	**Wild Prosso Millet** (Panicum miliaceum)	B										A		
49.	**Woolly Distaff Thistle** (Carthamus lanatus)	T												
	Wooly Pod Milkweed (Asclepias sp.)													B
33.	**Yellow-Common Toadflax** (Linaria vulgaris)	B			A	A						A		

Appendix 1 (cont.)

BLM Priority	NAME Noxious Weed	OR List	USFS Ochoco	CLASSIFICATION OR RATING* Counties CR	DES	GIL	GR	HR	JEF	KL	L	SH	WAS	WR
45.	Yellow Nutsedge (Cyperus esculentus)	B			A									C
1.	Yellow Starthistle (Centaurea solstitialis)	T	A	A	A	A	A	A	A	A	A	A/B	B	B

Noxious Weed Control Rating System

Noxious weeds, are designated "T", and/or "A", "B", "C" or "Q". These terms are defined as below:

1. **"T" designated weed:** A priority noxious weed designated by the State Weed Board as a target weed species on which the Department will implement a statewide management plan focusing on intensive control measures.

2. **"A" designated weed:** A weed of known economic importance which occurs in the state in small enough infestations to make eradication/containment possible; or is not known to occur, but its presence in neighboring states makes future occurrence in Oregon seem imminent.

   Recommendation Action: Infestations are subject to intensive control when and where found.

3. **"B" designated weed:** A weed of economic importance which is regionally abundant, but which may have limited distribution in some counties. Where implementa of a fully-integrated state wide management plan is infeasible, biological control shall be the main control approach for "B" weeds dependent upon availability of biological control agents.

   Recommendation Action: Limited to intensive control at the state or county level as determined on a site specific basis.

4. **"C" designated weed:** A weed that also has economic importance but is more widely spread in distribution.

   Recommendation Action: Control of these weeds on public lands by the BLM will be limited to availability of funds and conditions that warrant special attention.

5. **"Q" designated weed:** A weed that exists in the county but is of little, no, or undetermined economic importance.

   Recommendation Action: They are to be monitored and subject to control if they begin to appear threatening.

Appendix 2. Noxious Weed Control Effort Priorities FY 1993-1996

County	Locations	Target Species	Estimated Annual Treatment Acres	Control Methods
Crook	T.16S,T17S R16E ROW along Hwy 27 to Hwy 20 (below Bowman dam)	Diffuse Knapweed Spotted Knapweed Leafy Spurge White Top	4	#93-033, Herbicide vehicle-Boom-spot spraying
Crook	T.18S.R17E.sec 4,9,16, and ROWs on Hwy 27 Prineville to Hwy 20	African Rue	6	#94-11, Herbicide, veh.-Boom-spot spraying
Crook	BPA Powerline ROWs Ponderosa-Pilot Butte #1 T14S.R13E sec 13; T15S.R15E sec 31; T16S.R14E sec1,5,7: Redmond-Harney #1 T16S.R14E sec 19 to T18S.R15E sec 34	Diffuse & Spotted Knapweed	4	#94-09, Herbicide, veh. boom-spot spraying
Crook	BPA Powerline ROWs Celilo-Sylmar & Buckley-Summer Lake; T16S.R15E sec 2 to T18S.R15E sec 35; Grizzly-Malin # 1 T14S.R15E sec 18 to T18S.R15E sec 34	Diffuse & Spotted Knapweed	5	#94-23, Herbicide, veh. boom-spot spraying
Crook	T.18S.R.22E. sec 15 SWNE	Bull Thistle	2	Manual grubbing in WSA
Crook	T16S,R21E sec 1 ROW N.F.Crooked R. access Rd.	Spotted Knapweed Diffuse Knapweed	5	#93-035, Herbicide, (spot spraying, hand pulling)
Crook	Bear Creek T.16S.R.17E sec 4,9, 16,27,28,34	Spotted Knapweed Diffuse Knapweed White Top	75	Prescribed fire / hand pulling, seeding,Bio-
Crook	South of Powell Butte T16S. R14E. sec.17 SESESW	Scotch Thistle	1	Manual grubbing (June)
Crook	Camp Creek Rd (# 127) ROW T18S.R21E sec. 1 to T17S. R21E sec 12, R22E. sec 29, 30, 31	Spotted & Diffuse Knapweeds, Scotch & Canada Thistle, White Top	3	#93-040, Herbicide (veh, boom-spot)
Crook/ Desch	County Rd # 111 Bear Cr.to Fife into GI Basin to Hwy 20	Spotted Knapweed Canada Thistle White Top, Med Sage Perennial Pepperweed	7	#93-039, Herbicide (veh- boom, spot)
Crook/ Desch.	County Rds ROWs Price, Twelvemile, & Van Lake Rds	Spotted & Diffuse Knapweed	4	#94-10, Herbicide, veh-boom-spot spray
Deschutes	ROW Hwy 126 ROW east, Mile post 0.0 to 8.0 T15s.R13E.sec. 13,15 T15S.R14E.sec. 18,19,20,21	Diffuse Knapweed	4	#93-034, Herbicide (veh.,Boom-spot

\ppendix 2. (cont.)

County	Locations	Target Species	Estimated Annual Treatment Acres	Control Methods
Deschutes	T.22S.R1OE. sec 14 SW/SW	Leafy Spurge	5	#93-011, Herbicide, backpack, spot straying
Deschutes/ Lake	State Hwy 20 ROW east,Bend to Burns	Diffuse Knapweed Spotted Knapweed Russian Knapweed Scotch and Musk Thistle	100	#93-013, Herbicide Veh., boom-spot spraying
Deschutes/ Lake	GI Basin North of Glass Butte, Off County, BLM Rds & Hwy 20 ROWs T23S.R22E & R23E	Diffuse & Spotted Knapweeds	20	#94-27, Herbicide veh. boom-spot spraying, ATV **(Pending)**
Deschutes	State Hwy 126 ROW west Redmond to Sisters T15S.R12E sec 5,6,7,8 R11E. sec 1,2,3,10	Spotted Knapweed Diffuse Knapweed	10	#93-014, Herbicide, Veh., Boom-spot Spraying
Deschutes	T17S.R13E.& 14E. County rds ROWs Alfalfa Market, Dodds, Bend Airport, McGrath, Powell Butte Hwy, Bennett, & Stenkamp	Diffuse & Spotted Knapweeds	20	#94-14, Herbicide, Veh., Boom Spot spraying
eschutes	T17S.R12E. sec 11 access dirt rds	Diffuse & Spotted Knapweeds, Dalmation Toadflax	10	#94-15, Herbicide. Veh. boom & handgun spot spraying
Deschutes	T20S.R15E. sec 10,14,15 Pine Mtn access Rd ROW	Diffuse & Spotted Knapweed	10	#94-16, Herbicide, Veh., boom-handgun spot spray
Deschutes	T19S.R14E. sec 5,7,15 T18S R14E sec 31 32 Old Hwy 20	Diffuse & Spotted Knapweed	10	#94-17, Herbicide, Veh., boom,handgun spot spraying
Deschutes (Jefferson)	T14S.R12E sec 10,11, 12 & 13 T14S.R13E sec 7,18,19. T14S.R11E sec 5,6,7 County rd ROWs	Diffuse & Spotted Knapweed	15	#94-07, Herbicide Veh. ground sprayer & and backpack
Deschutes	T17S.R14E sec 3	Spotted Knapweed	*	Bio Control Agent Rel (1990) Agapeta zoegana (est.) #93-B9-03
Deschutes	T17S.R13E sec 30	Spotted Knapweed	*	Bio Control Agent Rel (1993) Agapeta zoegana (unk) #93-B9-03
Deschutes	T16S.R14E North Unit Canal	Spotted Knapweed	*	Bio Control Agent Rel (1988) Metzneria paucipunctella (est coll) #93-B9-04

Appendix 2. (cont.)

County	Locations	Target Species	Estimated Annual Treatment Acres	Control Methods
Deschutes	T17S.R13E. North Unit Canal	Spotted Knapweed	*	Bio Control Agent Rel (1988) Metzneria paucipunctella (est-coll) #93-B9-04
Deschutes	T20S.R15E. sec 14 Pine Mtn Rd	Spotted Knapweed	*	Bio Control Agent Rel (1993) Metzneria paucipunctella (unk #93-B9-04
Jefferson	T12S.R12E. sec 11 The Cove	Diffuse Knapweed	*	Bio Control Agent Rel (1993) Bangasternus fausti (unk) #93-B8-02
Jefferson	T12S.R12E sec 14	Diffuse Knapweed	5	#93-015, Herbicide, veh-spot spraying
Jefferson	T10s.R13E sec 32,33 ROWs, near Agric fields Willow Cr Rim/Cyn Rd.	Diffuse & Spotted Knapweeds	1	#94-02, herbicide, veh-ground sprayer, backpack Spot spraying
Jefferson	Mecca Flat area /access T9S.R13E sec 29,30 & 20	Diffuse & Spotted Knapweeds	1	#94-03, Herbicides, veh-ground sprayer, ATV & backpac
Jefferson	Trails SE of Trout Cr. T9S.R14E sec 6 & 7 T9S.R13E sec 12,13,14, 15,16 & 20	Diffuse & Spotted Knapweeds	2	#94-04, Herbicide, ATV veh. backpack spot spraying
Jefferson	Trails SE of Trout Cr. T9S.R14E sec 6 & 7 T9S.R13E sec 12,13,14, 15,16 & 20	Puncture Vine	5	#94-25, Herbicide, ATV veh. backpack spot spraying
Jefferson	Rd ROWs, Rec site in T9S.R14E sec 5,6 & 7	Diffuse & Spotted Knapweeds	7	#94-06, herbicide, veh.-ground sprayer, backpack spot spraying
Gilliam	Horned Butte ACEC T3N.R22E sec 34, T2N.R22E sec 3,10, 11,12, & 14	Yellow Starthistle Diffuse Knapweed	50	#93-005, Herbicide Veh-boom spraying-spot #94-005 for FY 94-96
Gilliam	South of Condon T4S.R21E. sec 33 T5S.R21E. sec 3,4 Rangeland/ROW	Dalmation Toadflax Spotted Knapweed	100	#93-037, Herbicide, aerial-Helicopter Veh-boom & handgun
Gilliam	T1S.R19E & R20E sec 10, 11,12,14,15,17,20,21,22 23 and sec 6	Dalmation Toadflax Spotted, Diffuse & Russian Knapweed, Scotch Thistle	50	#93-044, Herbicide, veh-boom, & handgun spot
Gilliam	Lower John Day R. Rm 76, T4S.R18E sec 14,23	Dalmation Toadflax Diffuse & Russian Knapweed	4	Manual hand grubbing in WSA on wild fire burn (1993) of near Rm 76, very small patche

ppendix 2. (cont.)

County	Locations	Target Species	Estimated Annual Treatment Acres	Control Methods
Grant	Murderer's Creek phase 1 T14S.R27E,sec 28,29,32,33	Medusahead Rye	BLM-200 ODFW-420 4 ac test	EA #054-1-37 burn,graze seed & two chem test plots plots in area C
Grant	Muderer's Creek phase 2/3 T14S.R27E sec 26,27,28, 29,30,31,32,33,34,35,36 T15S. R27E sec 3,4	Medusahead Rye	BLM-1,382	EA #054-3-100, burn, burn and seed areas A,B,& C (burning and seeding spread over several years.)
Grant	T17S.R29E sec 29 SENW	WhiteTop	40	#94-01, Herbicide, veh-boom and spot spraying, ATV and handgun
Grant	T14S.R32E. sec 6 NWNE CammTex Mine site	Dalmation Toadflax, Bull & Scotch Thistles	5	#94-12, Herbicide, ATV & backpack spot spraying, Fertilization 1994) **(Pending)**
Grant	T12S.R331/2E sec 24 NWSW	Scotch Thistle, Diffuse Knapweed, Dalmation Toadflax	10	#94-13, Herbicide, veh-spot spraying (FY 94 or 95)
Grant	Cottonwood Cr. (Monu) T9S.R27E sec 25 NENE, SWNE,S1/2SE; sec 36 NE, NESW; T10S.R27E sec 14 NENE; T11S.R26E sec 6 SWSE	Leafy Spurge	12	#94-18, Herbicide, backpack spot spraying
Grant	T17S.R28E sec 30 S1/2NE, SENW - Rangeland	Dalmation Toadflax	120	#93-016, Herbicide,backpack or Helicopter
Grant	T17S.R27E. sec 4 NE, SW & E 1/2, NW - ROW	Dalmation Toadflax Scotch Thistle	3+	#93-017, Herbicide- Veh spot spraying- ROW
Grant	T16S.R27E sec 6,18,19, ROW & Campgrounds	Dalmation Toadflax Diffuse Knapweed, Posion Hemlock, Canada Thistle	20+ 3+	#93-018, Herbicide-veh spot spraying ROW & Camp-grounds
Grant	T15S.R27E. sec 31 w1/2	Puncture Vine	2+	#93-019, Herbicide Veh-spot-spraying, ROW
Grant	T15S.R26E sec 1,12,24 SE,SENE - Rd ROW	Scotch Thistle	8+	#93-020, Herbicide, Veh-spot-spraying, ROW
Grant	T14S. R26E.sec 1,12 E1/2,SW, NE Rd ROW	Russian Thistle Scotch Thistle Puncture Vine	8	#93-021, Herbicide, veh-spot spraying, ROW
Grant	T13S.R26E sec 24 SENW Rangeland	Scotch Thistle Russian Thistle	10+	#93-022, Herbicide veh-handgun -backpack spot

Appendix 2. (cont.)

County	Locations	Target Species	Estimated Annual Treatment Acres	Control Methods
Grant	T12S.R26E sec 30,32 Rd ROW	Puncture Vine Russian Thistle	8+	#93-023, Herbicide, veh-spot spraying rds
Grant	T13S.R26E sec 3,4,9 Rd ROW	Russian Thistle Puncture Vine	2+	#93-024, Herbicide, veh-spot Spraying rds ROW
Grant	T12S.R26E. sec 32 Rd ROW	Russian Thistle Puncture Vine	2+	#93-025, Herbicide, veh-Spot Spraying Rds
Grant	T13S.R27E sec 2	Puncture Vine Russian Thistle	2+	#93-026, Herbicide, veh-spot spraying rds
Grant	T9S.R26E. sec 19 NESE, 20 S1/2NW,W1/2NE,21 NWNW, 31 NESW	Diffuse Knapweed, Russian & Scotch Thistle, Puncture Vine Poison Hemlock	5	#93-027, Herbicide, vel-spot spraying Rd Rows & campgrounds
Grant	T13S.R28E sec 19 NWNW, SENE,	Yellow Starthistle	60	#93-028, Herbicide,aerial
Grant	T10S.R26E sec 7 SWNE 18 E1/2W1/2,NESW,SE,NENW	Diffuse & Russian Knapweed, Whitetop Scotch & Russian Thistle,	15+	#93-029, Herbicide, vel-spot Spraying Rd ROW. rangeland
Grant	T8S.R27E sec 25 NWSE	Diffuse Knapweed, Scotch Thistle	1+	#93-030, Herbicide, vel-spot spraying, Rd ROW
Grant	T11S.R26E sec 18 SENE, NESE	Diffuse Knapweed Scotch Thistle WhiteTop	4+	#93-031, Herbicide, vel-spot spraying Rd ROW
Grant	T14S.R31E sec 13 Canyon City area	Dalmation Toadflax	*	Bio Control Agent Rel (1993) Calophasia lunula (unk) #93-B4-01
Grant	T9S.R26E. sec 31 NESW Foot bridge on east side John Day River	Scotch Thistle Yellow Starthistle	1	Manual grubbing on flat adjacent to John Day R. **(Pending 1994)**
Hood River	No PUP's recieved nor noxious weed control proposals in any form for 1993.			
Klamath	No PUP's received nor noxious weed control proposals in any form for 1993			
Lake	T23S.R22E sec 11 Glass Butte area	Diffuse Knapweed	*	Bio Control Agent Rel (1990) Sphenoptera jugoslavica (est) #93-B8-02
Lake	Portions of Hwy 20 PUP #93-013 will be treated by ODA per BLM statewide contract.			
Lake	South Hwy 20 east of Glass Butte BLM Rd # 6528, T23S.R21 sec 12,13,24; T23S.R22E. sec 7,18,19,30,31,32	Med Sage	5	#94-28, Herbicide, Veh. boom-spot spraying **(Pending)**

Appendix 2. (cont.)

County	Locations	Target Species	Estimated Annual Treatment Acres	Control Methods
Sherman	T1S.R20E. sec 6 T1S.R19E. sec 1, 12 Starvation Point	Yellow Starthistle Diffuse & Russian Knapweed, Whitetop Scotch Thistle, Jimpson weed	100	#93-001, Herbicide, aerial and veh-boom sprayer
Sherman	T2S.R15E, T3S.R14E-R15E Desch R. Access Rd ROW Rm 23-43	Diffuse Knapweed Russian Knapweed Scotch Thistle	50	#93-003, Herbicide, veh-boom and Spot spraying
Sherman	T2S.R15E, T3S.R14E-R15E Desch R.Campgrounds Rm 23-43	Diffuse & Russian Knapweed, Whitetop, Scotch Thistle	75	#93-004, Herbicide, veh-handgun boom and spot spraying
Sherman	T2N.R16E. sec 9,10 Columbia River	Yellow Starthistle Diffuse Knapweed	60	#93-002, Herbicides, veh-handgun, boom spot spray
Sherman/ Gilliam	T7S.R19E to T2S.R18E **WSA's** - Thirtymile (OR-5-1) Lower John Day R. (OR-5-6) North Pole Ridge (OR-5-8)	Russian & Diffuse Knapweeds, Dalmation Toadflax Scotch Thistle Purple Loosestrife Rush Skeleton Weed	600	Manual (100 acres), Chemical (500 acres) Estimated need based upon 1993 survey work aerial or backpack spraying and manual control along **All** riverbanks, islands and alluvial flats and toe slopes of canyons small patches of few pl to several acres. (EA # OR-054-3-63)
Wasco	Clarno Agriculture Fields T7S.R19E. sec 19 west 1/2 Fields A, B, C, & access rds T7S.R19E sec 18,19,20 30,31; T7S.R18E. sec 25,32	Diffuse & Russian Knapweeds, Spiny Cocklebur, Posion Hemlock	15	#94-24 Herbicide, veh.-boom, ATV, backpack spot spraying after burn, plow/disc, seeding, (EA # OR-054-3-44)
Wasco	Clarno Homestead Island & west riverbank John Day R. T7S.R19E sec 18,20,29,32	Poison Hemlock, Spiny Cocklebur	10	# 94-21, Herbicide, backpack spot spraying after burning (EA # OR-054-4-58) **(Pending)**
Wasco	Clarno Homestead N. Agric-fields T7S.R19E sec 19 SENE, NESE, sec 20 west 1/2 NW; & access rds ROWs T7S.R19E sec 18,19,20,30,31 T7S.R18E sec 25,32	Russian & Diffuse Knapweeds	20	# 94-22, Herbicide, veh.-boom, handgun, ATV, backpack spot spraying, after burning, plow disc & seed (EA # OR-054-4-58)
Wasco	T7S.R16E sec 13,22,23,24, 27,28,33 T8S.R16E.sec 5,6,7 old Sheep Trail W. of Antelope	Diffuse Knapweed	6	#93-006, Herbicide, veh-handgun-boom spot spraying
Wasco	T1S.R16E to T3S.R14E, Desch R. Rm 10-40, east of RR along R.	Scotch Thistle	48	#93-007, Herbicide, back-pack, spot spraying

Appendix 2. (cont.)

County	Locations	Target Species	Estimated Annual Treatment Acres	Control Methods
Wasco	T4S.R14E to T5S.R13E, Desch R. Access Rd, Campgrounds, Parking areas Rm 43-55	Diffuse Knapweed Yellow Starthistle Canada Thistle, Kochia, WhiteTop, Puncture Vine	50+	#93-008, Herbicide, Veh-boom, and handgun
Wasco	T1S.R16E to T3S.R14E, Rangelands West of RR along Desch R. Rm 10-40	Scotch Thistle	90	#93-009, Herbicide, aerial (Dist. denied) backpack/veh approved
Wasco	T4S.R14E to T5S.R15E., Desch R. within 25 ft. waters edge Rm 43-55	Diffuse Knapweed Yellow Starthistle WhiteTop	25	#93-010, Herbicide, hand and backpack
Wasco	T2S.R15E. sect 26 NW at Sinamox west of Desch-utes R. on flat near RR	WhiteTop	1	#93-042, Herbicide, wick, backpack spray
Wasco	T2S.R15E sec 26,27,28 and 29 along road ROW into Sinamox	Diffuse Knapweed WhiteTop	12	#93-043, Herbicide, veh-boom, and spot spray
Wasco	T2N.R15E. sect 16 Celilo Village area	Yellow Starthistle	*	Bio Control Agent Rel (1993) Bangastunam orientallis (unk) #93-B1-03
Wasco	T4S.R14E sec 7 near south west White River State Park	Diffuse Knapweed	*	Bio Control Agent Rel (1993) Bangasternus fausti (unk) #93-B8-03
Wasco	Clarno Agricultural Fields T.7S.R19E. sec 19	Diffuse & Russian Knapweed, Poison Hemlock, Spiny Cocklebur	42	EA No. OR-054-3-44 prescribed burn, plow, disc seed, PUP #94-20
Wasco	Clarno Homestead Weed Control T.7S.R19E. sec 19,20, 29 and 32	Diffuse & Russian Knapweeds, Poison Hemlock, Spiny Cocklebur	80	EA No. OR-054-4-58) mechanical disc/plow, burn see (PUP # 94-21 & 22)
Wasco	Ferry and Oak Canyon T3S.R15E to R14E. sec 1,6,7 T2S.R15E 23,28,21,20; west bank & tribs between Rm 10 and 40	Scotch Thistle	50+	EA No. OR-050-3-81 Hand grubbing (machete) Herbicide #93-009 & #93-032
Wheeler	Knapweed Research (EOARC) T10S.R20E. sec 24 SWNW, NWNW, sec 23 NENE sec 13 SWSW	Knapweeds Yellow Starthistle Russian Thistle	65	EA No. OR-054-3-20 grazing/seeding
Wheeler	T10S. R20E sec 8 NENE, sec 9 NW Bridge Cr. Agric fields SE Painted Hills Unit NPS	Diffuse & Russian Knapweeds, Yellow Starthistle	90	EA No OR-054-9-41 Mechanical disc/plow, burn, see 42 acres proposed (FY 94), 48 acres proposed (FY 95 or 9
Wheeler	T11S.R21E sec 26,27,28, 33, 9,35, 12 T11S.R22E sec 18 N. of Hwy 207	Yellow Starthistle Scotch Thistle	30	#93-012, Herbicide, veh-spot spray, handgun, Manual-grubbing (Scotch)

Appendix 2. (cont.)

County	Locations	Target Species	Estimated Annual Treatment Acres	Control Methods
Wheeler	T11S.R21E To T10S.R21E Painted Hills Rd to John R. Bridge Ck Rd & Twickenham Rd ROWs	Yellow Starthistle Russian Knapweed Spotted Knapweed WhiteTop, Puncture Vine	20	#93-036, Herbicide, veh-handgun, boom, spot spray
Wheeler	ROW along State Hwy 207 & Girds Cr Rd. T11S.R21B to T9S.R23E	Scotch Thistle, Yellow Starthistle White Top, Puncture Vine Diffuse & Russian Knapweed	5	#93-041, Herbicide, veh-boom, spot & handgun
Wheeler	T12S.R21E sec 5/8 upper Gable Ck. Rd	Yellow Starthistle	*	Bio Control Agent Rel (1993) Bangasternus orientalis (unk) #93-B1-03
Wheeler	Agric Fields & non-crop area off and away from USNPS Painted Hills Unit Off rd ROWs Near Bridge Cr. and Bear Cr	Diffuse & Russian Knapweed	15	#94-08, Herbicide, veh., boom, ATV, handgun, back spot spraying
Wheeler	T9S.R25E. sec 14 W 1/2 SW eastbank John Day R.	Yellow Starthistle Diffuse Knapweed Scotch Thistle	5	#94-19, Herbicide, veh., bo ATV. handgun spot sprayin
Wheeler	T9S.R25E. sec 4,6,9,10,14, 23,25 T.8S.R25E. sec 31 T9S.R24E sec 5,6;T9S.R23E. sec. 1,2,9,10,11,12 Hwy 19 ROW Service Creek to Kimberley & Hwy 402 Kimberley to Long Creek	Diffuse Knapweed Yellow Starthistle Dalmation Toadflax Scotch Thistle	5	#94-20, Herbicide, Veh. boom & handgun spot sp Hwy 19 and 402 ROWs (OD **(Pending)**
Wheeler	T.9S.R25E. sec 9 SENW	Scotch Thistle	1	Manual hand grubbing two s patches next to John Day R on south side riverbank **(Pending 1994)**
Wheeler	T.9S.R23E. sec 1 SESESE	Scotch Thistle	1	Manual hand grubbing small pat next to John Day River on soutl side of river **(Pending 1994)**
Wheeler	T.9S.R23E. sec 12 NWNE	Scotch Thistle	1	Manual hand grubbing small patc next to John Day River on soutl side of river **(Pending 1994)**

* ODA Biological control Agent Release Sites that are on BLM public lands or within 1/4 mile, many other release sites in counties not close to public lands.

(Pending) These PUPs are in the process of being prepared, reviewed and/or approved for work in FY 1994.

* Control Methods - PUPs are generally approved for a 3 year period and have to resubmitted fo approval if needed every three years or sooner if expired

Appendix 3. Biological Control Agent Release Proposals (BCARPs) 1993-1998.

Host Species (Target)	Name of Agent	Number of Releases (Maximum)	250 Agents per Release Life Cycle	Broadcast Release Time	Dist. Proposal Number
Bull Thistle	**Seed Head Weevil** (Rhinocyllus conicus)	15	Adults	March-May	93-OR-053-B35-01
Bull Thistle	**Seed Head Gall Fly** (Urophora Stylata)	15	Pupa/Larvae	Mar-May/Sep-Nov	93-OR-053-B35-02
Canada Thistle	**Crown/Root Weevil** (Ceutorhynchus litura)	15	Adults	March-May	93-OR-053-B14-01
Canada Thistle	**Stem Gall Fly** (Urophora cardui)	15	Pupa/Larvae/Adults	Mar-Nov	93-OR-053-B14-02
Canada Thistle	**Seed Head Weevil** (Rhinocyllus conicus)	15	Adults	March-May	93-OR-053-B14-03
Dalmation Toadflax	**Defoliating Moth** (Calophasia lunula)	15	Larvae/Adults	June-August	93-OR-053-B4-01
Diffuse Knapweed	**Seed Head Weevil** (Larinus minutus)	15	Adults	June-August	93-OR-053-B8-01
Diffuse Knapweed	**Root Boring Beetle** (Sphenoptera jugoslavica)	15	Adults	June-August	93-OR-053-B8-02
Diffuse Knapweed	**Seed Head Weevil** (Bangasternus fausti)	15	Adults	June-August	93-OR-053-B8-03
Diffuse Knapweed	**Leaf Rust Fungus** (Puccinia jacea)	15	Spores	March-May	93-OR-053-B8-04
Diffuse Knapweed	**Root Boring Moth** (Pterolonche inspersa)	15	Larvae	June-August	93-OR-053-B8-05
Leafy Spurge	**Root/Stem Boring Beetle** (Oberea erythrocephala)	15	Adults	June-August	93-OR-053-B2-01
Leafy Spurge	**Root/Defoliating Flea Beetle** (Apthona cyparissiae)	15	Adults	June-August	93-OR-053-B2-02
Leafy Spurge	**Defoliating Moth** (Hyles euphorbiae)	15	Larvae/Adults	June-August	93-OR-053-B2-03
Leafy Spurge	**Root/Defoliating Flea Beetle** (Apthona flava)	15	Adults	June-August	93-OR-053-B2-04
Leafy Spurge	**Shoot Tip Gall Midge** (Spurgia esulae)	15	Larvae/Adults	March-August	93-OR-053-B2-05
Leafy Spurge	**Root/Defoliating Flea Beetle** (Apthona czwalinae)	15	Adults	June-August	94-OR-050-B2-06 **Pending**
Leafy Spurge	**Root/Defoliating Flea Beetle** (Apthona nigriscutis)	15	Adults	June-August	94-OR-050-B2-07 **Pending**
Mediterranean Sage	**Crown/Root Weevil** (Phrydiuchus tau)	15	Adults	June-November	93-OR-053-B3-01
Musk Thistle	**Crown/Root Fly** (Cheilosia corydon)	15	Adults	December-March	93-OR-053-B17-01
Musk Thistle	**Seed Head Weevil** (Rhinocylus conicus)	15	Adults	March-May	93-OR-053-B17-02
Puncture Vine	**Stem Boring Weevil** (Microlarinus lypriformis)	15	Adults	June-August	93-OR-053-B13-01
Puncture Vine	**Seed Weevil** (Microlarnius lareynii)	15	Adults	June-August	93-OR-053-B13-02

Appendix 3. (cont.)

Host Species (Target)	Name of Agent	Number of Releases (Maximum)	250 Agents per Release Life Cycle	Broadcast Release Time	Dist. Prop Number
Purple Loosestrife	**Leaf Beetle** (Galerucella pusilla)	15	Larvae/Adults	March-August	93-OR-053-B23-01
Purple Loosestrife	**Leaf Beetle** (Galerucella calmariensis)	15	Larvae/Adults	March-August	93-OR-053-B23-02
Rush Skeletonweed	**Bud Gall Mite** (Eriophyes chondrillae)	15	Larvae/Adults	June-August	93-OR-053-B6-01
Rush Skeletonweed	**Stem/Leaf Gall Midge** (Cystiphor schmidti)	15	Larvae/Adults	June-August	93-OR-053-B6-02
Rush Skeletonweed	**Root Weevil** (Hylobius transversovittatus)	15	Larvae/Adults/Eggs	Mar-Aug	93-OR-053-B6-03
Rush Skeletonweed	**Leaf Rust Fungus** (Puccinia chondrillina)	15	Spores	June-August	93-OR-053-B6-04
Russian Knapweed	**Leaf/Stem Gall Nematode** (Subanguina picridis)	15	Larvae	June-August	93-OR-053-B10-01
Scotch Broom	**Twig Mining Moth** (Leucoptera spartifol)	15	Pupa	March-May	93-OR-053-B37-01
Scotch Broom	**Seed Weevil** (Apion fuscirostre)	15	Adults	March-May	93-OR-053-B37-02
Spotted Knapweed	**Seed Head Weevil** (Bangasternus fausti)	15	Adults	June-August	93-OR-053-B9-01
Spotted Knapweed	**Seed Head Weevil** (Larinus minutus)	15	Adults	June-August	93-OR-053-B9-02
Spotted Knapweed	**Root Boring Moths** (Agapeta zoegana)	15	Adults	March-August	93-OR-053-B
Spotted Knapweed	**Seed Head Moth** (Metzneria paucipunctella)	15	upa	March-May	93-OR-053-B9-04
St. Johnswort	**Root/Stem Boring Beetle** (Agrilus hyperice)	15	ults	June-August	93-OR-053-B11-01
St. Johnswort	**Leaf Gall Midge** (Zeuxidiplosis giardi)	15	Larvae/Adults	March-August	93-OR-053-B11-02
St. Johnswort	**Defoliating Moth** (Aplocera plagiata)	15	Larvae/Adults	January-Dec.	93-OR-053-B11-03
Tansy Ragwort	**Defoliating Flea Beetle** (Longitarsus jacobaeae)	15	Adults	June-November	93-OR-053-BS-01
Tansy Ragwort	**Defoliating Moth** (Tyria jacobaeae)	15	Larvae/Adults	June-August	93-OR-053-BS-02
Yellow Starthistle	**Seed Head Weevil** (Larinus curtus)	15	Adults	June-August	93-OR-053-BI-01
Yellow Starthistle	**Seed Head Fly** Chaetorellia australis)	15	Adults	March-August	93-OR-053-B1-02
Yellow Starthistle	**Seed Head Weevil** (Bangasternus orientalis)	15	Adults	June-August	93-OR-053-B1-03
Yellow Starthistle	**Seed Head Fly** (Urophora sirunaseva)	15	Adults	March-November	93-OR-053-B1-04
Yellow Starthistle	**Seed Head Gall Fly** (Urophora quadrifasciata)	15	Adults	Mar-May/Sep-Nov	93-OR-053-B1-05
Yellow Starthistle	**Seed Head Weevil** (Eustenopus villosus)	15	Adults	March-August	93-OR-053-B1-06

Appendix 3. (cont.)

Host Species (Target)	Name of Agent	Number of Releases (Maximum)	250 Agents per Release Life Cycle	Broadcast Release Time	Dist. Proposal Number
Yellow Toadflax	**Defoliating Moth** (Calophasia lunula)	15	Larvae/Adults	June-August	93-OR-053-B33-01

Appendix 4. SPECIAL STATUS PLANTS IN THE PRINEVILLE DISTRICT KNOWN OR SUSPECTED

Federal Candidate Category 1

Artemisia campestris ssp. *borealis* **var.** *wormskioldii*
Luina serpentina
Ranunculus reconditus

Federal Candidate Category 2

Artemisia ludoviciana ssp. *estesii*
Astragalus collinus var. *laurentii*
Astragalus diaphanus var. *diurnus*
Astragalus howellii var. *howellii*
Astragalus peckii
Astragalus tegetarioides
Astragalus tyghensis
Botrychium pumicola
Calochortus longebarbatus var. *longebarbatus*
Calochortus longebarbatus var. *peckii*
Castilleja chlorotica
Eriogonum cusickii
Lomatium suksdorfii
Mimulus jungermannioides
Mimulus washingtonensis var. *washingtonensis*
Myosurus minimus ssp. *apus* var. *sessiliflorus*
Penstemon barettiae
Penstemon peckii
Rorippa columbiae
Texosporium sancti-jacobi
Thelypodium eucosmum

Bureau Sensitive

Arenaria franklinii var. *thompsonii*
Camissonia pygmaea
Mimulus evanescens
Oryzopsis hendersonii

Assessment Species

Allium robinsonii
Arabis sparsiflora var. *atrorubens*
Astragalus hoodianus
Carex hystricina
Cryptantha leucophaea
Cryptantha rostellata
Cymopterus bipinnatus
Dryopteris felix-mas
Lomatium farinosum var. *hambleniae*
Lomatium ravenii
Lomatium watsonii
Lupinus sericeus var. *egglestonianus*
Mimulus jepsonii
Pilularia americana
Scribneria bolanderi
Suksdorfia violaceae
Talinum spinescens
Thelypodium howellii ssp. *howellii*
Utricularia minor

Appendix 5. SPECIAL STATUS ANIMALS IN THE PRINEVILLE DISTRICT KNOWN OR SUSPECTED (Oregon Natural Heritage Program 1993)

FEDERAL AND STATE LISTED TAXA

Scientific Name	Common Name	Federal Status	State Status
Birds			
Falco peregrinus anatum	American Peregrine Falcon	Endangered	Endangered
Haliaeetus leucocephalus	Bald Eagle	Threatened	Threatened
Mammals			
Gulo gulo	Wolverine	------	Threatened

FEDERAL CANDIDATE AND PROPOSED ANIMAL SPECIES (C-2 species)

Scientific Name	Common Name
Fish	
Cottus bairdi ssp.	Malheur mottled sculpin
Oncorhynchus mykiss gibbsi	Inland Redband Trout
Salvelinus confluentus	Bull Trout
Amphibians	
Rana cascadae	Cascade Frog
Rana pretiosa	Spotted Frog eastern Oregon
Birds	
Accipiter gentilis	Northern Goshawk
Agelaius tricolor	Tricolored Blackbird
Butteo regalis	Ferruginous Hawk
Centrocercus urophasianus phaios	Western Sage Grouse
Lanius ludovicianus	Loggerhead Shrike
Oreortyx picta	Mountain Quail
Mammals	
Brachylagus idahoensis	Pygmy Rabbit
Gulo gulo luteus	California Wolverine
Ovis canadensis californiana	California Bighorn Sheep
Plecotus townsendii townsendii	Pacific (Townsend's) Western Big-eared Bat
Invertebrates (Personnal communication with Joe Furnish, BLM Salem Dist) and BLM Special Status Invertebrate Species 12/7/92 List)	
Apatania (=Radema) tavala	Cascades Apatanian Caddisfly (C2)
Cryptochia nesoa	Blue Mtns Cryptochian Caddisfly (C2)
Fluminicola culumbianus	Columbian Pebblesnail or Columbia R. Spire Snail (C2)
Ochrotricha alsea	Alsea Ochrotrichian Micro-caddisfly (C2)
Ochrotricha phenosa	Deschutes Ochrotrichian Micro-caddisfly (C2)
Fisherola nuttalli	Shortface Lanx (=Gaint Columbia R. Limpet) (C2)
Cicindela columbica	Columbia River Tiger Beetle (AS)
Boloria bellona	Eastern Meadow Fritillary Butterfly (AS)
Boloria selene tollandensis	Silver-bordered Fritillary Butterfly (C2 recommended)
Ceuthophilus perplexus	Camel Cricket (Gryllacrididae (TS)
Eusattus rectus	Sandbar Darking Beetle (Tenebrionidae (TS)
Phyciodes pallida barnesi	Barnes Crecsent Butterfly (TS)
Juga (Oreobasis) Bulbosa	Bulb Juga (Pleurocerid Snail) (TS)

Appendix 5. (con).

FEDERAL CANDIDATE AND PROPOSED ANIMAL SPECIES (C-2 species)

Scientific Name	Common Name
Invertebrates	
Oreohelix variabilis	Dalles Mountain Snail (TS)
Bythinella hemphilli	No common name (Hydrobiid Snail (TS recommended)

ODFW SENSITIVE SPECIES LIST

Scientic Name	Common Name
Fish	
Cottus bairdi ssp.	Malheur mottled sculpin (C)
Lampetra tridentata	POacific Lamprey (V)
Oncorhynchus clarki lewisi	Western Cutthroat Trout (V)
Oncorhynchus mykiss gibbsi	Inland Redband Trout (V)
Oncorhynchus tshawytscha	Chinook Salmon (C)
Salvelinus confluentus	Bull Trout (C)
Amphibians	
Ambystoma tigrinum melanostictum	Blotched Tiger Salamander (U)
Bufo boreas	Western Toad (V)
Dicamptodon copei	Cope's Gaint Salamander (U)
Rana cascadae	Cascade Frog (V)
Rana pepiens	Leopard Frog (V)
Rana pretiosa	Spotted Frog eastern Oregon (U)
Reptiles	
Chrysemys picta	Painted Turtle (C)
Birds	
Accipiter gentilis	Northern Goshawk (C)
Agelaius tricolor	Tricolored Blackbird (P)
Athene cunicularia	Burrowing Owl (C)
Butteo regalis	Ferruginous Hawk (C)
Buteo swainsoni	Swainson's Hawk (V)
Centrocercus urophasianus	Western Sage Grouse (V)
Glaucidium gnoma	Northern Pygmy owl (U)
Grus canadensis tabida	Greater Sandhill Crane (V)
Lanius ludovicianus	Loggerhead Shrike (U)
Melanerpes lewis	Lewis Woodpecker (C)
Otus flammeolus	Flammulated Owl (C)
Picoides albolarvatus	White-headed Woodpecker (C)
Picoides arcticus	Black-backed Woodpecker (C)
Picoides tridactylus	Three-toed Woodpecker (C)
Riparia riparia	Bank Swallow (U)
Sialia mexicana	Western Bluebird (V)
Sitta pygmatea	Pygmy Nuthatch (V)
Sphyrapicus thyroideus	Williamson's sapsucker (U)
Strix nebulosa	Great Gray Owl (V)

Appendix 5. (con).

ODFW SENSITIVE SPECIES LIST

Scientic Name	**Common Name**
Mammals	
Antrozous pallidus	Pallid Bat (V)
Brachylagus idahoensis	Pygmy Rabbit (V)
Martes americana	Marten (C)
Martes pennanti	Fisher (C)
Plecotus townsendii	Townsend's Big-eared Bat (C)

C = Critical, V = Vulnerable, P = Peripheral or Naturally Rare, U = Undetermined Status

Appendix 6.

DISTRICT NOXIOUS WEED FIELD SURVEY FORM -- April 1993

1. Date: _____

2. Recorder: _____

3. R.A. _____ 4. Allotment (#/Name): _____

5. Location: _____
(Township, Range, section, 1/4 section, rivermile etc)

6. Land Owner: BLM ____, USFS ____, State ____, Private ____, Other ____

7. Noxious Weeds Identified: _____
(Picture/photo) _____
_____
_____

8. Plants (Weeds) Growth Stage: _____
(rosette, boot, flowering) _____

9. Est. Amount of Acreage Infested/Covered Total: _____ Weeds: _____

10. Environmental Concerns: _____
(water, riparian, wild- _____
life, WSA's, Recreation _____
ACEC's, T&E Plants, ORV _____
Areas, Archaeological _____
Sites, Timber Sale _____
Tracts, or Other _____

11. Recommendation for Control: _____
(Eradication/Spread) _____
_____

12. Recommendations for: _____
Mitigations _____
_____

13. Attach Map (copy) showing circles location (use 7.5 min USGS topographic).

14. Send copy to District Weed Coordinator and file copy in R.A. files.

15. Other Notes: _____
_____
_____
_____
_____
_____

Don't forget to use "WEED" special code appendix on time sheets for all time used in Weed Program and using this form.

Appendix 7. U.S. DEPARTMENT OF THE INTERIOR

PESTICIDE USE PROPOSAL

PROPOSAL NUMBER _____

REFERENCE NUMBER _____

BUREAU _____ STATE _____ DISTRICT _____

RESOURCE AREA _____ COUNTY _____ DATE _____

LOCATION _____

_____

DURATION OF PROPOSAL _____

I. **Pesticide Application:**

Trade Name: _____

_____

Common Name: _____

_____

EPA Registration Number: _____

_____

Manufacturer: _____

Type of Formulation: Liquid ____ Granular ____

Method of Application: _____

_____

Maximum Rate of Application: _____

_____

Use Unit on Label: _____

_____

Pounds Active Ingredient/Acre: _____

_____

Application Date(s): _____

Number of Applications: _____

II. **Pest: (List Specific Pest Species and Reason for Application:**

_____

_____

_____

_____

Appendix 7. (con) U.S. DEPARTMENT OF THE INTERIOR

PESTICIDE USE PROPOSAL

PROPOSAL NUMBER _____

REFERENCE NUMBER _____

III. Major Desired Plant Species Present: _____

_____

IV. Treatment Site: (Describe Land Type and Use, Size, Stage of Growth of Target Species, Slope and Soil Types).

_____

_____

_____

Estimated Acres: _____

V. Sensitive Aspects and Precautions: (Describe Sensitive Areas e.g. Marsh, Endangered Species Habitat, and Distance to Treatment Site. List Measures to be Taken to Avoid Impact to Sensitive Areas).

_____

_____

_____

I will ensure that the pesticide will be applied in accordance with the label restrictions and the information above.

Originator's Signature: _____ Date: _____

Telephone Number: _____

Certified Pesticide Applicator's Signature: _____

BLM Manager's Approval: _____ Date: _____

_____ Date: _____

BLM State Director

_____ Concur _____ Not Concur _____ Concur with Modifications

Modifications: _____

_____

_____

_____ _____ Approved Date: _____

Director, Office of Environmental Project Review

_____ Disapproved

_____ Approved with Modifications

Modifications:

_____

_____

Appendix 8. BUREAU OF LAND MANAGEMENT

PESTICIDE APPLICATION RECORD DATE: _____

1. a. Project Name: _____ c. PUP No: _____

   b. Operator: _____ d. Ref No: _____

2. Name of Applicator or _____

   Employee(s) Applying Pesticide: _____

3. Date(s) of Application: ___, ___, ____; ___, ___, ____; ___, ___, ____;
   (Month, Day, Year)
   ___, ___, ____; ___, ___, ____; ___, ___, ____;

4. Time Frame of Application: _____

5. Location of Application: _____
   (T. R. sections)
   _____

6. Type of Equipment Used: _____

7. Pesticide(s) Used: _____

   a. Company or Manufacturer's Name: _____

   b. Trade Name: _____

   c. Type of Formulation: Liquid ____ Granular ____

8. Rate of Application Used: _____

   a. Active Ingredient per Acre: _____

   b. Formulation Label Rate: _____

9. Actual Area Treated: _____ Total Project Area: _____

10. Primary Pest(s) Involved: _____

    _____

11. Stage of Pest Development: _____

12. Crop/Site Treated: ____ Native Vegetation, ____ Seeded Vegetation

    ____ Other (Type) _____

13. Weather Conditions: a. Wind Velocity: _____ b. Wind Direction: _____

    c. Temperature: _____; Other: _____

    _____

14. Monitoring Record (If Insufficient Space Continue on Back): _____

    _____

    _____

    _____

    _____

* This record is required and must be completed except for monitoring within 24 hours after completion of application of pesticides. This record must be maintained for a minimum of 10 years.

Appendix 9. U.S. DEPARTMENT OF INTERIOR

BIOLOGICAL CONTROL AGENT RELEASE PROPOSAL

PROPOSAL NUMBER: _____

REFERENCE NUMBER: _____

BUREAU: _____ **STATE:** _____ **DISTRICT:** _____

RESOURCE AREA: _____ **COUNTY:** _____ **DATE:** _____

LEGAL DESCRIPTION: _____

COOPERATORS: _____

I. **Biological Control Agent:** _____;
(Scientific Name)

_____
(Common Name)

Collection Origin: _____

Stage of Life Cycle: _____

Method of Release: _____

Approximate Number of Specimens at Time of Release: _____

Release Dates(s): _____

Number of Releases: _____

What Host Material Will Accompany the Agents: _____

_____

_____

II. **Pest Species:** _____ _____
(Scientific Name) (Common Name)

Estimated Acres Infested at Release Site: _____

Potential Acres That Could Be Infested Near Release Site: **BLM Lands** _____ **Acres, Other Lands** _____ **Acres**

III. **Transfer Permit:** **Needed** ___ **Yes** ___ **No,** **Applied** ___ **Yes** ___ **No**

Recieved ___ **Yes** ___ **No,** **Date Recieved:** _____

IV. **Major Desired Plant Species Present:** _____

_____

V. **Release Site:** (Describe Land Type or Use, Size, Stage of Growth of Target Species, Slope and Soil Type)

_____

_____

_____

Estimated Acres: _____

Appendix 9. (con). U.S. DEPARTMENT OF THE INTERIOR

BIOLOGICAL CONTROL AGENT RELEASE PROPOSAL

PROPOSAL NUMBER: _____

REFERENCE NUMBER: _____

VI. **Sensitive Aspects and Precautions: (Describe Sensitive Areas e.g. Marsh, Endangered Species Habitat and Distance to Treatment Site. List Measures to be Taken to Avoid Impact to Sensitive Areas).**

_____

_____

_____

VII. **Steps Taken to Ensure that Release Sites Are Protected From the Use of Pesticide that Would Harm the Biological Control Agents:**

_____

_____

_____

I will ensure that the proper State and Federal permits are obtained prior to any movement or release of the biological control agents:

Originator's Signature: _____ **Date:** _____

Telephone No: _____

Reviewer's Signature: _____ **Date:** _____

BLM Manager's Approval: _____ **Date:** _____

_____ **Date:** _____

BLM State Director

_____ Concur _____ Not Concur _____ Concur with Modifications

Modifications: _____

_____

_____

_____

Appendix 10. BUREAU OF LAND MANAGEMENT

BIOLOGICAL CONTROL AGENT RELEASE RECORD

1. a. **Project Name:** _____ c. **BCARP No.** _____

   b. **Operator:** _____ d. **Ref. No.** _____

   e. **Biological Control Agent:** _____

2. **Name of Employee(s) Releasing the Biological Control Agents:**

   _____

3. **Date(s) of Release:** _____
   (Month, Day, Year)

4. **Location of Release:** _____
   (T. R. Section)
   (State, County) _____
   (Longitude,Latitude)
   _____

5. **Method Used to Protect the Biological Control Agent:** _____

   _____

   _____

6. **Actual Area of Release:** _____ **Acres, Total Project Area:** _____ **Acres**

7. **Pest Species the Biocontrol Agent Released on:** _____

8. **Stage of Pest Development:** _____

9. **General Soil Texture:** ____ **Sandy,** ____ **Silty,** ____ **Clayey**

10. **Release Site:** ___ **Native Vegetation,** ___ **Seeded Vegetation,**

    ____ **Other Explain:** _____

11. **Weather Conditions:** a. **Wind Velocity:** _____ b. **Temperature:** _____

    c. **Precipitation:** _____ d. **Other Weather Conditions:** _____

    _____

12. **Monitoring Record:** _____

    _____

    _____

13. **Site Collection on Record of Dates and Number of Biological Control Agents:**

    _____

    _____

    _____

This record must be completed except for monitoring within 24 hours after release of the biological control agent. Maintain these records for a period of 10 years.

9222

Noxious Weed Monitoring
Post-treatment Evaluation

An evaluation of each treatment done on BLM lands will be made annually until project is considered completed and weed(s) under control or eradicated. This evaluation will consider the effectiveness of the treatment (short term and long term). These evaluations (monitoring) are required under parameters of the ROD from the EIS and the Judge's decision.

Please compile the information as requested:

1. Project name and number: _____

2. Actual acreage treated: _____

_____

3. Description of actual treatment and timeframe: _____

_____

_____

4. Objectives of the treatment: _____

_____

_____

5. Effectiveness of treatment: (Include photographs) _____

_____

_____

6. Problems encountered with treatment: _____

_____

7. Actual cost of treatment: _____

_____

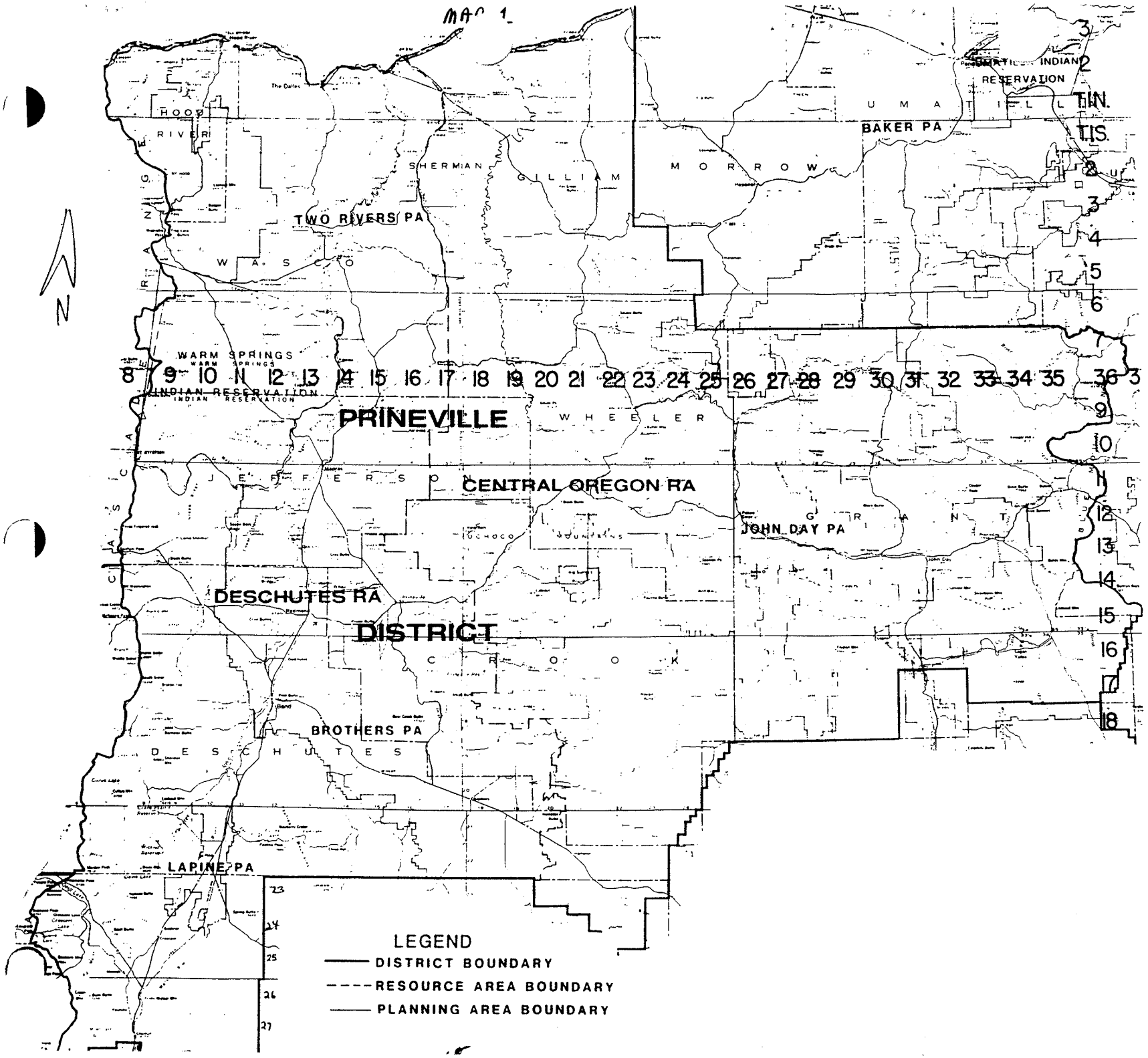
8. Other observations and data: _____

9. Recommended future action: _____

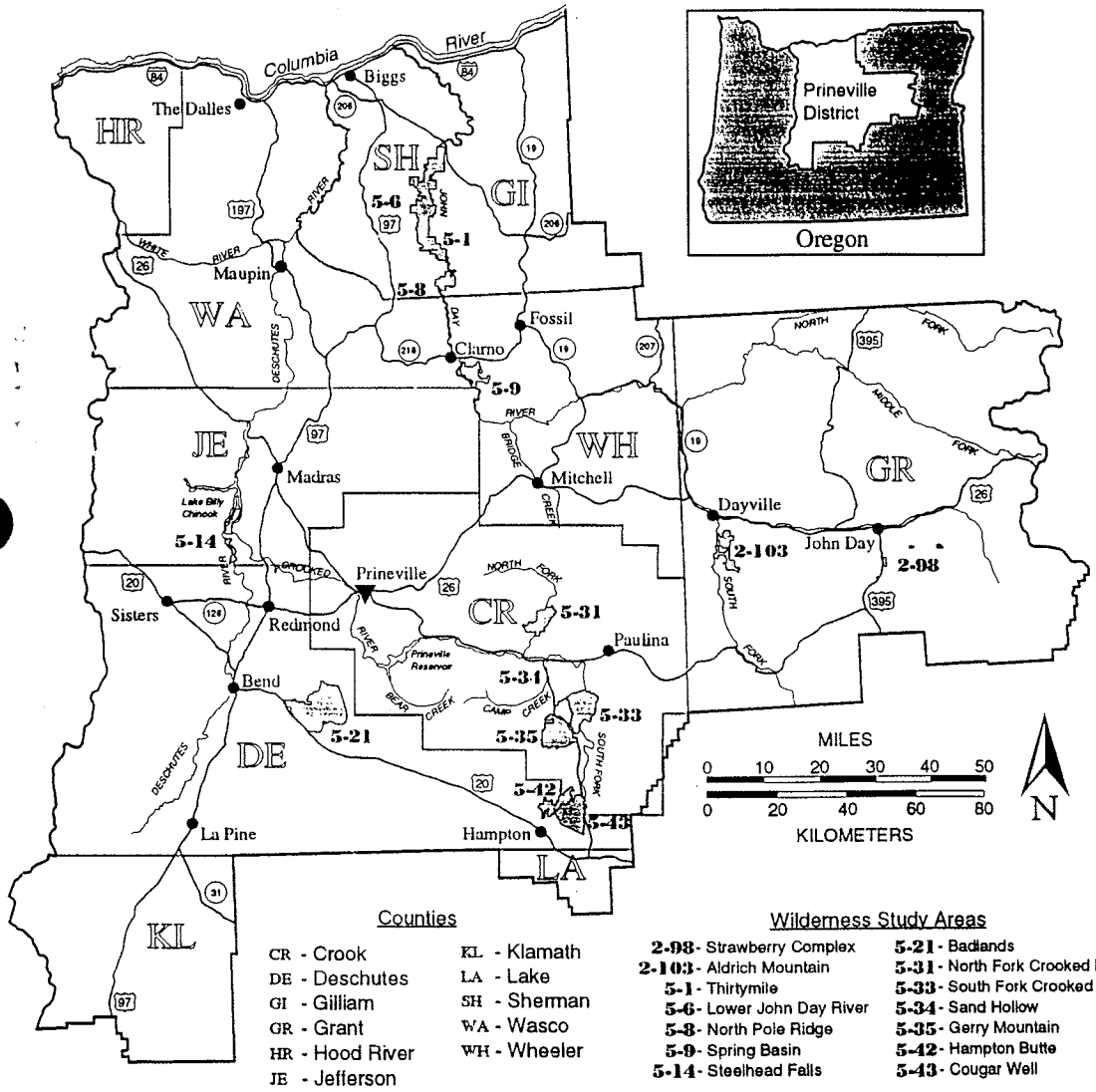
_____

Preparer _____ Date _____

MAP 1


HOOD RIVER
SHERMAN
GILLIAM
MORROW
UMATILLA
CONFEDERATED UMATILLA INDIAN RESERVATION
BAKER PA
TWO RIVERS PA
WASCO
WARM SPRINGS INDIAN RESERVATION
PRINEVILLE
WHEELER
JEFFERSON
CENTRAL OREGON RA
GRANT
JOHN DAY PA
DESCHUTES RA
DISTRICT
CROOK
BROTHERS PA
DESCHUTES
LAPINE PA
T.1N.
T.1S.
LEGEND
DISTRICT BOUNDARY
RESOURCE AREA BOUNDARY
PLANNING AREA BOUNDARY

MAP # 2



Counties

CR - Crook	KL - Klamath
DE - Deschutes	LA - Lake
GI - Gilliam	SH - Sherman
GR - Grant	WA - Wasco
HR - Hood River	WH - Wheeler
JE - Jefferson	

Wilderness Study Areas

2-98 - Strawberry Complex	**5-21** - Badlands
2-103 - Aldrich Mountain	**5-31** - North Fork Crooked River
5-1 - Thirtymile	**5-33** - South Fork Crooked River
5-6 - Lower John Day River	**5-34** - Sand Hollow
5-8 - North Pole Ridge	**5-35** - Gerry Mountain
5-9 - Spring Basin	**5-42** - Hampton Butte
5-14 - Steelhead Falls	**5-43** - Cougar Well