

**U.S. Department of the Interior
Bureau of Land Management**

**Environmental Assessment
White River Enhancement Project
DOI-BLM-UT-G010-2014-009-EA**

BLM

PREPARING OFFICE

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Environmental Assessment
White River Enhancement Project
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Prepared by
U.S. Department of the Interior
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Vernal, Utah

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Finding of No Significant Impact

Based on the analysis of the White River Enhancement Project potential environmental impacts as contained in DOI-BLM-UT-G010-009-EA, I have determined that the proposed action will not have any significant impacts on the environment and an environmental impact statement is not required.

Signature:

Approved by: Michelle Brown 5/7/14
Michelle Brown [Date]
Assistant Field Manager for
Renewable Resources

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Findings of the Significance Impact

As required by the Act, the Commission has conducted a study to determine the significance of the proposed project. The Commission has found that the proposed project is likely to have a significant impact on the environment.

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Decision Record

Selected Action

Decision: Based on my understanding of the information contained in the *White River Enhancement Project EA* and my subsequent finding of no significant impact, it is my decision to authorize the actions needed to remove Russian olive and tamarisk as set out in DOI-BLM-GO10-2014-0009 EA

The following actions will be realized:

- Cutting the trees using chainsaws.
- Dripping herbicide (Aquamaster®) on the stump.
- Painting the herbicide around the cambium using paint brushes. The cut debris would be scattered, piled, or chipped. In the following years, treatment sites would be revisited on an annual to bi-annual basis and any re growth treated with herbicide (Habitat®).
- Follow-up treatments would be applied using backpack sprayers. Any re-sprouts occurring within 10 feet of the water's edge would be re-cut and receive wick application to the twig stumps. Weed wrenches may be used to pull saplings from the ground.
- Areas where the native vegetation or seed source is insufficient to provide recovery, seeding with native noxious weed free seed or planting of trees and shrubs grown from local stock will be used to re-establish the native plant community.

Conditions of Approval

Implementation of the proposed action will result in the improvement towards a vigorous and healthy riparian corridor along the White River. The treatment will result in the following positive result:

1. There would be increased forage for both livestock and big game species.
 2. Habitat values for livestock and riparian obligate species would be improved.
- The BLM will follow product label instructions for use and storage of herbicides, surfactants, and other chemicals (e.g., Hi-Light dye).
 - Only licensed applicators will apply herbicides. Licensed applicators are those who have a current license from the Utah Department of Agriculture, or BLM certification.
 - Herbicides will not be applied during adverse weather conditions or high risk contamination scenarios. Herbicide applications will not occur if adverse weather conditions are expected within 2 hours.
 - Foliar herbicide applications will not occur when wind speeds exceed 6 miles per hour.
 - Herbicides, surfactants and other chemicals will be stored and mixed at least 50 feet from the edge of any body of water and outside of the riparian zone.

- For cut stump treatments, applications of Aquamaster® herbicide at a 0 to 50% dilution will occur immediately after the cut (within two minutes) with soap bottles and paint brushes to drip and brush the herbicide on the cambium of the cut stump.
- Foliar applications of herbicide will occur in follow-up treatments using Habitat herbicide with the surfactant, methylated seed oil (MSO).
- To reduce potential drift during foliar applications, the BLM will: 1) apply the largest droplet size possible that also provides sufficient coverage and control, 2) not apply herbicides during inversions
- Herbicides may be painted (brushed) onto cut stumps up to the water's edge, provided the chemicals are not applied directly above the water.
- Resprouts within 10 feet of the water's edge will not be treated with foliar applications, but will be cut and the twig stumps painted with herbicide.
- If boats are used to transport herbicides down the river, chemicals will be stored in waterproof containers and secured to the boats in an upright position. The waterproof container will be hauled to an upland area on shore before taking out the chemicals for application or mixing.

The following BLM committed conservation measures will be used to avoid disturbing yellow-billed cuckoo and other migratory birds during the breeding season.

The BLM will continue to conduct annual yellow-billed cuckoo surveys within the White River corridor. Depending on the results of those surveys, and if it is determined the species is nesting, then project activities may or may not proceed within ¼ mile of the nest.

The following BLM committed conservation measures will be used to protect raptors.

- In areas of where project activities are anticipated to occur during February 1 – August 31, the BLM will complete raptor nesting surveys. Depending on the results of those surveys, project activities may or may not proceed within the species-specific buffer.

Rationale:

My decision to authorize implementation of the proposed action alternative will not result in any undue or unnecessary environmental degradation to wilderness characteristics, threatened or endangered species, cultural resources, or matters pertaining to Native American religious freedoms or their customs. Realization of the proposed action is in conformance with the existing Vernal RMP (2008) and is consistent with the Uintah County Land Use Plan. The No Action Alternative was not selected because that alternative would not meet the stated purpose and need of restoring native plant species to the White River.

Land Use Plan Compliance

Realization of the proposed action is in conformance with the existing Vernal RMP (2008) and is consistent with the Uintah County Land Use Plan.

Public Involvement:

The proposed project was posted to the eplanning NEPA website. No public inquiries were received. A public comment period was not held due to the project being similar to other weed control projects in the Basin.

Appeal or Protest Opportunities:

The decision or approval may be appealed to the Interior Board Of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR 4.21. Within 30 days of receipt of the decision, an appeal must be filed to: Interior Board of Land Appeals, Office of Hearings and Appeals, U.S. Department of the Interior, 801 North Quincy St., Suite 300, Arlington, Virginia, 22203. A copy of the notice of appeal must also be filed in the Vernal Field Office at 170 South 500 East; Vernal, Utah, 84078, as well as with: Office of the Solicitor, 125 South State Street, Suite 6201, Salt Lake City, Utah, 84138. Public notification of this decision will be considered to have occurred on , July 16, 2013. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition for stay pursuant to 43 CFR 3150.2(b), the petition for stay should accompany your notice of appeal and shall show sufficient justification based on the following standards:

1. The relative harm to the parties if the stay is granted or denied,
2. The likelihood of the appellants success on merits,
3. The likelihood of irreparable harm to the appellant or resources if the stay is not granted, and
4. Whether the public interest favors the granting of the stay

Signature:



Michelle Brown
Assistant Field Manager for Division of Resources

5/7/14
Date

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1980-1981

The following information was obtained from the records of the
Department of the Interior, Bureau of Land Management, and the
Bureau of Reclamation, regarding the land parcels described
herein.

Section 16, Township 12N, Range 10E, T12N, R10E, S4

The land parcels described herein are located in the
County of [Name], State of [Name]. The parcels are
situated in the [Name] area, and are bounded by
[Name] to the north, [Name] to the south, [Name] to the east,
and [Name] to the west. The parcels are situated in the
[Name] area, and are bounded by [Name] to the north,
[Name] to the south, [Name] to the east, and [Name] to the west.

The parcels are situated in the [Name] area, and are bounded by [Name] to the north, [Name] to the south, [Name] to the east, and [Name] to the west.

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The parcels are situated in the [Name] area, and are bounded by [Name] to the north, [Name] to the south, [Name] to the east, and [Name] to the west.

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Chapter 1. Introduction

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1.1. Background

Russian olive and tamarisk are invasive trees that have become established on many rivers, tributaries and drainages throughout the West. Russian olive and tamarisk outcompete native species, forming dense mono-cultures that crowd and shade out native riparian forage which results in reduced plant and wildlife diversity. Tamarisk and Russian olive establish dense communities in corridors bordering the riparian waterways that close off access to recreational opportunities like fishing and bird watching. Dense thickets produce an aggressive fuels accumulation and create wild fire hazard along the drainages and rivers. Russian olive and tamarisk are listed on the Uintah County Noxious Weed List.

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of the White River Enhancement Project, which includes an Integrated Pest Management (IPM) approach to the removal of Russian olive (*Elaeagnus angustifolia*) and tamarisk (*Tamarix ramosissima*) along the White River Corridor. The BLM, in cooperation with other federal, state, and local agencies, proposes to mechanically and chemically remove Russian olive and tamarisk from the lands located within the White River Corridor (WRC) (see Figure 1.1, “Project Area Map” (p. 2)) because the Federal Land Policy and Management Act of 1976 (FLPMA) requires the BLM to manage the multiple-uses of the public lands, including range, wildlife and natural values, without permanent impairment. Additionally, the project is intended to meet the goals of the Vernal Resource Management Plan, which directs management of the area proposed for treatment to ensure that management of native plant species enhances, restores, and does not reduce the biological and genetic diversity of natural ecosystems.

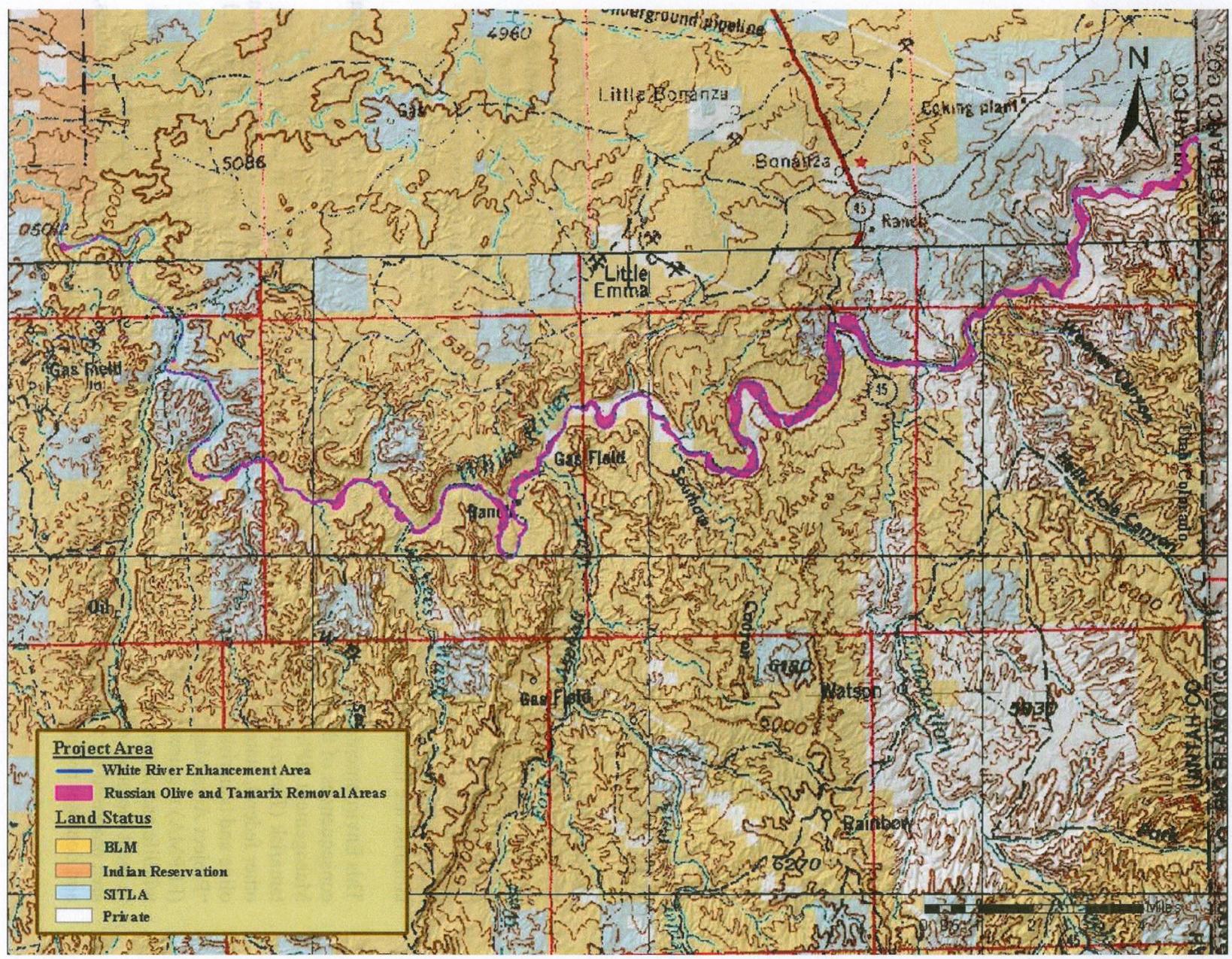


Figure 1.1. Project Area Map

The project would be conducted in multiple phases starting at the upper reaches of the project area and progressing down toward the Green River, also known as a top-down approach. This type of approach would reduce/eliminate a vast amount of seeds that continue to be transported by water flows from the tributaries into the White River. The goal is to eradicate Russian olive and tamarisk from the WRC.

These species have had a negative impact on the WRC including loss of habitat biodiversity, aggressive fuels accumulation, river channel narrowing, and negative impacts to water quality. The WRC has become increasingly dominated by the invasive species of Russian olive and tamarisk. While this project may not address all the issues affecting downstream water quality it is anticipated that it would improve water quality to some extent.

The EA is a site-specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the proposed action. The EA assists the Bureau of Land Management (BLM) in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions. "Significance" is defined by NEPA and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of "Finding of No Significant Impact" (FONSI). A FONSI statement documents the reasons why implementation of the selected alternative would not result in "significant" environmental impacts (effects) beyond those already addressed in the Vernal Resource Management Plan (VRMP) (BLM, 2008). If the decision maker determines that this project has "significant" impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision Record may be signed for the EA approving the selected alternative, whether the proposed action or another alternative.

1.2. Identifying Information:

1.2.1. Title, EA number:

White River Enhancement Project

DOI-BLM-UT-G010-2014-009 EA

1.2.2. Location of Proposed Action:

Uintah County, Utah

Township (T) 9 South (S), Range (R) 22 East (E), Section 26, 27, 28, 34, and 35;

T10S, R22E, Section 2, 11, 12, 13, 14, 23, and 24;

T10S, R23E, Section 12, 13, 18, 19, 20, 22, 23, 24, 26, and 28;

T10S, R24E, Section 1, 2, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 21, and 22;

T10S, R25E, Section 5, 7, and 8;

T9S, R25E, Section 22, 23, 24, 25, 26, 27, 32, 33, and 34;

Salt Lake Base and Meridian

1.3. Purpose and Need for Action:

The need for the proposed action is to reduce/eliminate Russian olive and tamarisk throughout the WRC. The purpose of the proposed action is to improve the riparian condition, improve wildlife forage, increase native plant and wildlife diversity, reduce the fuel load, improve water quality, and improve the hydrological condition where possible.

1.4. Scoping, Public Involvement and Issues:

The proposed project was posted to the ePlanning NEPA Register. No inquiries from the public were received.

A BLM interdisciplinary team reviewed the proposal and identified and analyzed the resources that would be impacted by the project. Their review, and the issues identified, are documented in Appendix A, *Interdisciplinary Team Checklist* (p. 55).

Chapter 2. Proposed Action and Alternatives

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2.1. Description of the Proposed Alternative:

The Proposed action includes an integrated pest management approach using a variety of tools to achieve the project objectives. Under the Proposed Action, the BLM, in cooperation with other federal, state, and local agencies, proposes to mechanically and chemically remove approximately 1,209 acres of Russian olive and tamarisk from the lands located within the WRC during the spring through fall months. The project area is located in Uintah County. Total river miles for the project area are 47.8 river miles which consists of multiple land ownerships (54% is BLM, 24% is private, 12% is SITLA, and 10% is Indian Trust). The main focus of the proposed action will include BLM administered lands. However, this EA analyzes impacts to all land ownerships within the WRC as project activities may occur on private, SITLA, and tribe lands through other agreements or contracts that may arise. It is acknowledged that not all land ownerships may participate in the project as they may decline the opportunity for proposed treatments on their lands; therefore, project activities would not occur in those areas.

Due to the scale of the project, removal may have to be done over the next ten years as funding and time will allow. Burning of piles are anticipated to take place during early fall to early spring outside of the vegetative growing season. Some tamarisk will be cut and discarded into the river. The majority of the project area will have to be accessed by the river, via rafts. Chemicals would be secured in the rafts in waterproof containers. Standard Operating Procedures (SOPs) will be followed as outlined in the 2007 Programmatic Environmental Impact Statement for Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States (PEIS) (BLM 2007). Removal of the Russian olive and tamarisk would be achieved using different methods depending on the size and the density of the trees:

For areas where there are scattered trees, there would be minimal to no surface disturbance. Scattered trees are defined as having a minimum distance of 75 foot between trees.

1. Cut-stump and lop and scatter for trees up to eight inches in diameter with chain saws, hand saws and loppers.
2. Frill-cut and leave standing for trees greater than eight inches in diameter

Cut-stump treatment is accomplished by cutting the tree down, leaving a flat stump approximately six to eight inches tall and applying an approved herbicide to the cambium layer and outer bark. Frill-cut treatment is accomplished by scoring the tree while standing and applying an approved herbicide directly to the scored area. The tree is left standing during the frill-cut treatment.

For areas where there are dense thickets of trees, there would be greater surface disturbance.

1. Cut and pile for burning or chipping the excess fuel load.
2. Use mechanized equipment where there is vehicle access to the site and disposing of the biomass by leaving in place or removing it.

For areas where there are developed and/or dispersed recreation sites (Cowboy Canyon, Goblin City Trail, Asphalt Wash, Atchees Wash, Enron Boat Ramp and Campsite, etc...) visual and recreation impacts would be minimized.

1. All trees would be cut, piled and burned at least 100 feet from the site.
2. All remaining stumps would be low cut.

3. Firewood would be made available at campsites where feasible.
4. Monitoring of recreational and visual impacts would be completed annually throughout project implementation

A cultural inventory would be completed prior to removal of the Russian olive and tamarisk on historic floodplains and in areas where there would be surface disturbing activities that have the potential to cause erosion (i.e., mechanical treatments, pile burning, etc.). If cultural resources are found, non-surface disturbing treatments will be used to avoid negative impacts to cultural resources.

Only registered herbicides that are approved for use on BLM land and applied according to the label would be used. Herbicide would be applied to the cut stumps and the frill cuts with a small hand can sprayer with Viton seals, squirt bottle, paint brush, syringe or injector. Herbicide would be used for any future re-treatments that may need to be done.

The following is a list of herbicide that would be used for this project:

- Aquamaster® by Monsanto Company: EPA Reg. No. 524-343
Active Ingredient: Glyphosate
Formulation: 4 pounds of Acid Equivalent (AE) per gallon
Maximum BLM application rate: 7 pounds AE per acre (7 quarts per acre)
- Habitat® by BASF Corporation: EPA Reg. No. 241-426
Active Ingredient: Imazapyr
Formulation: 2 pounds AE per gallon
Maximum BLM application rate: 1.5 pounds AE per acre (3 quarts per acre)
- Rodeo® by Dow AgroSciences: EPA Reg. No. 62719-324
Active Ingredient: Glyphosate
Formulation: 4 pounds of AE per gallon
Maximum BLM application rate: 7 pounds AE per acre (7 quarts per acre)
- Garlon® 3A by Dow AgroSciences: EPA Reg. No. 62719-37
Active Ingredient: Triclopyr
Formulation: 3 pounds of AE per gallon
Maximum BLM application rate: 10 pounds AE per acre (3.3 gallons per acre)

All herbicides are registered and approved for use near, over and in water to control a wide variety of noxious plants. Aquamaster®, Rodeo®, and Garlon® 3A would be used for cut-stump and frill cut treatments. Habitat® and Garlon® 3A would be used for foliar retreatment of the Russian olive and tamarisk. Habitat® could be used as well to treat other invasive/noxious species that may occur as a result from implementation of the project.

Global Positioning System (GPS) mapping would be conducted prior to implementation of the project to determine the density and location of the Russian olive and tamarisk along with any other invasive/noxious weed species that may occur in the project area. Already, there has been some mapping completed that shows locations and densities of Russian olive and tamarisk in parts of the WRC.

Monitoring sites would be established randomly or by utilizing existing photo sites locations to determine the success and any re-growth that has occurred in Russian olive and tamarisk treatment areas. Monitoring would be done to ensure that other invasive and/or noxious weeds do not become established. If other invasive and/or noxious weeds are present, herbicide, biological and/or manual control methods would be used to control or eliminate those populations.

It is not anticipated that revegetation would be required in the areas where the density of Russian olive and tamarisk is low due to the fact that the native vegetation and seed sources are sufficient to provide recovery. However, in areas where the Russian olive and tamarisk have out competed native vegetation (areas of high density), revegetation efforts may be required to reestablish native vegetation communities; methods to be used would include bare-root stock from the area. If revegetation efforts occur, livestock and recreation restrictions may be imposed, until vegetation is established in the treated area.

2.2. Description of the No Action Alternative:

Under this alternative, no large scale Russian olive and tamarisk removal actions would occur. Russian olive and tamarisk would continue to flourish along the White River and its tributaries, continuing to reduce the condition of the riparian areas, the native plant and wildlife diversity, forage, agricultural production, grazing, recreational opportunities and increasing the hazardous fire/fuels load.

2.3. Conformance

The proposed action and alternatives described above are in conformance with the Vernal Resource Management Plan and Record of Decision (ROD), approved October 2008. Although the proposed action and alternative(s) are not specifically mentioned in the plan, they are consistent with its objectives, goals and decisions. In the ROD, the following decisions are stated on pages 78, 114, 135,144, and 148.

2.3.1. Vernal Resource Management Plan

VEG-1: Allow mechanical, fire, biological, or chemical control of noxious weeds and insect infestations within the resource planning area with restrictions to protect desired ground cover and water quality. Use the type of manipulation appropriate to and consistent with other land use objectives.

VEG-2 Continue implementation of noxious weed and invasive species control actions as per national guidance and local weed management plans in cooperation with state, federal, affected counties, adjoining private landowners and other partners or interests directly affected.

VEG-3 Utilize principles of integrated pest management for control and management of noxious weeds and invasive species. This includes prevention, control through mechanical, cultural, biological, and chemical methods.

WL-34 Prevent the spread of non-native plants, especially cheatgrass, tamarisk, and Russian olive to maintain and enhance the habitat of neotropical migratory birds.

WL-35 Strive for a dense understory with a reduction in tamarisk and improvement of cottonwood regeneration to maintain and enhance the habitat of neotropical migratory birds.

WDF-3 Allow for the management of cottonwood and other species to restore, enhance, and maintain riparian vegetation.

RIP-4 Restore and/or re-establish cottonwood, willow, and other riparian species along major riparian and other wetland areas.

FIRE-4: Hazardous fuel reduction activities will be implemented primarily through the use of prescribed fire and managed wildland fire. In some cases, chemical and/or mechanical treatments will be used in conjunction with fire. Where social and/or resource constraints preclude the use of fire, mechanical and/or chemical treatments will be used.

WC-3: When compatible with the goals and objectives of management of non-WSA lands with wilderness characteristics permit vegetation and fuel treatments using prescribed fire, mechanical and chemical treatments, and other actions compatible with the Healthy Lands Initiative.

The proposed action would not conflict with other decisions throughout the plan.

Clean Water Act: It is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved.

Utah Administrative Code R68-9, Utah Noxious Weed Act (as in effect April 1, 2009): The Utah Noxious Weed Act states that it is the duty of every property owner to control and prevent the spread of noxious weeds on any land in his possession, or under his control. Tamarisk is listed as a noxious weed in the State of Utah.

2.3.2. Programmatic Vegetation Environmental Impact Statement

In 2007, the BLM completed the PEIS. The ROD was signed in September 2007. The ROD contains Standard Operating Procedures, Prevention Measures, and Mitigation Measures including those that were required by the U.S. Fish and Wildlife Services (USFWS). This EA incorporates by reference the PEIS Record of Decision. When applying herbicides for this project, the Standard Operating Procedures, Prevention Measures, and Mitigation Measures from the PEIS ROD will be followed.

Chapter 3. Affected Environment:

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This chapter describes the affected environment, the current condition of the resources potentially impacted by the proposed project. This chapter sets the baseline for the impact analysis in Chapter 4.

3.1. BLM Natural Areas

The project area includes sections of the White River Natural Area (6,680 acres). This area was carried forward in the RMP for the protection of its wilderness characteristics and for the management of its primitive recreation opportunities. This area has a high potential for the occurrence of oil and gas resources, and is managed with a “No Surface Occupancy” stipulation and no waivers, exceptions or modification for oil and gas leasing. It is also considered an avoidance area for rights-of-way.

3.2. Designated Areas: Lands with Wilderness Characteristics (LWC)

The White River runs through part of the 21,210 acres White River Unit which was surveyed and found to possess wilderness character. A portion of this area was then carried forward in the RMP as a Natural Area (see the previous section). The RMP decided to not manage the remainder of this area for wilderness characteristics due to the existence of oil and gas leases in the area. However, on the majority of these lands, wilderness characteristics and primitive recreation opportunities still exist because the leases have not yet been developed.

3.3. Invasive Plants/Noxious Weeds (EO 13112), Soils, and Vegetation

Native species present within the project area include the natives coyote willow: (*Salix exigua*), Fremont cottonwood (*Populus fremontii*), skunkbrush (*Rhus trilobata*), inland saltgrass (*Distichlis spicata*), and sedges (*Carex* spp.). Non-native weeds documented within the flood plain of the White River include Russian olive (*Elaeagnus angustifolia*), tamarisk (*Tamarix ramosissima*), Canada thistle (*Cirsium arvense*) and broadleaved pepperweed (*Lepidium latifolium*)

The soils within the WRC are mapped by the NRCS soil surveys with the major soil type along the corridor listed as Green River-Fluvaquents. The Green River component of the soil is typified as alluvium derived from sandstone and shale. The drainage class is moderate to low and runoff potential is very low and flooding is rare. The vegetation potential for Green River soils are bluegrass, sandbar willow, Fremont’s cottonwood and inland saltgrass.

The Fluvaquents component of the soils within the WRC are derived from sandstone, limestone, shale and quartzite, and have the characteristics of being highly erosive and are subject to frequent flooding. The vegetative potential for Fluvaquents soils are cattail, rush, sedge, willow and common reed.

3.4. Plants: Utah BLM Sensitive

Barneby’s catseye (*Cryptantha barnebyi*)

Barneby's catseye is a Utah BLM sensitive plant species, endemic to the Uinta Basin. This member of the borage family is a perennial herb growing 15 to 35 cm tall, covered in yellow-bristly hairs. Flowers develop from May to June. The species grows on white shale knolls of the Green River formation in association with shadscale, rabbitbrush, sagebrush, and pinyon-juniper plant communities at 5,000 to 7,900 feet elevation.

Suitable habitat for Barneby's catseye does not occur within the riparian zone of the White River, although suitable habitat may be immediately adjacent to White River riparian vegetation.

3.5. Plants: Threatened, Endangered, Proposed, or Candidate

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*)

Uinta Basin hookless cactus is a perennial herb and a member of the cactus family. It is federally listed as threatened and is endemic to the Uinta Basin. It consists of a perennial succulent shoot, solitary or rarely branching, globose, ovoid or cylindrical. Individuals are usually 3 to 9 centimeters in diameter and 4 to 12 centimeters tall. Each spine cluster, areoles, usually consists of one large (15 to 29 millimeters) central spine, three to four lateral central spines, and six to ten radial spines. From late April to May, Uinta Basin hookless cactus produces 2.5 to 5-centimeter high, pink to violet flowers.

Uinta Basin hookless cactus is a habitat generalist and can be found from clay badlands up to pinyon-juniper habitat. The preferred habitat occurs on river benches, valley slopes, and rolling hills consisting of xeric, fine textured, clay soils, derived from the Duchesne River, Green River, Mancos, and Uinta formations, overlain with a pavement of large, smooth, rounded cobble. The typical plant community in Uinta Basin hookless cactus habitat is the salt desert shrub community.

The western portion of the proposed project is located within an area that the US Fish and Wildlife Service (USFWS) has identified as being potential habitat for Uinta Basin hookless cactus. Although individuals have not been documented immediately adjacent to the White River, suitable habitat may occur near the 100-year floodplain of the White River.

Graham's Beardtongue (*Penstemon grahamii*)

Graham's beardtongue is a perennial herb and member of the plantain family (formally a member of the figwort family). It is currently proposed for listing as threatened species and is endemic to the Uinta Basin in northeast Utah and adjacent western Colorado. This member of the figwort family is perennial herb consisting of one to several shoots growing to 20 centimeters tall from a tap-rooted caudex. The species produces pinkish or lavender flowers from mid-May to mid-June.

Graham's beardtongue grows on weathered exposures of oil-shale associated with the Green River Formation between 4,600 and 6,800 feet elevation. Associated vegetation communities include: shadscale, *Eriogonum*, horsebrush, ryegrass, and pinyon-juniper communities. No Graham's beardtongue has been documented immediately adjacent to the White River, although suitable habitat may occur near the 100-year floodplain of the White River. Areas of proposed critical habitat overlap with the White River.

White River Beardtongue *Penstemon scariosus* var. *albifluvis*

White River beardtongue is a candidate for federal listing and is endemic to Uintah County, Utah and Rio Blanco County, Colorado. This member of the figwort family is a perennial herb with a

Chapter 3 Affected Environment:

Plants: Threatened, Endangered, Proposed, or Candidate

woody caudex and several clusters of 15 to 50 centimeter tall, upright stems that produces light blue to blue-lavender bilaterally symmetrical flowers from May to early June.

The species grows on sparsely vegetated, pale tan, shale slopes of the Green River formation at 5,000 and 6,800 feet elevation. Associated vegetation communities include shadscale, rabbitbrush, Indian ricegrass, ryegrass, sagebrush, Barneby's thistle, and pinyon-juniper communities. Suitable habitat for White River beardtongue does not occur within the riparian zone of the White River. However, there are some areas along the river where habitat is immediately adjacent to the riverbank, with a very narrow band of habitat that is suitable for Russian olive or tamarisk (see, for example, Figure 3.1, "Long-term demographic monitoring site for White River beardtongue, along the banks of the White River." (p. 15) and Figure 3.2, "Long-term demographic monitoring site for White River beardtongue, alternate view." (p. 16)). Areas of proposed critical habitat overlap with the White River.



Figure 3.1. Long-term demographic monitoring site for White River beardtongue, along the banks of the White River¹.

¹Photo courtesy of Red Butte Garden, 2011.

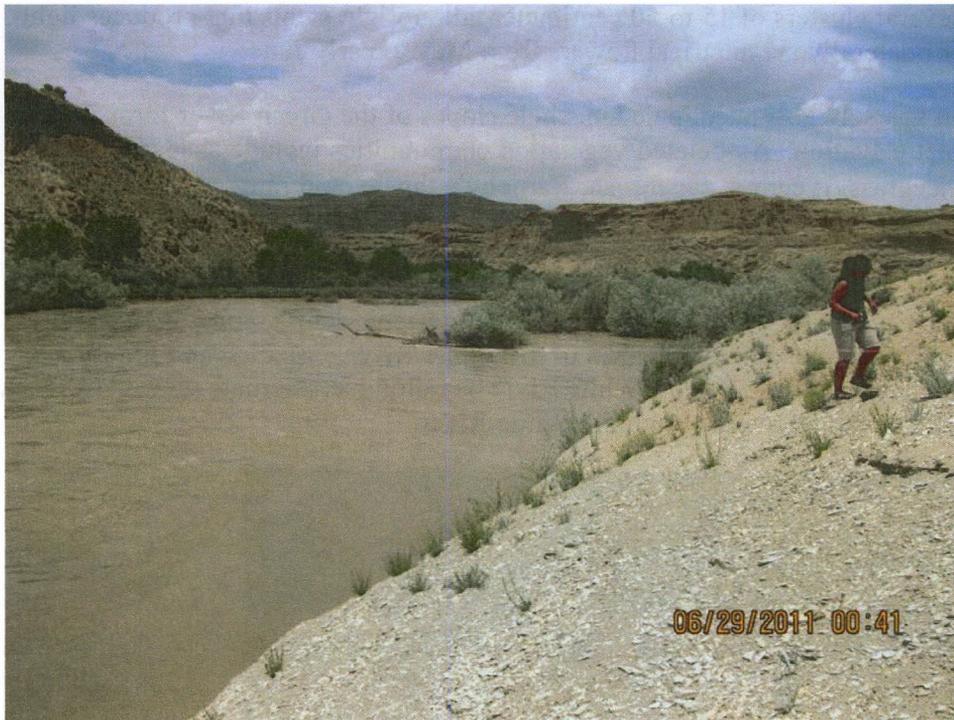


Figure 3.2. Long-term demographic monitoring site for White River beardtongue, alternate view².

Ute ladies-tresses (*Spiranthes diluvialis*)

Ute ladies-tresses is a perennial herb and a member of the orchid family. It is federally listed as threatened. It consists of an above-ground rosette of thickened grass-like leaves. From mid-July through August, it produces solitary flowering stems, terminating in a spike of 3 to 15 white to ivory flowers.

Ute ladies-tresses usually inhabits gravelly sand or sandy loam soils within wet meadows, stream or lake margins, abandoned stream meanders, riparian sandbars, and sub-irrigated springs and seeps, between 4,400 and 7,110 feet in elevation. In general, the species is intolerant of shade, preferring open grass, sedge, and forb-dominated sites. Ute ladies'-tresses is not known to occur within the lower White River subbasin in Utah.

3.6. Plants: Wetland/Riparian Zones

Riparian zones and riparian plant species are present along the entire route of the proposed project. Russian olive and tamarisk plants are present within the 100-year flood plain of the White River. These species out-compete native riparian plants, reduce riparian vegetation quality, and reduce the Proper Functioning Condition of the riparian vegetation.

²Photo courtesy of Red Butte Garden, 2011.

3.7. Recreation

The White River begins as snowmelt in mountain headwaters above Trapper Lake in Western Colorado. It ends at the confluence with Green River near the town of Ouray in Utah. Near the Utah-Colorado border the river flows through spectacular canyons cutting through the high desert planes of the Uinta Basin. Recreational visitors float the river in a wide variety of non-motorized watercraft, camping along the banks, and enjoying the abundant wildlife.

The proposed project includes sections of the 2,831 acre White River Special Recreation Management Area (SRMA.). This SRMA was designated to offer water based recreational opportunities on the White River and to provide protection of the cultural and natural resources found within the area. The designation of this SRMA enables the BLM to more actively manage the intensity, diversity, and potential incompatibility of recreation uses while protecting the resources that the visitors have come to enjoy.

Multiple dispersed campsites exist along the river corridor. Developed recreation sites exist in Cowboy Canyon, Goblin City Trail, Asphalt Wash, Atchees Wash, and at the Enron Boat Ramp and Campsite. The Goblin City Trail roughly follows the route taken by members of John Wesley Powells's second expedition in 1871. The strenuous two-hour hike, departing from Atchees Wash, leads to the overlook of the area providing views across a very narrow ridgeline with spires and towers the size of buildings.

Most people launch at the Bonanza Highway Bridge, 37 miles south of Vernal on Utah State Highway 45. The main take-out is located 35 miles downstream at a dirt graded ramp called the Enron take out. Facilities at the take out include a vaulted restroom and the developed campsites. Currently, the boat ramp at the Enron take-out has fallen into disrepair with heavy bank erosion.

The river trip can also be extended by launching 38 miles upstream from the Bonanza Bridge at the White Avenue Green Bridge near Rangely, Colorado. Cowboy Canyon is also a popular launch site approximately 8.5 miles upstream from the Bonanza Bridge. Rafters can also float downstream from the Bonanza Bridge to Sand Wash (the boat ramp to begin Desolation Canyon) and float for 91 miles.

The best time to take a trip down the river is during spring runoff from mid-April to mid-June when flows range between 1,000 and 2,400 CFS. Summer months are fine for canoeing, but bring plenty of insect repellent to ward off the hordes of gnats, deer flies, and mosquitoes. The first frosts typically occur in mid-September, filling the river corridor with fall colors. Fall flows of 400 CFS are common. The narrow braiding river corridor is best suited for smaller water craft (kayaks, etc...) during these times.

3.8. Visual Resource Management (VRM)

The project area occurs within the White River scenic quality rating unit (#36). This unit is a flat valley and river unit with steep to vertical walls and buttes (see Figure 3.3, "Landscape Character of the Project Area" (p. 18)). Vegetation includes pinyon juniper, sage, cottonwood, tamarisk, and olive. There are also seasonal flowers, globe mallow, and cheat grass. Development within the unit includes bridges, pipelines, two-track roads with pockets of oil and gas development. Most of the development is not visible. The Vernal Field Office visual resource inventory further describes the landscape character in the following table: Table 3.1, "Landscape Character (Features)" (p. 18)



Figure 3.3. Landscape Character of the Project Area

Table 3.1. Landscape Character (Features)

	Landform/water	Vegetation	Structure
Form	Flat valley, high buttes, moderately high canyon	Sinuuous along river, indistinct	Rectangular, cylindrical
Line	Undulating horizontal banding, vertical lines in out	Curvilinear along the river, indistinct in uplands	Vertical, horizontal, diagonal
Color	Brown, brown/red, tan	Gray, green, bright green, dark green	Beige, green, tan, gray
Texture	Uneven, moderate to high	Fine on slopes, moderate along river, clumped	Clustered

The Vernal RMP identified the project area as Visual Resource Management (VRM) Class II & III lands. The objective of VRM II is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer (river user). Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. New projects can be approved if they blend in with the existing surroundings and don't attract attention.

The objective of class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominate natural feature of the characteristic landscape. New projects can be approved that are not large scale, dominating features.

3.9. Water: Hydrologic Conditions (stormwater)

The White River Drainage proposed project area is located in the White-Yampa Basin and the Lower White Sub-basin. The White River is a tributary to the Green River with the confluence near Ouray, Utah. Surveys conducted by the USGS from 1976 to 1979 and from 1985 to 1993 noted a minimum daily sediment discharge of 12 tons on September 7th and 8th of 1989 and a maximum sediment discharge of 121,000 tons on August 8th of 1987 <http://wdr.water.usgs.gov/wy2009/pdfs/09306500.2009.pdf>. The Department of Environmental Quality—Division of Water Quality listed the White River as impaired <http://wq.deq.utah.gov/>. The White River cuts a trough in the high desert plain and is surrounded by large cliffs in the proposed project area. The surrounding area is composed of Badland-Montwel soils. These soils consist of very steep barren lands dissected by intermittent drainages. Runoff and erosion potential are both high.

3.10. Wildlife: Migratory Birds (Including Raptors)

All migratory birds and their nests are protected from take or disturbance under the Bald Eagle and Golden Eagle Protection Act (BEGEPA) of 1940 (16 U.S.C., 668-668d, 54 Stat. 250) and the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C., 703 et seq.). These protection laws were implemented for the protection of avian species. Unless permitted by regulations, it is unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any species covered under these Acts. In addition, Executive Order 13186 sets forth the responsibilities of federal agencies to further implement the provisions of these Acts by integrating bird conservation principles and practices into agency activities and by ensuring that federal actions evaluate the effects of actions and agency plans on protected avian species.

The BLM reviewed district files for raptor data and also completed raptor surveys during the spring and summers months of 2011-2013 along the White River corridor. Raptor surveys occurred for known nests located within ½ mile of both sides of the river banks. Known species identified nesting along the river corridor are bald eagle, golden eagle, great-horned owl, prairie falcon, and red-tailed hawk. During the survey period the BLM identified 38 known raptor nests (33 cliff nests and 5 tree nests). The nests located on cliff ledges are located either immediately adjacent to the project area or are located within ½ mile. The tree nests are located either within the project area or are immediately adjacent to the project area in large cottonwood galleries. Other raptor species observed foraging and which are likely nesting along the corridor are peregrine falcon and American kestrel. The following addresses migratory birds that may utilize the project area for nesting or foraging activities, including those species classified as Priority Species by Utah Partners-in-Flight

Pinion-Juniper/Desert/Shrub/Riparian Areas: American robin, American white pelican, bald eagle, blue-gray gnatcatcher, black-billed magpie, black-capped chickadee, black-chinned hummingbird, black-throated sparrow, bobolink, Brewer's blackbird, Brewer's sparrow, broad-tailed hummingbird, Cassin's finch, Cassin's kingbird, Clark's nutcracker, common raven, gray flycatcher, gray vireo, Lewis's woodpecker, Long-billed curlew, mountain bluebird, pinion jay, prairie falcon, rock wren, sage sparrow, sage thrasher, short-eared owl, song sparrow, Virginia's warbler, western kingbird, white-throated swift, Wilson's phalarope, and yellow-billed cuckoo (Parrish et al. 2002).

3.11. Wildlife: Non-USFWS Designated

General wildlife species (implying non-sensitive or not of considerable economic significance) likely to occur within the project area include cottontail rabbit, black-tailed jackrabbit, coyote, red fox, badger, striped skunk, and various species of amphibians and rodents. Though all of these species are important members of wildlife ecosystems, most are common and have widespread distributions within and surrounding the project area. Consequently, the relationship of most of these species within the project area are not discussed in the same depth as species that are federally listed, of sensitive status, or are of special economic interest that contain a unique value; therefore, further analysis will not be discussed in this document.

3.11.1. State Sensitive Fish Species

The BLM and Utah Division of Wildlife Resources (UDWR) have identified three Conservation Agreement Species as being within or immediately adjacent to the project area in the White

River and its 100 year floodplains, . These Colorado River Basin fish species are: bluehead sucker, flannelmouth sucker, and roundtail chub. The two suckers are a species of special concern, while the roundtail chub is a state-listed threatened species due to declining population numbers and distribution.

3.11.2. Bats

Lands within and adjacent to the project area contain roosting and foraging habitat for BLM and State wildlife species of concern such as the big free-tailed bat, fringed myotis, spotted bat, and Townsend's big-eared bat. Presence and absence surveys have not been completed for bat species within the White River corridor.

3.11.3. Big Game

Two resident big game species that commonly occur within the White River corridor are mule deer and Rocky Mountain elk. Rocky Mountain bighorn sheep are also found along the White River corridor, but on an infrequent basis. Habitat along the White River provides native, herbaceous vegetation for big game species. Much of the non-native and noxious vegetation, such as Russian olive and tamarisk, is currently out-competing the native species. The BLM's Land Use Plan (LUP) and the UDWR have identified approximately 1,045 acres of crucial fawning habitat for mule deer within the project area. In addition the UDWR has identified the project area as containing 1,209 acres of crucial habitat for Rocky Mountain bighorn sheep and crucial year-long deer and elk habitat.

3.12. Wildlife: Threatened, Endangered, Proposed, or Candidate

Section 7 (a) (2) of the Endangered Species Act (ESA) requires federal agencies to ensure that activities they authorize, fund, or carry out are not likely to adversely affect or jeopardize the continued existence of a federally-listed species or result in the adverse modification or destruction of its critical habitat. Regulations implementing this interagency cooperation provision of the ESA are codified at 50 CFR 402. In accordance with Manual 6840, BLM sensitive species are also managed to prevent future federal listing as threatened or endangered.

3.12.1. Federally Listed Fish Species

The USFWS has identified four federally listed fish species historically associated with the Upper Colorado River Basin, which includes the White River and its 100-year floodplains, as being within or adjacent to the project area: bonytail, Colorado pikeminnow, humpback chub, and razorback sucker. These fish are federally and state-listed as endangered and have experienced severe population decline due to flow alterations, habitat loss or alteration, and the introduction of non-native fish species.

3.12.2. Western Yellow-billed Cuckoos

The yellow-billed cuckoo is listed as a federal candidate species and is protected under the MBTA. Currently, yellow-billed cuckoos are being debated, with taxonomists differentiating the eastern and western yellow-billed cuckoos. Only the western yellow-billed cuckoo occurs

in Utah (UDWR 2013). Cuckoos are considered a riparian obligate and are commonly found in large areas of cottonwood and willow habitat types consisting of dense sub-canopies reaching approximately 33 feet in height (UDWR 2013). The only documented cuckoo surveys along the White River were conducted by BLM in June 2013. These surveys were conducted to identify presence and absence of the species within the corridor and not nesting. During these surveys, five cuckoo individuals were observed and two of the cuckoos were in a pair (as per BLM data); however it is unknown whether the cuckoos were migrants or if they were nesting residents.

Yellow-billed cuckoos are widespread in parts of their range, but populations have been declining in recent years throughout much of the range due to habitat loss and fragmentation (Huges 1999). On February 9, 1998, the USFWS received a petition to list the yellow-billed cuckoo as an endangered species. On February 17, 2000, the USFWS announced a 90-day petition finding (65 FR 8104) concluding that the petition presented substantial scientific or commercial information to indicate that the listing of the cuckoo may be “warranted, but precluded by higher priority listing actions. On July 25, 2001, the USFWS developed a 12-month petition to list the western yellow-billed cuckoo as a candidate species.

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Chapter 4. Environmental Effects:

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Chapter 4: Environmental Effects

4.1. Proposed Action

The following subsections contain a description of the environmental impacts anticipated to occur as a result of implementation of the Proposed Action.

4.1.1. BLM Natural Areas

Under the proposed action alternative, areas where non-natives are cut would retain evidence of human activity for a period up to several years, until native vegetation became reestablished. Evidence of pile burning would remain until natural weather events deteriorate the ash and soot. During periods of treatment activity, there would be an increased management presence in the canyon, reducing naturalness and opportunities for solitude. The sights and sounds associated with the use of chainsaws would also detract from opportunities for solitude and primitive or unconfined recreation. Upon completion of the project the naturalness characteristic of the area would be greatly improved by the promotion of native vegetation in the places of the existing Russian olive and tamarisks.

This project would be in compliance with the goals and objectives prescribed in the approved RMP including management decision MC-3. Which states, "When compatible with the goals and objectives for management of non-WSA lands with wilderness characteristics, permit vegetation and fuel treatment using prescribed fire, mechanical, and chemical treatments, and other actions compatible with the Healthy Lands Initiative (HLI)."

4.1.2. Designated Areas: Lands with Wilderness Characteristics (LWC)

Impacts would be the same as described in BLM Natural Areas Section 4.1.1, "BLM Natural Areas" (p. 25).

4.1.3. Invasive Plants/Noxious Weeds (EO13112), Soils, and Vegetation

Under the proposed action alternative, overstory and midstory vegetation would initially be lost due to the removal of Russian olive and tamarisk. However, replacement of these species with native tree and shrub species would occur naturally or through seeding or planting. Establishment of native vegetation would increase plant and animal diversity and improve forage and habitat for wildlife and livestock. Native vegetation may be damaged during the herbicide treatment, but we expect these species to recover over time. If native or desirable vegetation does not re-establish after two years, seeding or planting may occur at treatment locations. If additional noxious weeds establish in treated areas, re-treatment would occur to help native species establish. Treatment and removal of tamarisk and Russian olive is currently feasible, but postponing treatment and removal of these species could result in more costly and difficult, if not impossible, removal in the future.

Under the proposed action alternative, soil compaction, soil mixing and increased soil erosion could occur. Hand crews are the most common method for removal, therefore soil mixing and compaction would be non-existent-to-minor due to human footsteps. Soil erosion is a natural process within the WRC. In the sparsely infested reaches on the WRC, the soils erosion process is

natural and will not be affected through the removal of scattered trees. However, in the dense patches of Russian olive and tamarisks as observed on certain reaches of the White River, the establishment of tamarisks and Russian olives has altered the natural erosion patterns and flow of the river due to their ability to stabilize banks. If large-scale removal of the invasive trees occurs, there can be unintended large-scale soil loss due to loss of flexible woody material to slow the water down. This risk is limited because the watershed approach in the proposed action would implement removal in stages over several years so that only short stretches of banks will have potential for destabilization.

A successful project would restore natural ecological processes and increase native vegetative diversity; this could lead to improved soil condition and a return to more natural soil erosion processes in the White River Drainage. In addition, the floodplain could increase in width due to sediment loading in the newly established riparian areas, which would lead to a larger riparian zone.

4.1.4. Plants: Utah BLM Sensitive

Barneby's catseye (*Cryptantha barnebyi*)

Under the proposed action alternative, tamarisk and Russian olive would be removed from riparian areas using chainsaws and handtools, and stumps would be treated with herbicide using hand sprayers, squirt bottles, paint brushes, syringes, or injectors. Although disturbance in nearby riparian habitat would increase in the short term, access to these areas would be from the White River or from existing roads, or by foot. Using existing roads for vehicle access will minimize impacts to potential habitat for Barneby's catseye. There are no known locations of Barneby's catseye near White River riparian areas, although there is potential for suitable habitat to occur near the White River.

Where habitat for Barneby's catseye occurs near tamarisk and Russian olive treatment areas, impacts to these species include increased disturbance of the habitat and pollinator disturbance. Impacts specific to herbicide treatment include direct spray, drift or overspray, runoff from upslope treatment areas, and pollinator disturbance. On the other hand, removal of tamarisk and Russian olive near or within habitat where these species grow would benefit Barneby's catseye. In addition, because Barneby's catseye occupies the same habitats as Graham's and White River beardtongues, adherence to the mitigation measures for the penstemon species will protect Barneby's catseye as well.

Based on the above mitigation measures, the proposed action **may affect, but is not likely to lead to federal listing** for Barneby's catseye.

4.1.5. Plants: Threatened, Endangered, Proposed, or Candidate

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*), Graham's beardtongue (*Penstemon grahamii*), White River beardtongue (*Penstemon scariosus* var. *albifluvis*), and Ute ladies'-tresses (*Spiranthes diluvialis*)

Under the proposed action alternative, tamarisk and Russian olive would be removed from riparian areas using hand-methods described above. Although some disturbance in nearby riparian habitat would increase in the short term, access to these areas would be from the White River or from existing roads, or by foot. Using existing roads for vehicle access will minimize

impacts to potential habitat for Uinta Basin hookless cactus, Graham's beardtongue, White River beardtongue, and Ute ladies'-tresses. There are no known Graham's beardtongue near White River riparian areas, although there is potential for suitable habitat to occur near the White River. Similarly, Ute ladies'-tresses is not known nor likely to occur within the White River drainage, but these areas have never been completely surveyed. Uinta Basin hookless cactus is not likely to occur near treatment areas, as it typically occurs on upper benches overlooking the White River, though there is potential for it to occur on lower river terraces near treatment areas. There are known locations of White River beardtongue that occur adjacent to the bank of the White River (see Figure 3.1, "Long-term demographic monitoring site for White River beardtongue, along the banks of the White River." (p. 15) and Figure 3.2, "Long-term demographic monitoring site for White River beardtongue, alternate view." (p. 16)).

Where Graham's and White River beardtongue, Ute ladies'-tresses, and Uinta Basin hookless cactus occur near tamarisk and Russian olive treatment areas, impacts to these species include increased disturbance of the habitat and pollinators. Impacts specific to herbicide treatment include direct spray, drift or overspray, runoff from upslope treatment areas, and pollinator disturbance. On the other hand, removal of tamarisk and Russian olive near or within habitat where these species grow would benefit Graham's beardtongue, White River beardtongue, Ute ladies'-tresses, and Uinta Basin hookless cactus by removing a competitive overstory.

The below mitigation measures would prevent damage to Graham's beardtongue, White River beardtongue, Ute ladies'-tresses and Uinta Basin hookless cactus during herbicide treatment. Using these methods will allow sprayers to focus herbicide use and minimize the potential for overspray, even for treatments within occupied habitat.

Based on the below mitigation measures direct spray, drift, and overspray on non-target species will not occur, so the proposed action **may affect, but is not likely to adversely affect** Uinta Basin hookless cactus.

Based on the below mitigation measures direct spray, drift, and overspray on non-target species will not occur, so the proposed action is **not likely to jeopardize the continued existence** of Graham's and White River beardtongues, and is **not likely to destroy or adversely modify proposed critical habitat**.

Based on the below mitigation measures direct spray, drift, and overspray on non-target species will not occur, and based on the unlikelihood that Ute ladies'-tresses occurs in the White River drainage, the proposed action **may affect, but is not likely to adversely affect** Ute ladies'-tresses.

4.1.5.1. Mitigation

1. Training on identification of special status plant species will be provided to contractors and personnel working on this project.
2. Herbicide treatment methods will be limited to hand-application techniques. These will include (but not be limited to) cut stump application using soap bottles and paint brushes, backpack sprayers, wick application, or other suitable methods (for example, using a cut-out bucket to contain spray from a back pack sprayer, as shown in Figure 4.1, "Example method to contain drift" (p. 28)).



Figure 4.1. Example method to contain drift

3. All of the treatment areas will be downslope of occupied habitat for these species, so runoff from upslope treatment will not occur.
4. The project area will be surveyed by BLM-authorized botanists prior to any treatments. Avoidance areas would be identified, as well as areas that need additional botanical inventory (habitat assessment and/or clearance surveys). Any necessary surveys will be completed prior to removal of tamarisk and Russian olive within 50 feet of areas of suitable habitat for all four species¹. If any of the four plant species are located within 50 feet of treatment areas, the following measures will apply:
 - Herbicide treatments will occur outside of flowering season, to be confirmed by a BLM-approved botanist (typically April-May for Uinta Basin hookless cactus, May-June for the beardtongues, or August for Ute ladies'-tresses). Alternatively, treatments can occur within these areas during times when pollinators are least active, typically early mornings or evenings. This will minimize potential impacts to pollinators for these species (BLM 2007, 4–73).
 - Any mechanized equipment or vehicles will be restricted to existing two tracks, roads, or disturbance.
 - All piling and chipping or burning of debris would occur at least 50 feet away from Uinta Basin hookless cactus, Graham's beardtongue, White River beardtongue, and Ute ladies-tresses individuals.

4.1.6. Plants: Wetland/Riparian Zones

Under the proposed action alternative, invasive plant competition with native riparian vegetation would be reduced, allowing native riparian plants to increase. For the short term, canopy and shrub cover would be reduced. Over the long term, hydrology along the White River would be

¹This buffer distance was chosen because this project will result in very little, if any, disturbance of the soil surface, and is consistent with requirements for hand-placed surface pipelines.

improved, soils would be stabilized, and native vegetation would more closely resemble the natural conditions of the river. Functioning condition of the riparian habitat would improve.

4.1.7. Recreation

Visitors floating the river frequently camp on level river banks that are clear of dense vegetation. Tent pads are often concealed by vegetation and on many terraces this includes tamarisk and Russian Olive. Removal of these invasive species would open the visual site distance and expose some campsites to other parties passing by on the river. As native vegetation fills in the areas currently occupied by tamarisk and Russian Olive, this impact would be gradually reduced.

During project implementation, areas of tree removal could be temporarily closed to public use. Closures could be implemented through the use of signs at river access points and public announcement done through the local media. Noise from crews implementing the project would be noticeable to visitors within the canyon for up to a mile away. Smoke from the burning slash piles and other downed fuels could impact recreational users in the vicinity of and downwind from the burning activities.

Immediately post-treatment, visitors to the area would use the downed woody vegetation for fire wood. Tamarisk removed directly on the river banks would need to be low cut to avoid impaling rubber rafts landing on the bank. Visitors would also benefit from informal education programs developed by recreation staff on the project and general river ecology. Although many visitors would remain oblivious to the difference between native and non-native riparian vegetation, the removal of the exotic species would greatly enhance the recreational experience for some of the more observant river rafters.

Other than those listed above, No further impacts are expected within the White River (2,831) Special Recreation Management Area (SRMA).

4.1.8. Visual Resource Management

Evaluation of visual contrast associated with the management activities proposed was evaluated using Bureau Form 8400-4 - Visual Contrast Rating Worksheet. A summary of the analysis is contained in Table 4.1, "Key Observation Points" (p. 29) and Table 4.2, "Summary of Contrast Ratings from KOP #1-3" (p. 31). Pictures of the Key Observation Points used in the contrast rating are contained in Figure 4.2, "KOP #1 – Viewing project area from KOP #1" (p. 30), Figure 4.3, "KOP #2 – Viewing project area from KOP #2" (p. 30), and Figure 4.4, "KOP #3 – Viewing project area from KOP #3" (p. 31):

Table 4.1. Key Observation Points

	KOP #1	KOP #2	KOP #3
KOP Locations	N: 0662551	N: 0653183	N: 0642369
(UTM Zone 12S, NAD 83)	E: 4428458	E: 4425051	E: 4421416
VRM Class	II	II	II



Figure 4.2. KOP #1 – Viewing project area from KOP #1



Figure 4.3. KOP #2 – Viewing project area from KOP #2



Figure 4.4. KOP #3 – Viewing project area from KOP #3

Table 4.2. Summary of Contrast Ratings from KOP #1-3

	Land/Water				Vegetation				Structures			
	str	mod	wk	n	str	mod	wk	n	str	mod	wk	n
Form				X		X						X
Line				X		X						X
Color				X		X						X
Texture				X			X					X

str = strong, mod = moderate, wk = weak, n = none

Immediately post-treatment, visitors would see treated areas that were sparse in vegetation, with cut stems/stumps visible. In some areas tree skeletons would remain for several years. After burning occurred, there would be soot and ash along the river that would remain until the next high water flood event. Re-growth and plantings of native vegetation would mitigate the long-term effects of tamarisk and Russian Olive removal on visual resources. The project is in conformance with both class II and III visual management objectives.

4.1.9. Water: Hydrologic Conditions (stormwater)

Under the proposed action alternative, the Badland-Montwel soils along the White River Drainage would be susceptible to short-term erosion and sediment loaded runoff. Soils could become temporarily hydrophobic in areas of burning if the levels of duff are high and the burn leaves large quantities of hydrocarbon residue. The increase in surface flow due to the loss of uptake by Russian olives and tamarisks could potentially lead to channeling and denuding of areas until riparian species begin to exhibit vigor. Removal of trees in riparian areas could also increase sediment loads in streams in the short term due to the destabilization of the stream banks as the system returns to a more natural state. However, leaving stumps could minimize sediment loading.

Regrowth of native vegetation would reduce sediment loading in the long term as the White River Drainage recovers, allowing the flow pattern to return to a more natural state. In the long term, improved stream channel hydrology, bank reshaping, and hydrologic function could result.

Removal of vegetation would affect water temperature in the short term. Regrowth of native riparian vegetation would provide shade and woody materials to shade and enhance water temperature in the long term.

4.1.10. Wildlife: Migratory Birds (Including Raptors)

Under the Proposed Action Alternative, migratory bird nesting habitat would be reduced in the short term with the removal of Russian olive and tamarisk. However, in the long term species richness is anticipated to increase as native vegetation re-establishes thereby improving plant diversity and wildlife foraging habitat. There would be a loss of overstory/midstory, due to the removal of Russian olive and tamarisk species. However, project activities are anticipated to occur in phases (multiple years) giving the opportunity for migratory birds to occupy other adjacent suitable habitats during nuptial or nesting periods. As identified earlier the BLM has completed raptor surveys within the river corridor. Of the 38 documented raptor nests 33 of them are cliff nests and 5 tree nests located in the cottonwood galleries. The nests located on cliff ledges are located adjacent to the project area and the nests located in trees are located either within or immediately adjacent to the project area. The below mitigation measure would minimize the potential for impacts to nesting raptors.

4.1.10.1. Mitigation

In areas of where project activities are anticipated to occur during February 1 – August 31, the BLM will complete raptor nesting surveys. Depending on the results of those surveys, project activities may or may not proceed within the species-specific buffer.

4.1.11. Wildlife: Non-USFWS Designated

4.1.11.1. State Listed Fish Species

Under the Proposed Action Alternative there is a low probability that contaminants (herbicides and/or fuels, and oils associated with the chain saws), could accidentally enter the river. The majority of the project area will have to be accessed by the river, via rafts. Chemicals would be secured in the rafts in waterproof containers. If contaminants were to reach the river, it would be in small quantities (approximately 2.5 gallons of herbicide, and no more than 20 gallons of fuel and oil). Other factors that could unintentionally allow the products to enter into the water would include; wind drift, rain events, soil erosion, microbial breakdown of the active ingredients in the herbicides, environmental conditions (e.g. sunlight), and the amount of area treated.

Habitat® and Aquamaster® herbicides are essentially non-toxic to fish, but not all effects have been studied. Potential effects include, but are not limited to, mortality, physiological changes, and modification of behavior. Modification of habitat for these species by the herbicides is unlikely. To avoid effects to fish species and adverse modification of designated habitat, Standard Operating Procedures (SOP's) will be followed as outlined in the 2007 Programmatic

Environmental Impact Statement for Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States (BLM 2007).

Based on the above information and SOP's, implementation of the Proposed Action Alternative is unlikely to cause a trend towards Federal listing of the bluehead sucker, flannelmouth sucker, and roundtail chub.

4.1.11.2. Bats

Implementation of the Proposed Action Alternative could disturb potential foraging and roosting habitat for bat species within the White River corridor. Project activities may temporarily displace bat species or cause them to abandon roost sites if non-native vegetation has been selected by bat species. However, in the long term species richness is anticipated to increase as native vegetation re-establishes, thereby improving plant diversity and wildlife foraging habitat. There would be a loss of overstory/midstory, due to the removal of Russian olive and tamarisk species. Project activities are anticipated to occur in phases (multiple years) giving the opportunity for bat species to occupy other adjacent suitable habitats during foraging and roosting periods.

4.1.11.3. Big Game

Under the Proposed Action Alternative, big game foraging habitat would not be reduced with the removal of Russian olive and tamarisk species. Beneficial impacts are anticipated in the long term as species richness is anticipated to increase as native vegetation re-establishes, thereby improving plant diversity and wildlife foraging habitat. Noise disturbance is likely to occur during project activities, and may temporarily displace big game individuals. This could lead to increased stress from intra-and inter-specific competition between big game species, but not to the extent that additional mitigation or stipulations are required.

4.1.12. Wildlife: Threatened, Endangered, Proposed, or Candidate

4.1.12.1. Federally Listed Fish Species

Under the Proposed Alternative there is a low probability that contaminants (herbicides and/or fuels, and oils associated with the chain saws), could accidentally enter the river. The majority of the project area will have to be accessed by the river, via rafts. Chemicals would be secured in the rafts in waterproof containers. If contaminants were to reach the river, it would be in small quantities (approximately 2.5 gallons of herbicide, and no more than 20 gallons of fuel and oil). Other factors that could unintentionally allow the products to enter into the water would include; wind drift, rain events, soil erosion, microbial breakdown of the active ingredients in the herbicides, environmental conditions (e.g. sunlight), and the amount of area treated.

Habitat® and Aquamaster® herbicides are practically non-toxic to fish, but not all effects have been studied. Potential effects include, but are not limited to, mortality, physiological changes, and modification of behavior. Modification of critical habitat for these species by the herbicides is unlikely. To avoid effects to fish species and adverse modification of designated habitat, Standard Operating Procedures (SOP's) will be followed as outlined in the 2007 Programmatic

Environmental Impact Statement for Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States (BLM 2007).

Based on the above information, implementation of the Proposed Action “*may affect, but is not likely to adversely affect*” threatened and endangered Colorado River Fish Species.

4.1.12.2. Western Yellow-billed Cuckoo

The western yellow-billed cuckoo typically nests within dense, regenerating canopies such as cottonwoods, willows, and other riparian shrubs within close proximity to water (UDWR 2013). It is likely cuckoos’ have adapted to Russian olive and tamarisk species for nesting as these non-native species typically congregate near water sources and provide dense canopy cover. The fruit of a Russian olive tree is a good source of nutrient for bird; however, bird species richness is typically greater in areas with a higher concentration of native species. During June 2013 the BLM conducted presence and absence surveys along the White River corridor and identified cuckoo individuals; however, it is unknown whether the cuckoos’ were in migrant or if they were nesting residents.

Under the Proposed Action Alternative, yellow-billed cuckoo nesting habitat would be reduced in the short term with the removal of Russian olive and tamarisk. However, in the long term species richness is anticipated to increase as native vegetation re-establishes, thereby improving plant diversity, foraging, and nesting habitat. There would be a loss of overstory/midstory, due to the removal of Russian olive and tamarisk species; however, project activities are anticipated to occur in phases (multiple years), giving the opportunity for migratory birds to occupy other adjacent suitable habitats during nuptial or nesting periods. In addition, burning activities would take place in the fall or winter outside of nesting season for migratory birds and raptors.

Based on the above information, implementation of the Proposed Action Alternative may impact, but is not likely to contribute to the need for the yellow-billed cuckoo to become listed.

4.1.12.3. Mitigation:

The BLM will continue to conduct annual yellow-billed cuckoo surveys within the White River corridor. Depending on the results of those surveys, and if it is determined the species is nesting, then project activities may or may not proceed within ¼ of the nest.

4.2. No Action

The following subsections contain a description of the environmental impacts anticipated to occur as a result of implementation of the No Action Alternative.

4.2.1. BLM Natural Areas

Under the no action alternative, no large scale Russian olive and/or tamarisk removal would take place. These invasive species would continue to flourish and crowd out native species reducing the wilderness characteristic of naturalness within the project area.

4.2.2. Designated Areas: Lands with Wilderness Characteristics (LWC)

Please see the BLM Natural Areas sections of the document for impacts to Lands with Wilderness Characteristics.

4.2.3. Invasive Plants/Noxious Weeds (EO13112), Soils, and Vegetation

Under the no action alternative, no weed treatment and restoration would occur. Russian olive and tamarisk would continue to out-compete native vegetation and encroach into native plant communities. Treatment at a later date would be more difficult and costly as a result.

Under the no action alternative, no new soil disturbance would occur. Russian olive and tamarisk would continue to stabilize the soil, but would inhibit the establishment of the natural ecological description. If the invasive species continue to persist, then sedimentation and erosion patterns would continue to be altered from the expected site conditions.

4.2.4. Plants: Utah BLM Sensitive

Barneby's catseye (*Cryptantha barnebyi*)

Under the no action alternative, no tamarisk or Russian olive would be treated, and no disturbance would occur near habitat where Barneby's catseye is likely to occur. Native plants in the project area would continue to be out-competed by tamarisk and Russian olive, with negligible impacts to Barneby's catseye.

4.2.5. Plants: Threatened, Endangered, Proposed, or Candidate

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*), Graham's beardtongue (*Penstemon grahamii*), White River beardtongue (*Penstemon scariosus* var. *albifluvis*), and Ute ladies'-tresses (*Spiranthes diluvialis*)

Under the no action alternative, no tamarisk or Russian olive would be treated, and no disturbance would occur near habitat where these species are likely to occur. Native plants in the project area would continue to be out-competed by tamarisk and Russian olive, with negligible impacts to Uinta Basin hookless cactus and Graham's beardtongue. Impacts to White River beardtongue are likely to be minimal, but in some situations where occupied habitat is immediately adjacent to the riverbank, tamarisk and Russian olive may encroach near the edges of White River beardtongue habitat. Ute ladies'-tresses prefers open canopies with little overstory. Increased invasion of tamarisk and Russian olive would thus decrease the amount of potential habitat for Ute ladies'-tresses.

4.2.6. Plants: Wetland/Riparian Zones

Under the no action alternative, native riparian vegetation would continue to be replaced by the invasives tamarisk and Russian olive. A continued reduction in native vegetation within White

River riparian areas will continue to reduce the functioning condition of the river corridor and riparian habitat.

4.2.7. Recreation

Under the no action alternative, the recreational use of the project area and associated White River SRMA would continue to be focused on the river related recreation. Essentially, no direct or indirect effects would occur.

4.2.8. Visual Resource Management

Under the no action alternative, no change would occur to the stream side vegetation therefore there would be no direct or indirect effects on the visual resources within the project area.

4.2.9. Water: Hydrologic Conditions (stormwater)

Under the no action alternative, Russian olive and tamarisk would continue to out-compete native vegetation. These invasive species both have the capacity to use large amounts of water that would otherwise be used for natural vegetation and stream flow. Stream channels would continue to be narrowed and confined by the invasive species creating a reduced capacity to carry flood waters and runoff. Water quality would continue to be degraded as Russian olive and tamarisk infestation continues to alter natural flow patterns.

4.2.10. Wildlife: Migratory Birds (Including Raptors)

Under the No Action Alternative it is anticipated that migratory birds, including various raptor species, would continue to utilize Russian olive and tamarisk stands for foraging, cover, and nesting purposes. Several avian species depend on native vegetation (i.e. cottonwood galleries and willow species) for foraging and nesting, which would continue to be reduced or displaced by the establishment of non-native and noxious vegetation.

4.2.11. Wildlife: Non-USFWS Designated

4.2.11.1. State Listed Fish

The majority of the treatment areas are located within the floodplain of the White River. Russian olive and tamarisk can stabilize stream banks, possibly reducing channel formation and flooding necessary for Colorado River fishes. Under the No Action Alternative, Russian olive and tamarisk would continue to establish along the White River floodplain, reducing channel formation and bank flooding.

4.2.11.2. Bats

Under the No Action Alternative it is anticipated that bat species would continue to utilize Russian olive and tamarisk stands for foraging and cover. Several bat species depend on native vegetation (i.e. cottonwood galleries and willow species) for foraging and roosting, which would continue to be reduced or displaced by the establishment of non-native and noxious vegetation.

4.2.11.3. Big Game

Under the No Action Alternative it is anticipated that big game species would continue to utilize the habitats within the river corridor for foraging areas and cover. Russian olive and tamarisk would continue to reduce or displace foraging areas within identified crucial big game habitat.

4.2.12. Wildlife: Threatened, Endangered, Proposed, or Candidate

4.2.12.1. Federally Listed Fish Species

The majority of the treatment areas are located within the floodplain of the White River. Russian olive and tamarisk can stabilize stream banks possibly reducing channel formation and flooding necessary for Colorado River fishes. Under the No Action Alternative, Russian olive and tamarisk would continue to establish along the White River floodplain, reducing channel formation and bank flooding.

4.2.12.2. Yellow-billed Cuckoo

Under the No Action Alternative, populations of Russian olive and tamarisk would continue to establish within special status animal habitat further reducing the potential quality of native habitat.

4.3. Cumulative Impacts Analysis

Cumulative impacts are those impacts resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable actions regardless of what agency or person undertakes such other actions.

4.3.1. Cumulative Impact Area

The Russian olive and tamarisk removal project area occurs within the White River Corridor. The White River Corridor is located in northeastern Utah and encompasses approximately 8,511 acres. The project area is located in Uintah County. Total river miles for project area is 47.8 river miles of which 54% is BLM, 24% is private, 12% is SITLA, and 10% is Indian Trust. Elevation ranges from approximately 5,060 feet at the Colorado line to approximately 4,700 feet at the confluence with the Green River.

Past, present, and reasonably foreseeable actions occurring within the project area include recreational activities, livestock grazing, oil and gas production, mining, wildlife management areas and activities on private land including agriculture and gravel pits. The effects of these activities are impossible to quantify, but all may contribute to the issues brought forth in this EA.

4.3.2. BLM Natural Areas

The cumulative impact area is the White River Natural Area boundary. The rationale for this boundary is the Vernal RMP management prescription for the protection and preservation

of wilderness characteristic within the Natural Area. Cumulative impacts resulting from management actions taken in the Natural Area primarily result in improved wilderness characteristics (appearance of naturalness, outstanding opportunities for primitive and unconfined recreation and solitude). The Proposed Action would add to this by returning the vegetation along the river corridor in this area to a natural composition. The No Action Alternative would not result in improved naturalness.

4.3.3. Designated Areas: Lands with Wilderness Characteristics (LWC)

The cumulative impact area is project boundary. This area encompasses the White River wilderness characteristics boundary. The rationale for this boundary is the Vernal RMP acknowledgement of the wilderness characteristic within this area. Past, present, and reasonably foreseeable actions occurring within the cumulative impact area include recreational activities, livestock grazing, oil and gas production, mining, wildlife management areas and activities on private land including agriculture and gravel pits. Cumulative impacts resulting from management actions taken in the wilderness characteristics area may or may not result in improved wilderness characteristics (appearance of naturalness, outstanding opportunities for primitive and unconfined recreation and solitude). Any surface disturbing activities such as oil and gas production, would not result in improved wilderness characteristics. However, the Proposed Action would improve wilderness characteristics by returning the vegetation along the river corridor in this area to a natural composition. The No Action Alternative would not result in improved naturalness due to the persistence of non-native vegetation.

4.3.4. Invasive Plants/Noxious Weeds (EO13112), Soils, and Vegetation

The cumulative impact area for Invasive Plants/Noxious Weeds, Soils, and Vegetation is the White River Corridor (8,511 acres). Past, present, and reasonably foreseeable actions within the cumulative impact area include recreational activities, livestock grazing, oil and gas production, mining, wildlife management areas, and activities on private land including agriculture and gravel pits. Cumulative impacts typical of oil and gas field development include: removal of native vegetation and increased erosion rates of soils which are generally very thin, slow to develop, and difficult to reclaim due to the arid climate and the low organic content. Surface disturbing impacts include increased dust, habitat destruction and fragmentation, increased risk of spread of weeds, and disturbance of native plants and pollinators.

Invasive plants and noxious weeds occur within the cumulative impact area, and all past, present, and foreseeable actions within the cumulative impact area have contributed to noxious weed infestations. Russian olive and tamarisk are the most frequent non-native species along the WRC, although Canada thistle and broadleaved pepperweed have also been documented. All other actions within the cumulative impact area are likely to increase invasive weeds, whereas the proposed action would reduce invasive weeds in the cumulative impact area.

Soil erosion would be increased due to the disturbance associated with oil and gas activities in the area. Each acre of disturbance adds to a cumulative effect by increasing erosion and destroying native vegetation, and through the invasion of undesired plant species. In general, soils in the

Chapter 4 Environmental Effects:

Designated Areas: Lands with Wilderness

Characteristics (LWC)

Uinta Basin are very thin, slow to develop, and difficult to reclaim because of the arid climate and lack of organic material.

Under the Proposed Action, invasive plants will be reduced overall, thus reducing vegetation in the area. However, over the long-term native vegetation should be able to re-establish in the area. Thus, the proposed action will benefit native vegetation in the cumulative impact area. Under the No Action Alternative, invasive plants would not be removed.

4.3.5. Plants: Utah BLM Sensitive

See cumulative impacts to “Plants: Threatened, Endangered, Proposed, or Candidate.”

4.3.6. Plants: Threatened, Endangered, Proposed, or Candidate

The cumulative impact area for Threatened, Endangered, Proposed, or Candidate and sensitive species is the White River Corridor (8,511 acres). Past, present, and reasonably foreseeable actions within the cumulative impact area include recreational activities, livestock grazing, oil and gas production, mining, wildlife management areas, and activities on private land including agriculture and gravel pits. Cumulative impacts to Ute ladies'-tresses in the WRC are unlikely as this species is unlikely to occur within the White River corridor. Uinta Basin hookless cactus, White River beardtongue, Graham's beardtongue, and Barney's catseye have been documented within or near the WRC, and will continue to be impacted by surface-disturbing activities in the WRC. Cumulative impacts from surface disturbance include dust impacts to plants, habitat destruction and fragmentation, increased risk of spread of weeds, and disturbance of native plants and pollinators. Under the Proposed Action Alternative, some surface disturbance will increase in the short term, but invasive plants will be reduced overall, increasing native vegetation in the long-term, with a net benefit to federally-listed species. Under the No Action Alternative, invasive plants would not be removed.

4.3.7. Plants: Wetland/Riparian Zones

The cumulative impact area for Wetland/Riparian Zones is the White River Corridor (8,511 acres). All past, present, and reasonably foreseeable actions within the cumulative impact area (see above, “Plants: Threatened, Endangered, Proposed, or Candidate”) have contributed to surface disturbance and spread of invasive and noxious weeds within the WRC. Cumulative impacts from surface disturbance on riparian vegetation include impacts similar to those listed for “Plants: Threatened, Endangered, Proposed, or Candidate.” Under the proposed action, invasive plants will be reduced overall, thus reducing vegetation in the area for the short term. However, over the long-term, native vegetation will increase in wetland and riparian zones, resulting in a net benefit from the proposed action. Under the No Action Alternative, invasive plants would not be removed.

4.3.8. Recreation

The cumulative impact area considered for recreation is the project boundary and the surrounding White River SRMA. The rationale for this boundary is the interconnected access to recreational resources (river access, campgrounds, etc.). The Proposed Action would add to the cumulative

effects of naturalness by returning the vegetation along the river corridor in this area to a natural composition. The No Action Alternative would not result in improved naturalness.

4.3.9. Visual Resource Management

The Cumulative impact area considered for visual resources is Unit #36 (White River) of the Vernal Field Visual Resource Inventory (November 2011). The rationale for this boundary is that the visual resource inventory serves as the baseline information for assessing potential effects to visual resources within the proposed projects. This is viewed as negative impact when assessing the scenic quality of an area. Fuels reduction efforts also reduce the likely of high severity fires and the potential for the visual impacts that could result from future fire activity. The Proposed Action would add to the cumulative effects by returning the vegetation along the river corridor in this area to a natural composition. The No Action Alternative would not result in improved naturalness.

4.3.10. Water: Hydrologic Conditions (stormwater)

The cumulative impact area is the WRC. Past, present, and reasonably foreseeable actions are as described in section 4.3.1. Cumulative impacts include soil susceptibility to short-term erosion and sediment loaded runoff. The proposed action could result in increased channeling and sediments loads until native riparian species re-establish. Regrowth of native vegetation would reduce sediment loading in the long term as the White River Drainage recovers, allowing the flow pattern to return to a more natural state. In the long term, Improved stream channel hydrology, bank reshaping, and hydrologic function could result. The No Action Alternative would cumulatively maintain the invasives tamarisk and Russian olive. A continued reduction in native vegetation within White River riparian areas will continue to reduce the functioning condition of the river corridor and riparian habitat.

4.3.11. Wildlife: Migratory Birds (Including Raptors)

The cumulative impacts analysis area for all wildlife species is the WRC (8,511 acres). Past, present, and reasonably foreseeable actions occurring within the project area include recreational activities, livestock grazing, oil and gas production, mining, wildlife management areas, and activities on private land including agriculture and gravel pits. The effects of these activities are impossible to quantify, but all may contribute to the issues brought forth in this EA. Non-native invasive vegetation continues to increase within the WRC and further reduces the potential quality of native habitat.

The severity of the cumulative effects would depend on factors such as the sensitivity of the species affected, seasonal intensity of use, type of project activity, and physical parameters (e.g., topography, forage, and cover availability). Project activities are anticipated to occur in phases (multiple years), giving the opportunity for wildlife to occupy other adjacent suitable habitats during crucial periods. Noise disturbance is likely to occur during project activities and may temporarily displace wildlife individuals.

Under the Proposed Action Alternative, overall wildlife habitat would be reduced in the short-term with the removal of Russian olive and tamarisk (overstory/midstory). However, in the long-term species richness is anticipated to increase as native vegetation re-establishes, thereby improving plant diversity and wildlife foraging habitat. Under the No Action Alternative there would be no direct impacts to wildlife species; however, it is anticipated that long-term indirect

effects through the spread of Russian olive and tamarisk within the WRC would continue to further reduce the potential quality of native habitat.

4.3.12. Wildlife: Non-USFWS Designated

The cumulative impacts analysis area for all wildlife species is the WRC (8,511 acres). Past, present, and reasonably foreseeable actions occurring within the project area include recreational activities, livestock grazing, oil and gas production, mining, wildlife management areas, and activities on private land including agriculture and gravel pits. The effects of these activities are impossible to quantify, but all may contribute to the issues brought forth in this EA. Non-native invasive vegetation continues to increase within the WRC and further reduces the potential quality of native habitat.

The severity of the cumulative effects would depend on factors such as the sensitivity of the species affected, seasonal intensity of use, type of project activity, and physical parameters (e.g., topography, forage, and cover availability). Project activities are anticipated to occur in phases (multiple years), giving the opportunity for wildlife to occupy other adjacent suitable habitats during crucial periods. Noise disturbance is likely to occur during project activities and may temporarily displace wildlife individuals.

Potential impacts to sensitive fish species would be the same for all fish species. There is a low probability that contaminants (herbicides and/or fuels, and oils associated with the chain saws), could accidentally enter the river. As Standard Operating Procedures will be applied, accidental spills would be minimized or completely negated. Chemicals would be secured in the rafts in waterproof containers. Other factors that could unintentionally allow the products to enter into the water would include: wind drift, rain events, soil erosion, microbial breakdown of the active ingredients in the herbicides, environmental conditions (e.g. sunlight), and the amount of area treated.

Under the Proposed Action Alternative, overall wildlife habitat would be reduced in the short-term with the removal of Russian olive and tamarisk (overstory/midstory). However, in the long-term species richness is anticipated to increase as native vegetation re-establishes, thereby improving plant diversity and wildlife foraging habitat. Under the No Action Alternative there would be no direct impacts to wildlife species; however, it is anticipated that long-term indirect effects through the spread of Russian olive and tamarisk within the WRC would continue to further reduce the potential quality of native habitat.

4.3.13. Wildlife: Threatened, Endangered, Proposed, or Candidate

The cumulative impacts analysis area for all wildlife species is the WRC (8,511 acres). Past, present, and reasonably foreseeable actions occurring within the project area include recreational activities, livestock grazing, oil and gas production, mining, wildlife management areas, and activities on private land including agriculture and gravel pits. The effects of these activities are impossible to quantify, but all may contribute to the issues brought forth in this EA. Non-native invasive vegetation continues to increase within the WRC and further reduces the potential quality of native habitat.

The severity of the cumulative effects would depend on factors such as the sensitivity of the species affected, seasonal intensity of use, type of project activity, and physical parameters (e.g., topography, forage, and cover availability). Project activities are anticipated to occur in phases (multiple years), giving the opportunity for wildlife to occupy other adjacent suitable habitats during crucial periods. Noise disturbance is likely to occur during project activities and may temporarily displace wildlife individuals.

Potential impacts to sensitive fish species would be the same for all fish species. There is a low probability that contaminants (herbicides and/or fuels, and oils associated with the chain saws), could accidentally enter the river. As Standard Operating Procedures will be applied, accidental spills would be minimized or completely negated. Chemicals would be secured in the rafts in waterproof containers. Other factors that could unintentionally allow the products to enter into the water would include: wind drift, rain events, soil erosion, microbial breakdown of the active ingredients in the herbicides, environmental conditions (e.g. sunlight), and the amount of area treated.

Under the Proposed Action Alternative, overall wildlife habitat would be reduced in the short-term with the removal of Russian olive and tamarisk (overstory/midstory). However, in the long-term species richness is anticipated to increase as native vegetation re-establishes, thereby improving plant diversity and wildlife foraging habitat. Under the No Action Alternative there would be no direct impacts to wildlife species; however, it is anticipated that long-term indirect effects through the spread of Russian olive and tamarisk within the WRC would continue to further reduce the potential quality of native habitat.

**Chapter 5. Tribes, Individuals,
Organizations, or Agencies Consulted:**

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Chapter 5. Tribal Individuals,
Organizations, or Agencies Consulted:

5.1. Public Involvement

The proposed project was posted to the eplanning NEPA website. No public inquiries were received. A public comment period was not held due to the project being similar to other weed control projects in the Basin.

5.2. Consultation

Table 5.1. List of Persons, Agencies and Organizations Consulted

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
U.S. Fish and Wildlife Service	Endangered Species Action Section 7	Provided information on threatened and endangered species. Consultation was initiated on March 05, 2014. Concurrence was received on April 30, 2014.
Utah State Historic Preservation Office	National Historic Preservation Action Section 106	On October 25, 2013 a consultation letter was sent to the State Historic Preservation Officer describing our undertaking and recommending “no adverse effect” to historic properties. We received their concurrence to our determination on around November 5, 2013
Tribes	Government to Government Consultation	Pursuant to Section 101(d)(6)(B) of the National Historic Preservation Act (amended 2006) our agency sent consultation letters to the Tribes advising them of our undertaking on October 24, 2013. On November 8, 2013 we received a concurrence letter from the Hopi Tribe requesting we avoid all known sites. We also received a “will not impact” letter from the Navajo Nation on November 11, 2013. No other comments were received.
Utah Division of Wildlife Resources	Coordination regarding impacts to big game species.	The Division is supporting the project through existing contracts and agreements.
School and Institutional Trust Lands Administration (SITLA)	Coordination regarding range improvement project.	SITLA approved RIP application
Natural Resources Conservation Service (NRCS)	Coordinated regarding private land owners and agreements.	NRCS is supporting through their existing incentive programs.

5.3. Cooperators

Table 5.2. Partners and Cooperators

Name
Tamarisk Coalition
Utah State University (USU)
Watershed Restoration Initiative (WRI)
Utah Department of Natural Resources (UDWR)
Natural Resources Conservation Service (NRCS)

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Chapter 6. List of Preparers

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Chapter 6. List of Preparers

Table 6.1. List of Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Stephanie Howard	NEPA Coordinator	NEPA Compliance/Quality Control
Dan Gilfillan	Recreation Planner	BLM Natural Areas; Lands with Wilderness Characteristics (LWC); Recreation; Visual Resources
Kathie Davies	Archaeologist	Cultural
Blaine Tarbell	Fuels NRS	Fuels/Fire Management
Jessi Brunson	Botanist	Plants: BLM Sensitive; Threatened, Endangered, Proposed, or Candidate; Invasive Plants/Noxious Weeds, Soils & Vegetation
Alec Bryan	Range Management Specialist	Livestock Grazing; Water: Hydrologic Conditions (stormwater);
Brandon McDonald	Wildlife Biologist	Wildlife: Migratory Birds(including raptors); Wildlife: Non-USFWS Designated;and Wildlife: Threatened, Endangered, Proposed or Candidate

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Appendix A. Interdisciplinary Team Checklist

Project Title: White River Enhancement Project

NEPA Log Number: DOI-BLM-UT-G010-2014-009-EA

File/Serial Number:

Project Leader: Daniel Emmett

DETERMINATION OF STAFF: (Choose one of the following abbreviated options for the left column)

NP = not present in the area impacted by the proposed or alternative actions

NI = present, but not affected to a degree that detailed analysis is required

PI = present with potential for relevant impact that need to be analyzed in detail in the EA

NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section D of the DNA form. The Rationale column may include NI and NP discussions.

Determina-tion	Resource/Issue	Rationale for Determination	Signature	Date
RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)				
NI	Air Quality & Greenhouse Gas Emissions	Dust and vehicle emissions would be generated during the project. However, impacts from emissions are expected to be short term (during the project only) and indistinguishable from background emissions as measured by monitors or predicted by models. Greenhouse gas emissions: No greenhouse gas standards have been established by EPA or other regulatory authorities. The assessment of greenhouse gas emissions and climate change is in its earliest stage. Global greenhouse gas models can be inconsistent, and localized models are lacking. Consequently, it is not technically feasible to quantify the net impacts to climate based on local greenhouse gas emissions. It is anticipated that greenhouse gas emissions associated with this action and its alternative(s) would be negligible.	Stephanie Howard	11/6/2013
PI	BLM Natural Areas	White River Natural Area is located within the project area.	Dan Gilfillan	12/19/2013

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Cultural: Archaeological Resources	<p>Pursuant to 36 CFR 800.4 the area of potential effect (APE) is defined as the area within the polygons for the project area. The project does meet the criteria for an “undertaking” as defined in 36 CFR 800.16(y).</p> <p>Lop and scatter treatments are considered non-invasive in nature and require less formal cultural inventory. A Class I inventory of the project area was conducted on October 17, 2013. It revealed that approximately 80 % of the current project area had been previously inventoried. A total of nine sites were identified; two “eligible” (one - historic, one - lithic scatter), four “not eligible” (three - historic, one - lithic scatter), and three that were not given eligibility recommendations (two -rock shelters, one - lithic scatter). A review of the General Land Office maps dating from 1883 - 1905 revealed that there were no known cultural sites within the project area.</p> <p>Contractor’s will be advised on avoidance measures around the cabin and other known sites. They will be provided information on what to watch for and avoidance measures to take if they encounter other types of cultural material (i.e. wickiup, etc.) that have not been previously identified. All areas designated as burn pile locations will be inventoried by a qualified archaeologist prior to work being completed, and no burn piles will be placed on or near known eligible sites.</p> <p>On October 25, 2013 a consultation letter was sent to the State Historic Preservation Officer describing our undertaking and recommending “no adverse effect” to historic properties. We received their concurrence to our determination on around November 5, 2013.</p>	Kathie Davies	1/06/2014

Determina- tion	Resource/Issue	Rationale for Determination	Signature	Date
NI	Cultural: Native American Religious Concerns	Pursuant to Section 101(d)(6)(B) of the National Historic Preservation Act (amended 2006) our agency sent consultation letters to the Tribes advising them of our undertaking on October 24, 2013. On November 8, 2013 we received a concurrence letter from the Hopi Tribe requesting we avoid all known sites. We also received a "will not impact" letter from the Navajo Nation on November 11, 2013. No other comments were received.	Kathie Davies	01/06/2014
NP	Designated Areas: Areas of Critical Environmental Concern	No ACEC exist within the identified project area.	Dan Gilfillan	12/19/2013
NP	Designated Areas: Wild and Scenic Rivers	None Present as per 2008 Vernal RMP/ROD and GIS layer review	Dan Gilfillan	12/19/2013
NP	Designated Areas: Wilderness Study Areas	No Wilderness Study Areas exist within the project area.	Dan Gilfillan	12/19/2013
NI	Environmental Justice	No minority or economically disadvantaged communities or populations would be disproportionately adversely affected by the proposed action or alternatives because none are present in or adjacent to the project area.	Stephanie Howard	11/6/2013
NI	Farmlands (prime/unique)	No prime or unique farmlands, as designated by the NRCS, are located in the project area; therefore this resource will not be carried forward for analysis.	Stephanie Howard	11/6/2013
NI	Fuels/Fire Management	Removing vegetation along the White River should not increase fire probability or behavior. The impacts will be minimal.	Blaine Tarbell	11/12/13
NI	Geology/Minerals/ Energy Production	No impacts to geology or minerals is expected from this project.	Elizabeth Gamber	11/4/2013
IP/NW: PI Soils:PI Vegetation: PI	Invasive Plants/ Noxious Weeds, Soils & Vegetation PI	IP/NW: When treating invasive plants, there is potential to spread seed to new locations. Vehicles will be power washed before entering the site from outside the Uinta Basin. Soils: Short term impacts may include soil compaction, reduced infiltration, and increased erosion. Long term impacts may include improved soil health and productivity with improved infiltration and reduced erosion rates. Vegetation: Noxious and invasive vegetation will be removed to provide habitat and opportunity for native tree and shrub species.	Jessi Brunson Soils:Alec Bryan Jessi Brunson	12/10/2013 Soils:12/ 20/2013 12/10/2013

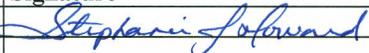
Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Lands/Access	The proposed area is located within the Vernal Field Office RMP/ROD area. No existing land uses would be changed or modified by the implementation of the proposed action; therefore there would be no adverse effect. Existing rights-of-way near or crossing parts of the White River within the project area would not be affected by the proposed action.	Cindy Bowen	12/24/2013
PI	Lands with Wilderness Characteristics (LWC)	Project area occurs with the White River LWC.	Dan Gilfillan	12/19/2013
NI	Livestock Grazing & Rangeland Health Standards	Feral livestock from tribal lands have heavily impacted the range resources along the White River Drainage. Riparian forage is often denuded or grazed by feral and domestic livestock as well as wildlife. Despite the impacts, removal of Russian olive and tamarisk species would allow light penetration for additional and diverse riparian area forage to establish.	Alec Bryan	10/31/2013
NP	Paleontology	The surface sediment next to the river would be alluvium and no in place fossils would be present.	Elizabeth Gamber	11/4/2013
PI	Plants: BLM Sensitive	Barneby's catseye (<i>Cryptantha barnebyii</i>) is located in the same soil types as Graham's and White River beardtongues, and is likely to occur within 300 feet of the 100-year floodplain of the White River.	Jessica Brunson	12/16/2013
PI	Plants: Threatened, Endangered, Proposed, or Candidate	Graham's beardtongue (<i>Penstemon grahamii</i>), White River beardtongue (<i>Penstemon scariosus</i> var. <i>albifluvis</i>), and Uinta Basin hookless cactus (<i>Sclerocactus wetlandicus</i>) occur within 300 feet of the 100-year floodplain of the White River. Ute ladies'-tresses (<i>Spiranthes diluvialis</i>) is known from riparian areas and wet meadows in the Uinta Basin, but is not known to occur along the White River.	Jessica Brunson	12/16/2013
PI	Plants: Wetland/Riparian	Inventoried riparian habitat is along the entire proposed project. However the removal of invasive vegetation would benefit riparian vegetation, which is part of hydrologic function of riparian habitat. The removal of Russian Olive and tamarisk plants from the floodplain of the White River would be a benefit, provided workers removing the vegetation adhere to state of the arts methods of invasive plant removal and minimize any potential surface disturbance.	Jessica Brunson	12/16/2013

Determina- tion	Resource/Issue	Rationale for Determination	Signature	Date
PI	Recreation	The Project Area is located within the White River SRMA.	Dan Gilfillan	12/19/2013
NI	Socio-Economics	No impact to the social or economic status of the county or nearby communities would occur from this project due to its small size. Duchesne and Uintah County economies rely heavily on oil and gas development, this project would not hinder or aid such development.	Stephanie Howard	11/6/2013
PI	Visual Resources	<p>The project area includes lands managed as VRM II & III. The objective of Class II is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. New projects can be approved if they blend in with the existing surroundings and don't attract attention (i.e., small-scale picnic area or primitive campground in valley shielded from view that blends with natural appearance).</p> <p>The objective of class III is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominate natural feature of the characteristic landscape. New projects can be approved that are not large scale, dominating features.</p>	Dan Gifillan	12/19/2013
NI	Wastes (hazardous/solid)	No chemicals subject to reporting under SARA Title III in amounts greater than 10,000 pounds would be used, produced, stored, transported, or disposed of annually in association with the project. Trash and other waste materials would be cleaned up and removed immediately after completion of operations.	Stephanie Howard	11/6/2013

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Water: Floodplains	HUD inventoried floodplains occur along the entire proposed project route; however, removal of Russian olive and tamarisk via mechanical and chemical means would produce little disturbance along the White River Drainage, and would not be in conflict with Executive Order # 11988. Therefore, it is not anticipated that negative impacts would occur to the floodplain along the White River Drainage.	Alec Bryan	11/14/2013
NI	Water: Groundwater Quality	There is no impact to groundwater as long as chemical treatments are not done in or near the groundwater recharge zones and the properly approved herbicide is used.	Alec Bryan	11/14/2013
PI	Water: Hydrologic Conditions (stormwater)	The potential for high sediment loading associated with run-off as well as erosion exists due to the geomorphology of the region. Streambank stability will be weakened for a short term until native riparian vegetation establishes along the banks.	Alec Bryan	11/15/2013
NI	Water: Surface Water Quality	Potential contamination to surface waters and perennial waters of the White River Drainage could occur but operator measures to prevent chemical spills and adherence to professional herbicide application including the appropriate herbicide near aquatic areas would prevent or reduce contamination to waters to permitted levels. Adherence to the BLM Health and Safety Guidelines for Proper Chainsaw Use would prevent or reduce contamination.	Alec Bryan	11/14/2013
NI	Water: Waters of the U.S.	The White River is a jurisdictional "Waters of the U.S.". Removal and eradication of Russian olive and tamarisk on the White River Drainage would require all upstream tributaries to have similar treatments to totally remove the seed source. The proposed project may have immediate and secondary impacts of denuding areas of riparian vegetation along the White River which could result in localized but increased riverbank erosion. However, these impacts should be temporary while the project would be a long-term reduction in invasive species along the White River and an increase in desirable plants in the treated area within the watershed. This project will not involve a discharge into this regulated water, therefore, it will not require a Department of the Army permit.	Alec Bryan	11/14/2013

Determina- tion	Resource/Issue	Rationale for Determination	Signature	Date
NP	Wild Horses	VFO GIS layers indicate that there are no wild horse areas present in the project area.	Daniel Emmett	11/25/2013
PI	Wildlife: Migratory Birds (including raptors)	Migratory birds may be present during project activities. There are many known raptors nests within the White River drainage that have been documented.	Brandon McDonald	11/12/2013
PI	Wildlife: Non-USFWS Designated	The BLM identifies much of the project area as being within crucial deer fawning habitat and the UDWR has identified much of the project area as being within crucial year-long deer, elk, and bighorn sheep habitat. The White River provides habitat for bat species. In addition, BLM/UDWR sensitive fish species occur within the project area.	Brandon McDonald	11/12/2013
PI	Wildlife: Threatened, Endangered, Proposed or Candidate	The proposed project is not within sage-grouse Preliminary Priority Habitat. However, habitat occurs for the yellow-billed cuckoo. Threatened and endangered fish species occur within the project area.	Brandon McDonald	11/12/2013
NI	Woodlands/Forestry	The removal of invasive trees and shrubs will not have any negative impacts on on forest and woodland resources in the project area. Impacts to forest and woodland resources are consistent with those described in the vegetation and riparian sections.	Dave Palmer	01/09/2014

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
Environmental Coordinator		5/7/14	
Authorized Officer			