

U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2004-50-EA

CASEFILE/PROJECT NUMBER (optional):

PROJECT NAME: Russian, Spotted and Diffuse Knapweed, Cultural and Herbicide Control Program

LEGAL DESCRIPTION: White River Resource Area

APPLICANT: BLM

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Proposed Action - Integrated weed control strategy: Under this alternative cultivation and herbicide control would be used to control Russian, Spotted and Diffuse Knapweed. All control activities would be in compliance with the Record of Decision: Vegetation Treatment on BLM Lands in Thirteen Western States (BLM 1991).

Cultivation would be the primary control method on Spotted and Diffuse Knapweed infestations that are sparse and isolated. Russian knapweed because of its perennial character is not reasonably controlled by cultivation. Cultivation would entail pulling of the weed out of the ground or severing the tap root below the basal rosette of leaves with a hand tool. If these plants have produced seed prior to treatment, the plants would be gathered following digging, and placed at a site on which seedlings can be controlled.

Herbicidal control would be used on large, dense weed patches of Russian, Spotted and Diffuse Knapweed which are impractical to control by digging. Application would be by a combination of truck mounted sprayer, ATV sprayer, Solo backpack sprayer, and Buffalo turbine backpack sprayer. The method of herbicide application would be dependant on the size and location of the weeds to be treated.

All herbicidal control would be under a current Pesticide Use Proposal which specifies the area targeted, the chemical to be used, and sensitive areas.

All spraying will be under the control of a BLM Certified herbicide applicator.

The chemical to be used for all knapweed species would be with Tordon 22K (Picloram) at a rate of 1 pint (1/4#) per acre.

Tordon 22K (Picloram) is produced by DowElanco. This herbicide is highly translocatable, selective herbicide active through both foliage and roots on many broadleaf herbaceous weeds and woody plants. Picloram is persistent and is more toxic to some broadleaf plants than 2,4-D. Thus, precautions must be followed diligently to avoid injury to desirable plants. This chemical mimics natural plant hormones. Leaching potential is large. Acute Toxicity-Approximate oral dose to cause death of 150 pound person is 2.4 cups (Dewey et al 1998)

Mitigation and Stipulations Associated with the Proposed Action Alternative:

Only federally registered herbicides would be used.

Label directions would be followed even when additional restrictions are required.

Herbicides would be applied as per label instructions and restrictions.

The intake operation of water for mixing would be arranged so that an air gap or reservoir would be placed between the live water intake and the mixing tank to prevent back flow or siphoning of chemical into the water source.

Chemical containers will be disposed of as required by the Environmental Protection Agency.

Any weed treatment within the following sensitive areas will be subject to interdisciplinary review as a supplement to this Environmental Assessment: Wilderness Areas, Wilderness Study Areas, Areas of Critical Environmental Concern, Riparian Areas, Threatened or Endangered Species habitat, and important wildlife habitats. If the project area is located within a WSA or ACEC the proposal must be reviewed by the Wilderness/ACEC Specialist. Site specific mitigation would be incorporated into the Pesticide Use Proposal.

Affected riparian areas must be identified in site-specific Pesticide Use Proposals.

The following buffer strips will be provided for streams and riparian areas that are not associated with special status fisheries (see Aquatic Wildlife section): a minimum buffer strip of 25 feet wide will be provided for vehicle spraying and 10 feet for hand application. Any deviations must be in accordance with the label for the herbicide. Herbicides will be wiped on individual plants within 10 feet of water where application is critical.

All areas to be treated by mechanical, ground disturbing actions will be inventoried for cultural/historical and paleontological materials as appropriate. Inventory for

paleontological resources would only be required if areas of exposed rock outcrops are within the cultivation treatment areas.

To minimize drift, application of all herbicides would be confined to periods when wind speed is less than 6 miles per hour. Application would not occur during precipitation, or if there is a threat of precipitation.

To further limit the potential for damaging stream habitats supporting a fisheries, application equipment and calibrations (i.e. spray pressure and droplet size) must be selected to deliver sprays which minimize atomized drift in situations where herbicide would be expected to directly contact surface waters (regardless of 6 mph guideline). No application of herbicide may occur in drainages and valley floors when rain showers are imminent or likely within 3-4 hours.

Efforts should be taken to avoid or minimize involvement and damage to woody riparian shrubs and tree regeneration, where appropriate, using mechanical control, minimizing the wetting of desirable plant foliage, or using less persistent herbicides beneath or within 25' of desirable plant canopies.

In the event raptor nest activity is discovered within treatment areas, restrictions on motorized application equipment and approach to the nest site would be applied until nest functions are complete. In addition, standard activity restrictions (i.e., NSO 2, 3 and TL 1, 4) outlined in Appendix of the White River ROD/RMP would be observed until nest functions are complete: Vehicular access on important wildlife habitats and/or during sensitive functional use periods (e.g., big game critical summer use areas, raptor nesting areas, sage grouse reproductive habitats) would be subject to restrictions as directed by the Area Manager. Use of restricted road segments by authorized personnel (e.g., BLM personnel, law enforcement, permitted land users) may be allowed for administrative and operational purposes. Methods used to restrict vehicular access may include: installing lockable gates, barricades or other forms of deterrents, signing, or reclaiming and abandoning roads or trails no longer necessary for management, or other methods prescribed by the Area Manager.

During preparation of the Pesticide Use Proposal, the project area would be reviewed for known populations of plant species of special concern or their potential habitats. On those areas containing sensitive plants and habitats with good likelihood of containing sensitive plants would be avoided by herbicidal control. Manual control (pulling weeds) would be the preferred method of control. Potential habitats would be inventoried for absence of sensitive plants prior to any herbicidal use should manual control prove ineffective.

Herbicide application on the White River's 100-year floodplain (i.e., endangered Colorado pike-minnow and other Colorado River fishes) or within 100 feet of floodplains of systems that are occupied by BLM sensitive species (see Aquatic Wildlife section below) will require a separate NEPA analysis. Although label and BLM-imposed application measures are presently considered adequate to prevent any direct or indirect

impact to aquatic communities in the White River from spot treatments, site-specific review of proposed actions is necessary to make Endangered Species Act determinations. As a means of being able to validate the proposed action to the U.S. Fish and Wildlife Service, the location, extent, and manner of application for all treatment areas should be mapped using GPS technology and provided to BLM annually for review within the timeframe specified in the noxious weed section below.

Safeguard Measures for the Proposed Action Alternative:

All individuals associated with the handling or application of herbicides on public lands would be familiar with the chemicals used and emergency procedures to be used in case of herbicide spill.

The safe use of herbicides includes precautionary measures to prevent accidental spills. The following written precautions describe measures that would be used to reduce the chance of such accidents.

The applicable Federal regulations concerning the storage and disposal of herbicides and herbicide containers would be followed. These are described in the EPA's "Regulations for acceptance and Procedures for Disposal and Storage", Federal Register notices as amended.

It is essential to prevent damage to containers so that leaks do not develop; care would be exercised so that containers would not be punctured or ruptured, and so that the lids or caps would not be loosened.

Precautions would be taken in the loading and stacking of herbicide containers in the transporting vehicle to assure that they would not fall as the vehicle moves.

Open containers would not be transported. Partly empty containers would be securely resealed before transportation.

Mixed herbicide will not be transported.

Each day after returning to the field office, all herbicide containers would be inspected for damage and leaks, and the vehicle would be examined for contamination. Back-pack sprayers will be cleaned each day before placing in the storage room.

No Action Alternative: Under this alternative, no action would be taken to control black henbane and mullein.

NEED FOR THE ACTION: In the White River Resource Area, the noxious weeds, control Russian, Spotted and Diffuse Knapweed have been established for several years and are spreading. Both of these species are exotic, slightly toxic, ground cover

dominating plant species. On occupied sites forage and soil cover are decreased to the point of making the area useless. Both of these species are aggressive spreaders, using seeds.

The proposed action details a program for cultural and general herbicide use in the control Russian, Spotted and Diffuse Knapweed . Russian, Spotted and Diffuse Knapweed reproduce by seed. These seeds remain viable for a number of years. For this reason we do not expect to eradicate Russian, Spotted and Diffuse Knapweed by a single control effort, but hope to reduce populations to a point that additional control efforts are minimal.

This environmental assessment (EA) discusses a standardized approach to control of Russian, Spotted and Diffuse Knapweed on a resource area scale. Prior to initiating actual control a site specific Pesticide Use Proposal would be prepared along with the applicable environmental documentation. If potential impacts of future proposals are sufficiently addressed in this EA, Documentation of NEPA Adequacy (DNA) will be prepared. If potential impacts are not sufficiently addressed, then additional analysis and documentation will be needed.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: 2-13

Decision Language: Manage noxious weeds so that they cause no further negative environmental, aesthetic or economic impact.

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: There are no special designation air sheds or non-attainment areas nearby that would be affected by the proposed action.

Environmental Consequences of the Proposed Action: Impacts from the proposed action are not anticipated.

Environmental Consequences of the No Action Alternative: Impacts from not permitting the area wide pesticide permit are not anticipated.

Mitigation: No additional mitigation is needed.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

Affected Environment: The White River ROD/RMP identified seventeen ACECs encompassing 99,120 acres. Specific information concerning these ACECs is contained in the White River ROD/RMP. Russian, Spotted and Diffuse Knapweed are known to occur within some of these ACECs.

Environmental Consequences of the Proposed Action: Under the proposed action, when Russian, Spotted and Diffuse Knapweed are found, a Pesticide Use Proposal would be prepared. If the weed infestation is within an ACEC the location would be identified and mitigation measures applied. Overall the weed control program is designed to benefit the resources for which an ACEC is designated by controlling noxious weeds and maintaining the native plant communities. If plant species of special concern are identified within the ACEC, mitigation would be as described in the threatened and endangered plant section. On those ACECs where special status animals are of concern, special consideration will be given to the control method as described in the threatened and endangered animal section.

Environmental Consequences of the No Action Alternative: Under this alternative there would be no treatment of mullein or black henbane within ACECs. These species would have the opportunity to increase and spread on suitable habitats. This would degrade native plant communities and would negatively impact the resources for which several of the ACECs were designated.

Mitigation: See mitigation and stipulations outlined in the proposed action.

CULTURAL RESOURCES

Affected Environment: Inventory data for the area has been primarily driven by the need for compliance with historic preservation laws as a result of energy related development. As a result, inventory data is unevenly distributed and does not always cover areas where cultural resources might be regarded as most likely. Consequently only a relative few resources have been recorded to date. James Grady, in his Doctoral Dissertation (1980), presented the hypothesis that areas at the higher elevations in the Piceance Basin/Roan Plateau area of Northwest Colorado were only used for short periods in the summer months and then primarily as the prehistoric occupants hunted deer and elk for hides and meat, which was a major source of protein in aboriginal diets. If such was the case camp sites would be relatively scarce and located within one kilometer of so of reliable supplies of domestic water. Other sites would likely be kill/butchering sites which may be very fugitive and difficult to identify and/or evaluate.

Since the completion of Dr. Grady's studies a considerable body of additional inventory data has been acquired which has improved the understanding of the prehistoric occupation of the area. Specifically those areas below about 7500 feet mean sea level along areas of live water within a distance of 1.5 kilometers tend to have a much higher potential for site presence. Sites are shown to range from single episode hunting events to long term and/or multiple episode camp sites.

Environmental Consequences of the Proposed Action: Spraying of herbicides is expected to have little, if any, effect on cultural resources that might be present. Impacts would mostly be confined to compaction from vehicles and possible dislocation of surface artifacts during wet and muddy conditions.

Cultivation may cause crushing, breaking and/or destruction of artifacts. This hazard is most likely to occur on resources that are subsurface and cannot be identified on the ground surface by standard inventory techniques.

The above losses would be inadvertent and irreversible. However, current data are inadequate to quantify the resultant permanent loss to the regional database.

Environmental Consequences of the No Action Alternative: There would be no impacts to cultural materials under the No Action Alternative.

Mitigation: See the mitigation measures outlined in the proposed action.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: The White River Resource Area contains a wide variety of plant communities ranging from salt-desert shrub to subalpine fir. Russian, Spotted and Diffuse Knapweed probably have the ability to grow within almost every plant community in the resource area.

Environmental Consequences of the Proposed Action: Under the proposed action Russian, Spotted and Diffuse Knapweed would be controlled manually or by herbicide. Using these two methods there is very little soil disturbance and no seeding would be needed. With no seeding there would be no opportunity for introduction of non-native plant species.

Environmental Consequences of the No Action Alternative: Under the no action alternative, Russian, Spotted and Diffuse Knapweed would not be controlled. There would also not be any seeding or any opportunity for introduction of non-native invasive species. Russian, Spotted and Diffuse Knapweed would continue to expand and dominate plant communities. Forage production and the benefits of healthy plant communities would be foregone. The cost of control would increase as the area of Russian, Spotted and Diffuse Knapweed increased. Failing to control Russian, Spotted and Diffuse Knapweed would provide a seed source for adjacent allotments.

Mitigation: None

MIGRATORY BIRDS

Affected Environment: A large array of migratory birds fulfills nesting functions throughout the Resource Area’s woodland and shrubland habitats during the months of May, June, and July. Generally, species associated with the more extensive shrubland and woodland communities in the Resource Area are typical and widely represented in the region. Those songbird populations associated with this Resource Area’s riparian communities and higher-elevation woodlands identified as having higher conservation interest (i.e., Rocky Mountain Bird Observatory, Partners in Flight program) appear to be stable, but in some cases are uncommon and inconsistently distributed due to specialized habitat preferences (e.g., martin, sapsucker).

Migratory Birds with High Conservation Priority by Habitat Association in WRRRA

Salt desert	sagebrush	Pinyon-juniper	Mountain shrub	Aspen/fir
burrowing owl loggerhead shrike sage sparrow	sage grouse Brewer’s sparrow green-tailed towhee	gray flycatcher gray vireo pinyon jay juniper titmouse black-thr gray warbler violet-green swallow	blue grouse common poorwill Virginia’s warbler MacGillivray’s warbler	broad-tld hummingbird red-naped sapsucker purple martin Cordilleran flycatcher

Environmental Consequences of the Proposed Action: Current knapweed infestations are typically associated with disturbed acreage and wildfires, and often persist on droughty, sparsely vegetated sites. Because migratory bird populations tend to

be more abundant and diverse as vegetation volume and stratification increase, bird nesting activity in areas most likely infested with these weeds tends to be limited.

Short-duration, nonrepetitive, and localized herbicide applications or mechanical removal activities during early to mid-summer may cause temporary displacement of adult birds attending nests in nearby habitats, but these episodes would have a low probability of disrupting an individual nesting effort or adversely influencing a nest's outcome. Because these weeds have no functional value as nesting substrate and suppress native vegetation by dominating sites of infestation, localized and temporary control activities are viewed as a desirable trade-off in preventing further seed dissemination and continued expansion of weed-related influences.

Environmental Consequences of the No Action Alternative: In the absence of weed control work, there would be no potential to disrupt breeding activities of migratory birds. Unabated, the spread of Russian, spotted and diffuse knapweed across the landscape would eventually necessitate broader scale and more aggressive herbicide application practices at increasing distance from activity centers, which would invariably involve longer duration and more extensive application activities in suitable nesting habitats—drastically increasing the probability that ongoing nesting attempts would be adversely affected.

Mitigation: None.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment (This includes all information related to Public Land Health Standard 4): All perennial and intermittent stream systems within the Resource Area eventually contribute to endangered Colorado River fisheries in the Colorado, White, Green, and Yampa Rivers. The White River between Rio Blanco Lake and the Utah state line is designated critical habitat for the endangered Colorado pike-minnow, although present occupation is confined to the reach below Taylor Draw dam. Maintenance of proper bank, channel and floodplain function is specifically identified as essential to the continued existence of this fishery.

The White River corridor serves as an activity hub for nesting and wintering populations of threatened bald eagles. A number of nest and winter roost sites are associated with the river's cottonwood galleries.

Riparian/wetland habitats above 8000 feet possess general potential for occupation by the candidate boreal toad. However, there are no historical or recent indications (e.g., 1996 Natural Heritage Program inventory on the Roan Plateau) that boreal toad occupied such habitats on the Piceance/Douglas divides or Roan Plateau.

Under the auspices of a non-essential, experimental population rule and a cooperatively developed ferret management plan, black-footed ferrets have been released (or dispersed from Utah releases) annually in the Coyote Basin and Wolf Creek Management Areas since 1999. Ferret distribution is confined to the Area's lower elevation salt desert communities that support white-tailed prairie dogs, essentially a narrow corridor along Highway 40 from Elk Springs to the Utah line. Ferrets have successfully reproduced in Coyote Basin and although not yet established, a small number of ferrets are thought to persist in the Wolf Creek area.

These prairie dog communities also support nesting populations of burrowing owl, an uncommon species that has high conservation priority in both the Colorado Division of Wildlife and BLM. These birds return to occupy a prairie dog burrow system in early April and begin nesting soon after. By October, the birds leave for southern wintering grounds.

There are a number of fishes that have been petitioned for listing under the Endangered Species Act (Colorado River cutthroat trout) or are listed by BLM as sensitive (effectively the same status as species candidate for listing), including: roundtail chub, and bluehead, flannelmouth, and mountain suckers. The following stream systems harbor populations of these fishes: the White River 100-year floodplain (Colorado pike-minnow and other upper Colorado River fishes), Bitter Creek, Piceance Creek, Crooked Wash, Big Beaver Creek, Trapper's Creek, East Douglas Creek and its tributaries, Black Sulphur Creek and its tributaries.

Environmental Consequences of the Proposed Action: Because of the localized nature of weed control at this time and the improbable risk of herbicide exposure, there is no reasonable likelihood that weed treatment would have any adverse impacts to special status birds or mammals.

Because these weeds possess no attributes attractive to special status species, herbicide exposure in terrestrial situations is improbable. Application of these chemicals as proposed poses no conceivable threat to black-footed ferret, bald eagle, or burrowing owl, owing to the chemical's relative nontoxic character, the limited extent of application, the limited likelihood for animal exposure. Summer control activities would be short term and dispersed and do not represent activity levels or time frames that would have any substantive influence on sensitive habitats and/or breeding activities of special status species.

Aquatic organisms are usually more susceptible to the toxic effects of herbicide than terrestrial wildlife. Chemical can enter aquatic systems through direct application, drift, surface runoff, or percolation/leaching. Picloram is moderately to slightly toxic to freshwater fish. Picloram is soluble and highly mobile in water and can persist for long periods in the soil profile, but the product does adsorb to clay particles (a consistent feature of the predominant shale-based soils in this Resource Area) and organic matter, which substantially reduces or attenuates the potential for fugitive release to associated

stream systems. Sunlight readily breaks down picloram in water with a reported half-life of between 2 and 3 days; there is no evidence suggesting that picloram bioaccumulates.

In conjunction with BLM-prescribed mitigation and safeguards incorporated within the proposed action, treatment of knapweeds with picloram would pose no conceivable threat to special status fisheries, including the Colorado River fishes. Treatments proposed adjacent to occupied or contributing streams would be reviewed separately to insure that protection measures are adequate to avoid risk of exposure. Additional mitigation may be applied to these actions if warranted. Vigilant suppression of small-scale weed infestations would help prevent weeds from compromising channel and floodplain functions that are key to maintaining suitable habitat conditions for sensitive fishes, and listed Colorado River pike-minnow and bald eagle along the White River.

Although highly unlikely that a population of boreal toad would exist in any treatment site, much less be exposed to herbicide, available literature suggests that amphibians are generally less sensitive to herbicide exposure than are aquatic invertebrates or fish (USFWS, 1986. Manual of Acute Toxicity. Resource Publ. 160). The provisions under which herbicides would be applied under either alternative would be sufficient to avoid any reasonable likelihood of boreal toads or their habitat being adversely affected by weed control efforts.

Environmental Consequences of the No Action Alternative: Under this alternative there would be no potential for exposing special status species to fugitive herbicide in the near term.

Finding on the Public Land Health Standard for Threatened & Endangered species: This standard is not generally applicable to Public Land Health Standards since the area in close proximity to oil and gas production facilities has previously been dedicated to an industrial use and bears virtually no functional value to wildlife resources. This standard is being met across the Resource Area with populations and habitat suitability for the special status species discussed above generally stable. Weaknesses in securing population viability in the case of boreal toad and perhaps black-footed ferret are not attributable to authorized land uses, but diseases that are beyond the scope of BLM management. Recognizing the progressive deterioration of rangeland and aquatic habitats attributable to the proliferation of noxious weeds, a prominent indicator for determining Public Land health involves management that minimizes noxious and undesirable weed expression in the overall plant community. The proposed action complements this goal and, as mitigated, has appropriate safeguards that would effectively avoid those influences chemical exposure may have on individual animals or habitat conditions, thereby maintaining a situation where the standard is met through time. Conversely, the no action alternative would promote incremental increases in acreage supporting weed monocultures, and over time, increasingly large landscape parcels would fail to meet this standard.

THREATENED, ENDANGERED, AND SENSITIVE PLANT SPECIES (includes a finding on Standard 4)

Affected Environment: Habitats within the White River Resource Area have been identified for 19 plant species that are either rare and endemic or rare and are considered as a BLM sensitive species. Many of these sensitive species are endemic to the Green River geologic formation. This formation is limited to the Uintah Basin of Utah and the Piceance Basin/Roan Plateau of Colorado, and contains several locations of threatened or sensitive plant species. Most of the Green River shale formations in Piceance Basin and along Raven Ridge have been inventoried with locations of known populations of sensitive plants and potential habitats identified. The Draft White River, Resource Management Plan contains the species list, status (pages 3-16 to 3-18) and location (map 2-11) of the T & E and sensitive plant species.

Environmental Consequences of the Proposed Action: Following the mitigation described below, on areas containing sensitive species, herbicidal control would not be used, and the preferred method of control would become manual control. With manual weed control there would not be the opportunity for damage to special species from herbicides. Manual weed control works moderately well on Spotted and Diffuse Knapweed. Russian Knapweed, because of its perennial character and spreading by roots, is difficult to control by cultural means.

Areas of potential habitat for sensitive plants would be inventoried for their absence prior to any herbicidal usage should manual control prove ineffective.

Environmental Consequences of the No Action Alternative: Under this alternative there would be no impacts to sensitive species relative to mechanical or herbicidal control. Failing to control Russian, Spotted and Diffuse Knapweed is expected to adversely impact on the narrow life zones of the sensitive plant species found in the White River Field Office.

Mitigation: See mitigation and stipulations identified in the proposed action.

Finding on the Public Land Health Standard for Threatened & Endangered species: The no action alternative would negatively influence the Threatened, Endangered, or Sensitive plant species.

WASTES, HAZARDOUS OR SOLID

Affected Environment: Digging of Russian, Spotted and Diffuse Knapweed does not involve hazardous wastes. Under the proposed action 6lb. of 2,4-D and Escort would be used for herbicidal weed control. Both of these chemicals are approved for use on public lands and were analyzed in the EIS for Vegetation Treatments on BLM Lands in the 13 Western States (BLM 1991).

Environmental Consequences of the Proposed Action: Use of herbicides for control of noxious weeds is a common and reasonable practice. Use of these two chemicals as detailed in this environmental assessment would prevent any generation of hazardous wastes.

Environmental Consequences of the No Action Alternative: There would be no opportunity for development of hazardous waste.

Mitigation: None

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Surface water quality data is available for several sites on the White River, major tributaries, and many ephemeral drainages in the Piceance Basin through various USGS publications. The Colorado Department of Public Health, Water Quality Control Commission, has adopted (Colorado Department of Public Health 2004) basic standards and an antidegradation rule for all surface waters in the resource area. These standards reflect the ambient water quality and define maximum allowable concentrations for various water quality parameters. Most surface water segments on BLM lands are in the "use protected" category that states, at a minimum, all state surface waters shall be maintained and protected. No further water quality degradation is allowable that would further interfere with or become harmful to that streams designated use.

Environmental Consequences of the Proposed Action: Drift into drainage bottoms or springs may occur, altering water quality temporarily. Use of best management practices outlined as mitigation in the proposed action would eliminate negative impacts imposed by the proposed action.

Environmental Consequences of the No Action Alternative: There would be no opportunity for drift of herbicides into drainage bottoms or springs, and no impacts on water quality.

Mitigation: None.

Finding on the Public Land Health Standard for water quality: Implementation of the proposed action would not cause water quality to be outside the standards set by the State of Colorado, which is the standard for water quality on public lands.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: The White River Resource Area contains a number of riparian zones. Table 2-9, Appendix D, page 8 of the White River ROD/RMP shows the high priority riparian habitats, Functioning Condition, acres and ecological condition.

Twenty eight riparian areas are identified containing 719 acres of riparian habitat. In general Russian, Spotted and Diffuse Knapweed are upland species adapted to disturbed environments. To date knapweeds have not been documented within riparian areas.

Environmental Consequences of the Proposed Action: During preparation of a site-specific Pesticide Use Proposal, affected riparian areas would be identified. If these areas fall within the 100 year flood plain, which would include all of our riparian sites, a separate site specific environmental assessment would be prepared.

Environmental Consequences of the No Action Alternative: Under this alternative there would be no opportunity for herbicides to contaminate riparian zones, and there would be no opportunity for non-target plants to be affected.

Mitigation: See the mitigation and stipulations identified in the proposed action.

Finding on the Public Land Health Standard for riparian systems: Noxious weeds are one of the greatest threats to the health of riparian communities. In the event these weeds were located in riparian zones a site specific control plan and environmental assessment would be prepared. The proposed action would not affect riparian areas, and would also not have any impact, positively or negatively on the standard for riparian systems

WILDERNESS

Affected Environment: There are six Wilderness Study Areas (WSA) encompassing approximately 81,000 acres within the White River Resource Area. WSAs are managed to provide for natural ecological processes as described in the Interim Management Policy (IMP) for lands under wilderness review (H-8550-1). Vegetative manipulation by chemical, mechanical, or biological means may be allowed when there is no effective alternative and when control of the noxious weed is necessary to maintain natural ecological balance within a WSA or portion of a WSA (Chapter 3, Section II, part 2 of IMP). In all cases where vegetative manipulation is proposed, the activity must not adversely impact wilderness values within any portion of the WSA. Noxious 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 affected without adverse impacts on wilderness values.

Environmental Consequences of the Proposed Action: Controlling Russian, Spotted and Diffuse Knapweeds would maintain or enhance the wilderness values by preventing these species from replacing native desirable plant species. By controlling or limiting the spread of noxious weeds, the naturalness of the WSA would be preserved. If motorized vehicle use is the minimum application tool, the sight, sound, or tracks from the equipment may detract from the wilderness visitor's experience of solitude and opportunities for primitive recreation. However, this is unlikely as most visitors do not utilize WSAs during the spraying season.

Environmental Consequences of the No Action Alternative: The no action alternative would allow degradation the naturalness component of the of wilderness values by allowing the noxious weeds, Russian, Spotted and Diffuse Knapweed to spread on suitable sites.

Mitigation: See mitigation and stipulations identified in the proposed action.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No prime and unique farmlands, or Wild and Scenic Rivers exist within the area affected by the proposed action. No flood plains would be affected. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements must be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: Soils of the area are generally deep and well drained with a loam surface texture and a channery sandy clay loam subsoil extending to greater than 30 inches. In an undisturbed condition runoff is slow and the erosion hazard is slight. However, if the surface is disturbed, and runoff is rapid the erosion hazard can be severe

Environmental Consequences of the Proposed Action: Little if any negative impacts are expected as a result of the proposed action. A temporary increase in sedimentation could be expected from vegetation loss and continue until successful revegetation has occurred. Spraying for Russian, Spotted and Diffuse Knapweed would allow a more protective vegetative species to grow and actually help to reduce overland sedimentation.

Environmental Consequences of the No Action Alternative: Cover of Russian, Spotted and Diffuse Knapweed would increase with a decrease in grass species needed to maintain soil stability. Long term increase in sedimentation would be expected.

Mitigation: None

Finding on the Public Land Health Standard for upland soils: Controlling noxious weed infestations is critical to maintaining healthy and productive plant

communities which are critical to upland soils health. The proposed action would contribute to meeting the standard for upland soils health.

VEGETATION (includes a finding on Standard 3)

Affected Environment: The resource area contains a wide range of vegetation types ranging from salt desert shrub to spruce/fir forests. All of these vegetation types are suitable habitat for the knapweed species.

Environmental Consequences of the Proposed Action: Tordon is specific to the control of broadleaf plants. This specificity allows the pest plants to be controlled while leaving the grasses relatively unaffected. With the pest plants removed, the remaining grass species increase in dominance, which decreases the ability of the weed seedlings to becoming established. As a result of Tordon's specificity to broad leaf plants there would be a loss of native broadleaf species, annuals and perennial.

Environmental Consequences of the No Action Alternative: Russian, Spotted and Diffuse Knapweed would increase and spread in the native plant communities. There would also be a reservoir of seed produced that would be available to transport off-site causing additional outbreaks.

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): Controlling noxious weeds, as described in the proposed action, is integral to having public lands which meet the indicator of "Noxious weeds and undesirable species are minimal in the overall plant community."

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: Streams that support aquatic habitats are distributed across the Resource Area. Essentially all perennial and some of the larger intermittent streams support invertebrate-based aquatic communities, but in the context of herbicide application, of most concern are those supporting vertebrate forms (i.e., mammals, amphibians, sport or native nongame fish).

Environmental Consequences of the Proposed Action: Picloram is moderately to slightly toxic to freshwater fish (e.g., 10-100 ppm in most sensitive species, 26 ppm in trout) and slightly toxic to aquatic invertebrates; formulated products are generally less toxic than picloram. Aquatic organisms are usually more susceptible to direct exposure and the toxic effects of herbicide than terrestrial wildlife. Chemical can enter aquatic systems through direct application, drift, surface runoff, or percolation/leaching. Conscientious applications at agricultural-scales can result in accumulations of 1 ppm in

receiving ponds. The potential for the proposed action to involve fugitive releases at higher concentrations, especially in lotic situations, is not likely. Small-scale applications of Tordon consistent with those safeguards integral with the proposed action would pose virtually no toxic threat to aquatic wildlife, including amphibians, fish, or macro-invertebrates, or to those resident birds and mammals that may be associated with riparian or aquatic systems (see also discussion in Threatened and Endangered Species).

Consistent spot treatment of noxious weeds would sharply limit the development and/or influence of weed populations in aquatic and associated riparian communities. Weeds on bank and floodplain features contribute to the instability of bank and incise walls by suppressing vegetation that provides effective erosion resistance. Left unattended, weeds would likely assume a primary role in aggravated bank and channel erosion, disrupting channel stability, and degrading conditions conducive to the support of aquatic organisms (e.g., unstable bed substrate, decreasing depths, increasing and more widely fluctuating water temperatures).

Woody riparian growth normally associated with properly functioning aquatic and riparian communities (e.g. chokecherry, dogwood, willow, cottonwood regeneration) is susceptible to damage by this herbicide. Because riparian woody growth is not only an integral feature of good condition riparian and aquatic habitats, efforts should be taken to avoid (i.e. using mechanical control) or minimize involvement and damage to woody riparian shrubs and tree regeneration.

Environmental Consequences of the No Action Alternative: There would be no potential for direct adverse impacts related to chemical exposure. However, neglecting control and allowing further weed proliferation would ultimately necessitate broader scale treatment, perhaps with stronger, more persistent herbicides. More aggressive weed control strategies would dramatically increase the likelihood that aquatic communities would be exposed, at the very least, to elevated herbicide levels. Weed proliferation in channel systems supporting aquatic habitats would impoverish riparian character and compromise channel function, virtually eliminating any short term prospect for improving riparian or aquatic conditions.

Mitigation: See mitigation and stipulations identified in the proposed action.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): Overall aquatic habitat conditions within the Resource Area are generally meeting or moving toward meeting Standard 3. The proposed action would complement the meeting of this standard by minimizing occupation of aquatic habitats by noxious weeds and reducing the adverse influences of weeds on riparian and channel functions. Safeguards incorporated within the proposed action would prevent aquatic organisms from being exposed to harmful levels of chemical such that weed control would have no effective influence on the demographics or distribution of aquatic organisms in the White River Resource Area.

The no action alternative would aggravate the dissemination of noxious weed seeds throughout a watershed and allow for increasing establishment and expression of

undesirable vegetation forms in riparian and aquatic communities. Over time, this alternative would promote a situation where increasingly large landscape parcels would fail to meet this standard and increase the risk of aquatic communities becoming exposed to damaging levels of herbicide.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The Resource Area supports a season long use by big game, sage and blue grouse, as well as a diverse assemblage of non-game birds and mammals. Importantly, animal use associated with the late spring through early fall periods (at least) are in many ways tied to the availability, condition, and form of herbaceous and woody broadleaf vegetation as a component of cover and/or forage.

Well-distributed supplies of broadleaf forage are important to big game for prolonging adequate nutritional planes during the winter (deciduous browse) and sustaining high nutritional levels during spring recovery, the reproductive period, and fat accumulation for winter (primarily succulent herbaceous forms).

Nongame and small game populations are typically more abundant and diverse in shrub and woodland communities with well-developed herbaceous understories and woody canopies. These small mammal and bird populations are important prey items for all raptors found in the area, and are integral with the maintenance of high levels of community diversity.

Environmental Consequences of the Proposed Action: Salt formulations of picloram (e.g., Tordon 22K) are slightly to practically non-toxic to mammals and birds. Because treatment areas would be small, generally associated with development facilities and concentrated human activity, and little attraction for animal occupation, it is inconceivable that resident animals would be exposed to potentially damaging levels of herbicide. Although chemical treatment would likely suppress or destroy desirable broadleaf vegetation interspersed with weeds, timely control of small or confined infestations would ultimately benefit all wildlife values by minimizing the extent of subsequent herbicide treatment and maintaining the diversity and productivity of affected rangeland vegetation.

Summer control activities would be short term and dispersed and would not normally represent activity levels or time frames that would be deleterious to sensitive habitats and/or breeding activities of big game, grouse, or raptor. In the event raptor nest activity is discovered within treatment areas, restrictions on motorized application equipment and approach to the nest site would be applied until nest functions are complete.

Knapweed infestations are currently best associated with disturbed acreage and wildfires, and are often found on droughty, sparsely vegetated sites. Because nongame and small game mammal and bird populations tend to be more abundant and diverse as vegetation volume and structural complexity increase, the likelihood of control activities

substantially involving reproductive habitats or functions of nongame and small game wildlife is low. Short duration and localized herbicide applications or mechanical removal activities during early to mid-summer may cause temporary displacement of adult animals from adjacent habitats, but these episodes would have no reasonable probability of adversely affecting local reproductive efforts or recruitment. Because these weeds have little, if any, functional value as foraging or nesting substrate and suppress native vegetation by dominating sites of infestation, localized and temporary control activities are viewed as a desirable trade-off in preventing further seed dissemination and continued expansion of weed-related influences.

Environmental Consequences of the No Action Alternative: Unabated, the spread of these weeds across the landscape would eventually necessitate broad scale herbicide application which would inescapably involve more severe wildlife concessions manifested by more extensive and longer term losses of forage and cover provided by broadleaf woody and herbaceous vegetation and increasing and expansive levels of control activity.

Isolated knapweed infestations, although not now exerting any marked influence on adjacent rangeland communities, represent potential for exponential spread and becoming an influential herbaceous component. The ultimate quality and utility of adjacent habitats would become increasingly compromised as degradation of broadleaf composition and diversity progressed. Eliminating this threat while the weed is generally confined to inconsequential acreage is vastly superior to the alternative of widespread herbicide application across the landscape and its functional wildlife habitats.

Mitigation: See mitigation and stipulations identified in the proposed action.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): Currently, Standard 3 is being met broadly across the Resource Area. Resident wildlife populations are appropriate to the region and there are no known instances where population viability is in question. The extent and distribution of suitable habitat is generally stable and consistent with landscape capability. Recognizing the progressive deterioration of rangeland habitats attributable to the proliferation of noxious weeds, a prominent indicator for determining Public Land health, involves management that minimizes noxious and undesirable weed expression in the overall plant community. The proposed action complements this goal and, as mitigated, has appropriate safeguards that would effectively avoid those influences chemical exposure may have on individual animals or habitat conditions, thereby maintaining a situation where the standard would continue to be met through time. Conversely, the no action alternative would promote incremental increases in acreage supporting weed monocultures, and over time, increasingly large landscape parcels would fail to meet this standard.

OTHER NON-CRITICAL ELEMENTS: For the following elements, those brought forward for analysis will be formatted as shown above.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation		X	
Cadastral Survey	X		
Fire Management	X		
Forest Management			X
Geology and Minerals	X		
Hydrology/Water Rights		X	
Law Enforcement		X	
Paleontology			X
Rangeland Management			X
Realty Authorizations	X		
Recreation		X	
Socio-Economics		X	
Visual Resources		X	
Wild Horses			X

FOREST MANAGEMENT

Affected Environment: The resource areas predominate vegetation type is pinyon/juniper. Cottonwood stands are found along the White River and Douglas creek. Elevations above 7400 feet contain a combination of Douglas-fir, Blue and Englemann spruce, and subalpine fir. The knapweed species probably have the ability to grow in all of these forest and woodland sites but may be suppressed by shade within dense forest stands. All of the knapweed species are adapted to growth in pinyon/juniper woodlands.

Environmental Consequences of the Proposed Action: There is no information about the allelopathic effects of knapweeds on forest or woodland tree species, although it can be inferred that reproduction would be decreased. The use of Tordon has killed both pinyon and juniper with aerial applications. In the cases noted both Tordon and 2,4-D were applied aurally for the control of leafy spurge, and this amounted to a broadcast application to the foliage. Ground application around pinyon and juniper has not been shown to affect pinyon and juniper.

Environmental Consequences of the No Action Alternative: Russian, Spotted and Diffuse Knapweed henbane would continue to spread through forest stands dominating under story species. There is the possibility that the knapweed species can depress reproduction of forest and woodland species.

Mitigation: None

PALEONTOLOGY

Affected Environment: Within the Field Office area the BLM has classified the Chinle, Glen Canyon, Morrison, and Cedar Mountain. Mowry Shale, Parachute Creek Member of the Green River Formation, Wasatch and Brown's Park formation have been classified as Category I formations meaning that they are known to produce scientifically important fossil resources. These formations are exposed throughout the field office area and could potentially be affected by cultivation control techniques.

Environmental Consequences of the Proposed Action: Impacts to paleontological resources would generally be similar to those described for cultural resources where the rock matrix is highly eroded and fossils are exposed on the surface. Fossils still embedded within the rock matrix would probably not be affected by the proposed action.

Environmental Consequences of the No Action Alternative: There would be no impacts to paleontological resources under the No Action Alternative.

Mitigation: See the mitigation described in the proposed action.

RANGELAND MANAGEMENT

Affected Environment: The project area contains a variety of vegetation types and intermixes. The knapweed species are adapted to growing and spreading through the majority of the vegetation types of the resource area. Knapweed is a ground dominating species with allelopathic characteristics. Knapweeds have the ability to become monotypic stands which provide very limited forage value for cattle operations, particularly in comparison with the native communities.

For the most part, cattle operations have been the most affected by Russian, Spotted and Diffuse Knapweed. This occurrence has had more to do with the source of infestation than livestock kind.

Environmental Consequences of the Proposed Action: Tordon is specific to broadleaf plants. This specificity allows the pest plants to be controlled while leaving the grasses relatively unaffected. With the pest plants removed, the remaining grass species increase in dominance, which decreases the establishment of weed seedlings. Also, as a result of these herbicides specificity to broadleaf's there will be a loss of native broadleaf species, annuals and perennials.

Environmental Consequences of the No Action Alternative: Controlling Russian, Spotted and Diffuse Knapweed is critical to maintaining the forage resource on which livestock operations are dependant. There have been no studies or personal observations where Russian, Spotted and Diffuse Knapweed have been controlled by grazing management alone. Without direct control these noxious weed species spread readily and increase in

ground cover. As Russian, Spotted and Diffuse Knapweed competition with native vegetation increases, composition, cover and production of native species decreases dramatically. Loss of forage and resulting decreases in livestock numbers would significantly negatively impact the operators on the affected allotments.

Mitigation: See mitigation and stipulations identified in the proposed action.

WILD HORSES

Affected Environment: Wild horses are managed, and are widely distributed throughout the year, on 190,130 acres within the project area. During the spring foaling season wild horse foals rely on mixed shrub communities for cover and protection. Grasses equate to as much as 90% of wild horse diet. The exception to this is in the winter months, during periods of heavy snow accumulation, when wild horses can rely primarily on browse plant species. Russian, Spotted and Diffuse Knapweed do not contribute to the forage or cover needs of wild horses. Continued increases of invasive weed colonies degrade the plant communities relied upon by wild horses.

Environmental Consequences of the Proposed Action: Eliminating knapweeds while they are confined to specific areas would result in increased desirable forage and so would directly benefit the wild horse herd. Conscientious application of the pesticides analyzed in this EA is not expected to adversely impact the health of the wild horse herd, or individual animals within the herd. Selective spraying is not expected to significantly decrease the cover relied upon by wild horse foals.

Environmental Consequences of the No Action Alternative: The continued encroachment of invasive weed species would decrease the availability of desirable grass and brows plant species relied upon by the wild horse herd. Future control of the weeds would require broad applications of pesticide which could result in the loss of cover for wild horse foals and decreased forage for the herd.

Mitigation: None

CUMULATIVE IMPACTS SUMMARY: Proliferation of Noxious Weeds is a problem throughout the State of Colorado and the Western United States. Control of Russian, Spotted and Diffuse Knapweed within the White River Resource Area, as is the intention of the proposed action, would contribute to State-wide and Nation-wide efforts to reduce this proliferation and its impacts on the environment and natural resources.

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Carol Hollowed	Hydrologist	Air Quality
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern
Tamara Meagley	Natural Resource Specialist	Threatened and Endangered Plant Species
Michael Selle	Archaeologist	Cultural Resources Paleontological Resources
Robert Fowler	Forester	Invasive, Non-Native Species
Ed Hollowed	Wildlife Biologist	Migratory Birds
Ed Hollowed	Wildlife Biologist	Threatened, Endangered and Sensitive Animal Species, Wildlife
Marty O'Mara	Petroleum Engineer	Wastes, Hazardous or Solid
Carol Hollowed	Hydrologist	Water Quality, Surface and Ground Hydrology and Water Rights
Robert Fowler	Forester	Wetlands and Riparian Zones
Chris Ham	Wilderness Specialist	Wilderness
Carol Hollowed	Hydrologist	Soils
Robert Fowler	Forester	Vegetation
Ken Holsinger	Natural Resource Specialist	Fire Management
Robert Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Robert Fowler	Forester	Rangeland Management
Penny Brown	Realty Specialist	Realty Authorizations
Chris Ham	Outdoor Recreation Planner	Recreation
Scott Pavey	Planning and Environmental Coordinator	Access and Transportation
Chris Ham	Outdoor Recreation Planner	Visual Resources
Valerie Dobrich	Natural Resource Specialist	Wild Horses

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Finding of No Significant Impact/Decision Record
(FONSI/DR)

CO-110-2004-050-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed, resulting in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION AND RATIONALE: It is my decision to implement the proposed action for the control of Russian, Spotted and Diffuse Knapweed using cultivation and herbicidal control. This alternative is approved, subject to the mitigation, stipulations, and safeguard measures identified in proposed action and the Final Environmental Impact Statement Vegetation Treatment on BLM Lands in Thirteen Western States (1991). With these mitigation, stipulations and safeguard measures, the potential environmental impacts from implementing the proposed action are expected to be minimal. Control of noxious weeds is in compliance with the White River ROD/RMP which identifies an objective to “Manage noxious weeds so that they cause no further negative environmental, aesthetic or economic impact”.

NAME OF PREPARER:

NAME OF ENVIRONMENTAL COORDINATOR:

SIGNATURE OF AUTHORIZED OFFICIAL:

Field Manager

DATE SIGNED: