White River Enhancement Project Phase 2

Project ID: 3702
Status: Current
Fiscal Year: 2017
Submitted By: N/A
Total Acres: 174

Project Manager: Dan Emmett
PM Agency: Bureau of Land Management
PM Office: Vernal
Lead: Bureau of Land Management
WRI Region: Northeastern

Description:

The proposed project will target 174 acres of Russian olive and tamarisk by cut and piling sawed trees, and treating the stumps with paint on herbicide.

Location:

The White River is located in Uintah County, just south of Vernal Utah. Water quality assessment for the White River is a category 2 (not impaired)

PROJECT NEED

Need For Project:

The White River corridor has become increasingly dominated by Russian-olive (Elaeagnus angustifolia) and tamarisk (Tamarix chinensis). These invasives replace native plant communities by creating dense monocultures that prevent native plant species from establishing or re-establishing along the riparian corridor. The impacts from these monocultures include the reduction and elimination of native plant communities that directly reduces plant community diversity, insect diversity, wildlife habitat diversity, and aggressive fuels accumulation and river channel narrowing. Additionally, these monocultures can trap more sediment, armor the stream bank preventing lateral dissipation of stream energy, effectively narrowing and deepening the channel. This disconnects the stream from the riparian zone, and reduces the amount floodplain and backwater habitat available to juvenile fish; which is important habitat for many of the native fishes found in the White River. Control and removal of both Russian-olive and tamarisk infestations is critical to a healthy and functioning riparian system which directly affects the overall health of the watershed. The goal of this project is to reduce Russian-olive and tamarisk densities and infestations along the White River.

Objectives:

The objective is to improve habitat across 174 acres by removing invasive tamarisk and Russian olive, along with decreasing the hazardous fuel loading.
Specific objectives are:
1) Improve the water quality of the White River
2) Decrease the stems/acre of Russian olive and tamarisk
3) Reduce hazardous fuel loads
4) Restore natural geomorphic process

Threats / Risks:

The main risk is the continued expansion and dominance of Russian-olive and tamarisk in plant communities along the White River. These species are reducing native plant diversity and densities in riparian areas. A secondary risk is the continued expansion of these invasive species into other connected tributaries and subsequent increases in fuel accumulations that could result in a more intense and extreme fire events. Large fires would ultimately lead to a loss of cottonwoods and willows and the wildlife habitat they provide and increasing the potential for more infestations of these invasive species. This cycle can then repeat all but eliminating the native riparian plant communities form the river system.

Relation To Management Plan:

Vernal BLM Fire Management Plan
*Chemical treatments would be utilized in conjunction with prescribed fire and mechanical treatments to achieve desired objectives, and to also control invasive species.
Vernal RMP ROD
Works towards Goals and objectives for Special Status Species in the Vernal RMP (pg. 128)
Vegetation Management Decisions;
*VEG-4; Manage the vegetation to attain the ecological stage that will benefit wildlife in crucial habitat and livestock grazing. Manage vegetation in remaining areas that results in high vegetation species diversity.
*VEG-5; Allow mechanical, fire, biological, cultural or chemical methods for vegetation manipulation, using the type of manipulation appropriate to and consistent with other land use objectives, and incorporating standard operation procedures and BMP's, as applicable, to protect other resources.

*VEG-9; Manage the vegetation to attain the ecological stage that will: ensure sustainability, meet authorized use allocations (wildlife,livestock),ensure species diversity.
Elk Statewide Management Plan
*Population Objective 1, Strategy C; Support objectives and strategies in this plan to protect elk habitat and mitigate losses,
*Strategy D; Support habitat improvement projects that increase forage for both big game and livestock.
*Habitat Objective 1, Maintain elk habitat throughout the state by identifying and protecting existing crucial elk habitat and mitigating for losses due to human impacts,
Habitat Objective 2,
*Strategy A; Continue to support the interagency big game range trend study of crucial ranges throughout the state,
*Strategy J; Support land management agencies in the proper management of crucial elk habitats.
Deer Statewide Management Plan
*Population Objective, Strategy B; Support all habitat objectives and strategies in this plan to protect and improve mule deer habitat
*Strategy E; Work with Federal and state land management agencies to adopt seasonal closures or travel restrictions to minimize human disturbance of wintering mule deer,
*Habitat Objective 1, Strategy B; Work with land management agencies and private landowners to identify and properly manage crucial mule deer habitats.
Strategic Management Plan for Wild Turkey 2000
Objective 2; Strategy E and F
*E. Develop a list of habitat management projects that might be applied throughout Utah turkey habitat.
*F. Design and implement at least one turkey habitat project per DWR region per year.
Yellow-billed Cuckoo, A Technical Conservation Assessment
Utah-Conservation Strategy
*Improve existing habitat quality and decrease habitat degradation
National Wild Pheasant Conservation Plan
*increase acreage by 117,000 acres to achieve rooster harvest.

Fire / Fuels:

Russian-olive alters the structure of plant communities by increasing vertical and horizontal canopy density, increasing fuel continuity, and creating volatile fuel ladders (Zouhar et al. 2008, Katz and Shafroth 2003). Tamarisk and Russian-olive can form dense, fire-prone thickets that develop into monospecific stands because of vigorous root-sprout growth following fire. The potential for more extreme fires will intensify as the density and cover of the tamarisk and Russian-olive encroachment increases, by reducing the hazardous fuel load we will be reducing the possibility for fire events. Increased fire frequency and intensity favor tamarisk and Russian-olive re-establishment over less fire-adapted native riparian species, such as willow and cottonwood, which are slower to re-sprout post-fire (Zouhar 2003).

Water Quality/Quantity:

Tamarisk and Russian olive have a major impact on hydrology and soils. Removal of tamarisk and Russian olive has been linked to saving water and over time water quality increases (Friedman et al. 2009).

Compliance:

2 PMArchaeology, Archaeology clearance will be completed by the VFL BLM , Dec 18 2014 / 6 NEPA, NEPA has been completed by VFO BLM in 2014. , Dec 18 2014

Methods:

The removal of the Russian olive and tamarisk is planned to be accomplished by the use of chain saws. Crews will cut, pile, and treat stumps with herbicide. The project will be contracted out, and the contract administered by the Northeastern UDWR region, with daily contract supervision completed by Vernal BLM office. The project is planned in the spring of 2017.

Monitoring:

To determine the effectiveness of the treatments, long-term monitoring plots will be established at a number of sites along the White River Corridor and the densities of invasive and native plants (number of individuals per unit area) will be measured. Densities will be measured pre- and post-treatment. The goal is to reduce densities of Russian-olive and tamarisk. In addition photo plots will be established before and after treatments will be taken. The BLM is in the process of hiring a hydrologist and will create a monitoring plan that will measure possible benefits of project when that person comes on board. I have informed the Division of Water Qualilty about this project, and I have asked DWQ to keep this project in mind as DWQ plans for future monitoring needs on the White River.

Partners:

Working with UDEQ and UDWR on water quality monitoring. Working with Colorado BLM specialist to coordinate efforts across state line. Working with SITLA to treat SITLA portions of the project. Working with NRCS and private landowners to treat private lands. Work with Ute tribe to treat tribal lands. Coordination with

Tamrisk Coalition and UDWR will continue. All above mentioned parties support this project.

Future Management:

Since no seed is being applied, there would be no need for any grazing deferment. Coordination through BLM range-cons and permittees has already taken place on all active allotments within the project area. Ongoing grazing would continue as presently managed.Existing management of the project area is determined to be adequate to ensure the success of the project. It is expected that over the next 10 years that cutting and herbicide maintenance will be needed to remove encroaching russian olive and tamarisk to ensure the continued productivity of the native habitat. The proposed project is expected to ensure the continued availability for forage in the future for livestock which will result in the continued viability of the ongoing grazing system.

Domestic Livestock Benefit:

Tamarisk and Russian olive can decrease the availability of water for livestock (Hill pers. comm. 2009). By eliminating large stands of tamarisk and Russian olive in this riparian system livestock will be able to utilize this system and vegetation diversity benefits this project will bring.

BUDGET

WRI/DWR	Other	Budget Total	In-Kind Total	Grand Total
$226,200.00	$0.00	$226,200.00	$10,000.00	$236,200.00

Item	Description	WRI	Other	In-Kind	Year
Contractual Services	Cut , treat, and pile will be contracted by UDWR. 174 acres @ $1,300/acre.	$226,200.	$0.00	$0.00	2017
Archaeological Clearance	Was completed by BLM 2014.	$0.00	$0.00	$5,000.00	2017
NEPA	NEPA was completed by BLM 2014.	$0.00	$0.00	$5,000.00	2017

FUNDING

WRI/DWR	Other	Funding Total	In-Kind Total	Grand Total
$195,025.00	$0.00	$195,025.00	$10,000.00	$205,025.00

Source	Phase	Description	Amount	Other	In-Kind	Year
Federal Aid (PR)			$43,500.0	$0.00	$0.00	2017
BLM HLI Northeastern	N656		$137,025.	$0.00	$0.00	2017
BLM		BLM NEPA and Cultural Resource clearance.	$0.00	$0.00	$10,000.0	2017
DNR Watershed	N362		$14,500.0	$0.00	$0.00	2017

EXPENSE

WRI/DWR	Other	Expense Total	In-Kind Total	Grand Total
$0.00	$0.00	$0.00	$0.00	$0.00

Source	Phase	Description	Amount	Other	In-Kind	Year
Federal Aid (PR)		N/A	$0.00	$0.00	$0.00	
BLM HLI Northeastern	N656	N/A	$0.00	$0.00	$0.00	
BLM		N/A	$0.00	$0.00	$0.00	
DNR Watershed	N362	N/A	$0.00	$0.00	$0.00	

SPECIES

Species	"N" Rank	HIG/F Rank
Bluehead Sucker	N4	N/A

Threat	Impact
Channel Downcutting (indirect, unintentional)	Low
Inappropriate Fire Frequency and Intensity	High
Invasive Plant Species – Non-native	Medium

Species	"N" Rank	HIG/F Rank
Humpback Chub	N1	N/A

Species	"N" Rank	HIG/F Rank
Threat		Impact
Channel Downcutting (indirect, unintentional)		Low
Inappropriate Fire Frequency and Intensity		High
Invasive Plant Species – Non-native		Low
Colorado Pikeminnow	N1	N/A
Threat		Impact
Channel Downcutting (indirect, unintentional)		Low
Inappropriate Fire Frequency and Intensity		High
Invasive Plant Species – Non-native		Medium
Big Free-tailed Bat	N3	N/A
Threat		Impact
Inappropriate Fire Frequency and Intensity		Low
Roundtail Chub	N3	N/A
Threat		Impact
Channel Downcutting (indirect, unintentional)		Low
Inappropriate Fire Frequency and Intensity		High
Invasive Plant Species – Non-native		Medium
Bonytail	N1	N/A
Threat		Impact
Channel Downcutting (indirect, unintentional)		Low
Inappropriate Fire Frequency and Intensity		High
Invasive Plant Species – Non-native		Medium
Spotted Bat	N3	N/A
Threat		Impact
Inappropriate Fire Frequency and Intensity		Low
Yellow-billed Cuckoo	N3	N/A
Threat		Impact
Channel Downcutting (indirect, unintentional)		High
Inappropriate Fire Frequency and Intensity		Medium
Flannelmouth Sucker	N3	N/A
Threat		Impact
Channel Downcutting (indirect, unintentional)		Low
Inappropriate Fire Frequency and Intensity		High
Invasive Plant Species – Non-native		Medium
Razorback Sucker	N1	N/A
Threat		Impact
Channel Downcutting (indirect, unintentional)		Low
Inappropriate Fire Frequency and Intensity		High
Invasive Plant Species – Non-native		Medium

HABITATS

Habitat

Aquatic-Forested

Threat	Impact
Channel Downcutting (indirect, unintentional)	High
Invasive Plant Species – Non-native	Medium

Aquatic-Scrub/Shrub

Threat	Impact
Invasive Plant Species – Non-native	Medium
Salinity Alteration (of water)	Medium

PROJECT COMMENTS

Comment 01/19/2016 Type: Project Commenter Tory Mathis

In the monitoring section, there is a passing reference to monitor water quality. Can you be more specific about what will be done to monitor water quality?

Comment 01/21/2016 Type: Project Commenter Dan Emmett

Working with Scott Hacking with DEQ and Mike Fiorelli with UDWR on monitoring the White River for water quality. I have added this statement to Monitoring section.

Comment 01/21/2016 Type: Project Commenter Tory Mathis

I didn't see anything added to the Monitoring section, but your statement here in your comment still doesn't adequately address my question. What specific methods will be used to monitor water quality?

Comment 02/01/2016 Type: Project Commenter Dan Emmett

To monitor vegetative benefits of this project will be done by setting up long-term monitoring plots will be established at a number of sites along the White River Corridor and the densities of invasive and native plants (number of individuals per unit area) will be measured. Densities will be measured pre- and post-treatment. The goal is to reduce densities of Russian-olive and tamarisk. In addition photo plots will be established before and after treatments will be taken.
UDWR is studying mercy and selenium levels in fish in the White River. Will continue to work with UDWR to see if more relevant pollutants can be measured in the future.
DWQ is updating their monitoring plan for the Uintah Basin. Will be using existing data that has been collected on the White River and will be working with DWQ to create a monitoring plan that will monitor benefits of this project.

Comment 01/19/2016 Type: Project Commenter Tory Mathis

I agree with your statement in the future management section that cutting and herbicide maintenance will be needed to maintain the productivity of the treatment area. I am curious as to how you envision that maintenance will occur. Will it come in the form of future WRI requests or will the BLM's regular weed management program/personnel handle this sort of maintenance?

Comment 01/21/2016 Type: Project Commenter Dan Emmett

I am working with BLM weed personal to maintain treated areas. As treated area gets bigger and bigger and if weed personal are not able to maintain treated areas I will request help. I envision that BLM weed personal will be able to maintain treated areas.

Comment 01/19/2016 Type: Project Commenter Tory Mathis

On the Species threats portion of the proposal, you list "unauthorized species introductions" for several native fish species as a threat this project is addressing. I suspect this threat, for these species, was intended to describe other fishes (e.g. small mouth bass, which prey on native fish) rather than non-native plants.

Comment 01/21/2016 Type: Project Commenter Dan Emmett

Yes that is what I meant.

Comment 01/21/2016 Type: Project Commenter Tory Mathis

I guess I'm not clear on what your reply means. If you meant to say this project addresses the threat of non-native fish introductions (e.g. smallmouth bass), how does this project address that threat? If you meant to say this project addresses non-native plants, then you need to remove the "unauthorized species introduction" threat for each species on which it is listed, and add the threat of "invasive plant species."

Comment 01/22/2016 Type: Project Commenter Dan Emmett

I only found unauthorized threat once. I am having hard time with changes being saved. Let me know if I missed something. Thanks

Comment 01/20/2016 Type: Project Commenter Randall Thacker

As a Wildlife Biologist in the Basin for over 20 years I have real concerns over claiming that Russian Olive removal will in any way benefit Wild Turkey and Upland Game as you list on the proposal. We would all love to have Russian Olive removal be a benefit to these species, but the reality is that Russian Olive is a huge benefit to wild turkeys and most Upland Game. Even though we all hate it, it is an incredible feed source and provides excellent escape cover for those species. Whenever it's been removed it in other places in the Uinta Basin wild turkeys, quail, pheasant, etc... have all decreased in number instead of benefiting. Removing it will almost certainly be negative for Wild Turkey and most Upland Game. They do not care if it is native, it's a great food source that is much more productive than the native buffalo berry, sumac, etc... These wildlife species should not be listed as beneficiaries for this project. I understand that Russian Olive needs managed but it is misleading to imply that these species will benefit when in reality it is a negative for those species.

Comment 01/21/2016 Type: Project Commenter Dan Emmett

Turkeys have been deleted

Comment 01/25/2016 Type: Project Commenter Tory Mathis

I am unfamiliar with the habitat requirements for bats and am unsure how this project will benefit Big Free-tailed Bat and Spotted Bat. Will you please explain?

Comment 02/04/2016 Type: Project Commenter Dan Emmett

This project will hinder or reverse the river corridor from become monocultures of Russian olive or tamarisk. This will promote vegetative and insect diversity. We have monitoring data that these two species are using this area.

Comment 01/25/2016 Type: Project Commenter Tory Mathis

You list Yellow-billed Cuckoo as a benefiting species, but one of the threats to this species identified in the Wildlife Action Plan is "Brush Eradication/Vegetation Treatments." Isn't removing Russian olive a form of brush eradication that would be a threat to yellow-billed cuckoos, instead of a benefit? They require both large canopy cover trees such as cottonwoods combined with a dense sub-canopy of shrubs. If you are not replacing the Russian olive with native shrubs to fill the same structural need, how does this project actually benefit Yellow-billed cuckoo?

Comment 02/04/2016 Type: Project Commenter Dan Emmett

The White River is very unique in the fact that it has all of the age classes of cottonwood along its banks. If you are talking structure or canopy cover you have that covered with the native willow and cottonwood on the White River. These young cottonwoods and willows are being suppressed by Russian olive and tamarisk. In its current state the White River doesn't have a lot of Cuckoo habitat according to USFWS criteria. If Russian olive and tamarisk are eliminated or controlled these younger cottonwoods will grow and cottonwood stands will expand. This will result in more or better quality habitat for cuckoo. This project is being done in phases. Completing this project in phases will minimize impacts and impacts will be short term. Overall this project will create and/or improve habitat for the cuckoo.

Comment 01/26/2016 Type: Project Commenter Leah Lewis

I do see treatment and management of Russian Olive and Tamarisk as an important aspect for improving riparian health. In regards to the Yellow-billed Cuckoo, I would assume that you could conduct breeding surveys prior to treatments to minimize direct impacts? Or possibly use last years breeding survey results to indicate whether your treatment locations are within a breeding territory?

Comment 02/04/2016 Type: Project Commenter Dan Emmett

It has not been designated by USFWS as habitat and we have been surveying this area and will continue to survey. We have not yet identified a breeding territory but have documented migratory use.

Comment 01/28/2016 Type: Project Commenter Scott Hacking

Scott Hacking

Dan on the WQ monitoring, I would inform Carl Adams and Jim Harris of DWQ about your proposed project, and ask them to keep your project in mind as they create a new WQ sampling and monitoring plan in the Uintah Basin. The timing on your project is great, as the new monitoring plan for the next 5 years going forward will be revised and updated this year. More intensive monitoring for the White River would be a good thing.

As far as existing WQ data on the White River, we do have historical WQ data for the White River at the U45 crossing (Storet #4933970 and #4933980) and two more sites about 10 miles downstream near Asphalt Wash (#4933850 and #4933920). We can provide that historical data upon request.

Comment 02/04/2016 Type: Project Commenter Dan Emmett

Thanks for all of the info and contacts. I will be contacting Carl and Jim to see what we can work out. When the new BLM hydro comes on board I am sure we will be request data.

COMPLETION

Start Date:

End Date:

FY Implemented:
2017

FY Completed:

Final Methods:
N/A

Project Narrative:
N/A

Future Management:
N/A

Map Features

ID	Feature Category	Action	Treatment/Type
5072	Terrestrial Treatment Area	Herbicide application	Spot treatment