WEST RIVER "You have choices, we just do it better"

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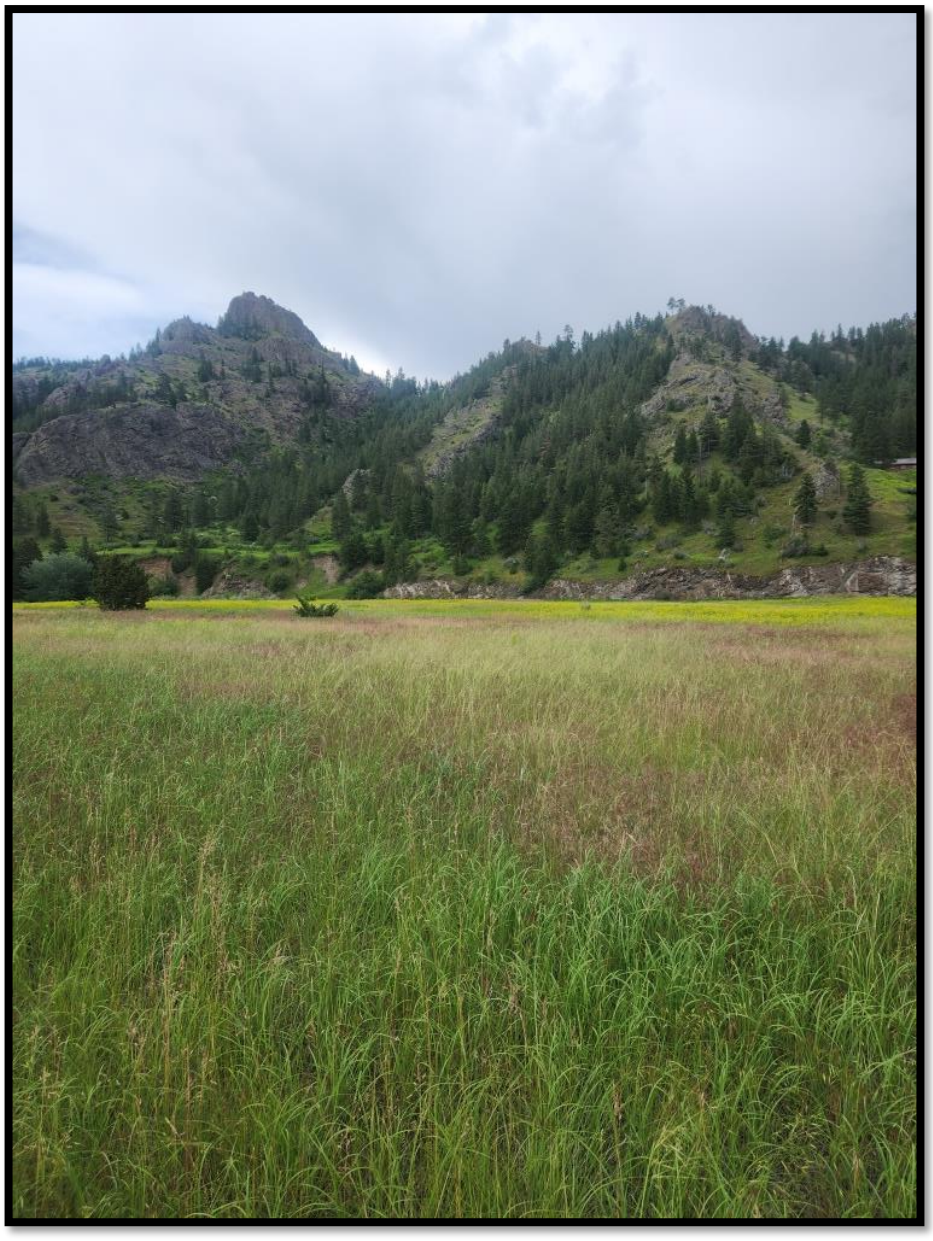
# Missouri River Islands – 2024
# Noxious & Invasive Weed Management



Prepared by:

West River Land Management, LLC

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# 2024 Application

## Total acreage: ~ 190 acres managed

Through GPS tracking, waypoint setting, and polygon construction of all gridded, mapped and/or sprayed areas, we were able to show approximately 190 acres covered by our crews. This number does not include spraying done on Devils Kitchen Ranch, or BASD Properties. Herbicide application was selective across the area to ensure efficacy, and to limit unnecessary damage to native plants and grasses. A total herbicide summary is tabulated at the end of this report, and is equivalent to 25.5 acres of herbicide applied, which is down ~9 acres from last year. This is a good sign as it shows a decline in the total amount of herbicide needed to cover a similar acreage total.

Access for the application was done utilizing a 16ft raft, and a combination of private and public boat ramps. Our raft is equipped with a 35gal tank that is mounted to the frame, herbicide is then transferred to 5-gallon backpacks. We found backpacks are the most efficient way to cover more ground within the interior of the islands. Our focus was to continue pushing back noxious weeds growing on the large islands between Holter Dam and Pelican Point FAS– as well as select islands downstream to Cascade. Because of the success we have seen in the past utilizing our Intelli-Sprayer in larger open areas, it has enabled us to transition to backpack sprayer use due to the decrease in the overall number of noxious weeds. All herbicide was applied to noxious weeds growing above the high-water mark. Buffers were given along banks, under trees, and in areas where leeching was a concern due to soil type.

**Summer Application:**
The summer application occurred from August 2nd – August 15th. Spotted Knapweed and Canada Thistle were our primary targets on the upper portion of the river, with Dalmation Toadflax and Houndstounge as secondary targets. We also found and sprayed small amounts of Leafy Spurge throughout this stretch. Below Stickney Creek FAS, Leafy Spurge, Houndstounge, Dalmation Toadflax, Canada Thistle, and Whitetop all become prevalent. Our areas of concentration were islands above the high-water mark, and a few select banks identified by UMOWA and cooperating landowners.

Overall, we continue to see positive application results, with most of the regrowth and remaining weed infestations being limited to high traffic areas, and dense vegetation zones. We will continue to monitor these areas to ensure infestations do not spread out from the areas of dense vegetation that they have been limited to. Many of the islands we are treating see significant traffic along banks and trails from recreational floaters, fishermen, pets, and wildlife. This traffic will continue to contribute to the spread of seeds throughout the river corridor.

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**Observations:**
We were able to document a lot of success from last year's application. We are seeing a trend of fewer overall mature weed stands on islands, and more native grass and forbs coming back. The successful mitigation of the different noxious weed species has led to the use of varying equipment, allowing us to broaden our impact on overall noxious weed mitigation and revegetation efforts.

The most prevalent noxious weeds continue to be Spotted Knapweed, Leafy Spurge, Canada Thistle, Whitetop, Houndstounge, and Dalmation Toadflax. This season we noted an overall increase in the amount of Poison Hemlock we encountered, along with an increase in Houndstounge on the large islands directly upstream of the Cascade bridge. It is normal to observe an increase in secondary weed growth once an established stand of a particular weed type is controlled. In this instance we were able to mitigate large stands of Leafy Spurge on those islands in 2022, and found areas of Houndstounge occupying the same areas in 2024. Through successful management we're seeing significantly less of these noxious weeds overall, but continued mitigation is necessary to maintain a manageable level of invasive weeds, and to allow native vegetation a chance to reestablish.

In some areas, such as Eagle Island, certain environmental factors have led to large amounts of cheatgrass growing in place of the weeds that have been treated. While these types of areas are limited, we still maintain a focus on getting these areas through the cheatgrass infestation period, while fending off noxious weeds from coming back until native grasses and forbs can be established. On Eagle Island, we're working with UMOWA and FWP to establish multiple ¼ acre test plots to evaluate what method of Cheatgrass control and native revegetation will be the most effective in these areas. If we're able to show multi-year success through these test plots, the goal would then become to emulate that success across other islands and banks throughout the project area.

*Cheatgrass Example*

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**Herbicides Used:**
The following herbicide types and amounts were used. These were submitted to UMOWA and the Montana Department of Agriculture and approved prior to use. All herbicide label precautions and directions were adhered to, including re-entry intervals and notifications when necessary.

Herbicide Rates:
Mix #1
Tordon @ 1 quart/acre
Platoon @ 1 quart/acre
Escort @ 1 ounce/acre
Mix #2
Method @ 8 ounces/acre
Escort @ 1 ounce/acre
Mix #3
Method @ 8 ounces/acre

This mix was for general broadleaf weed control and was applied in accordance with the label recommended application rates. Precautions were taken to adhere to all label requirements. A non-ionic surfactant (Liberate) was used at all times for assisting the herbicide mix attachment and uptake by the plant.

Total Herbicides Used:
Tordon: 16 quarts
Platoon: 16 quarts
Method: 76 ounces
Escort: 22 ounces/weight

Thank you again, and we look forward to working with you in the future.

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# Missouri River Weed Control – 2024

2024 Application Photos

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*Before #1*

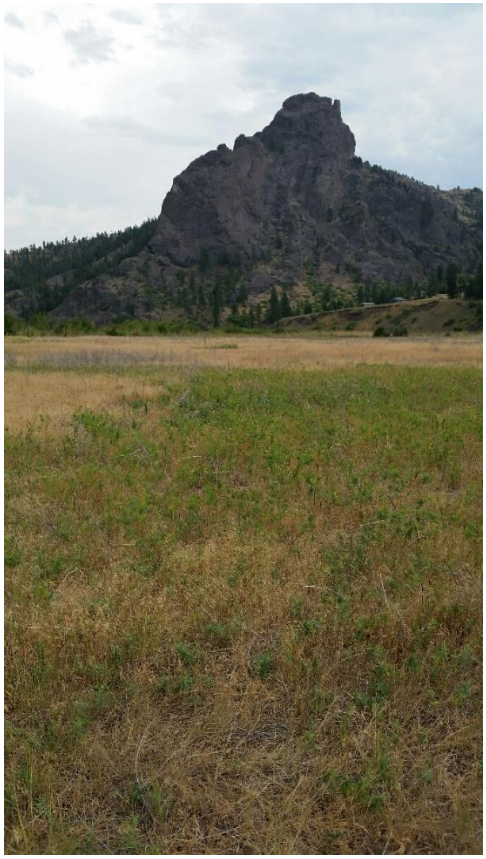
*After #1*

*Before #2*

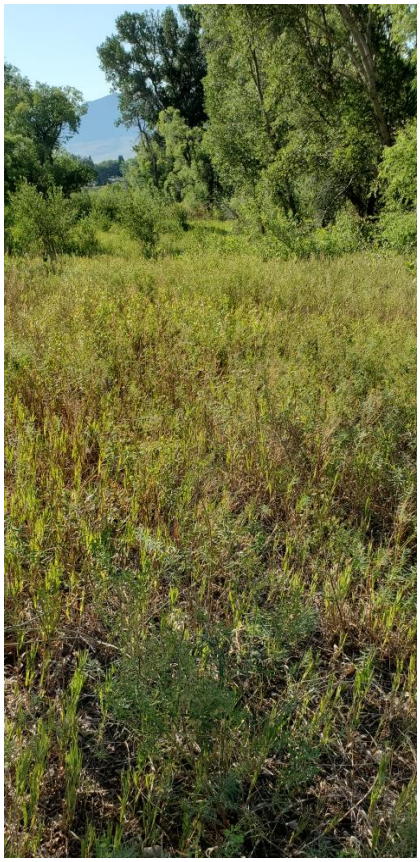
*After #2*

*Spotted Knapweed Before #3*

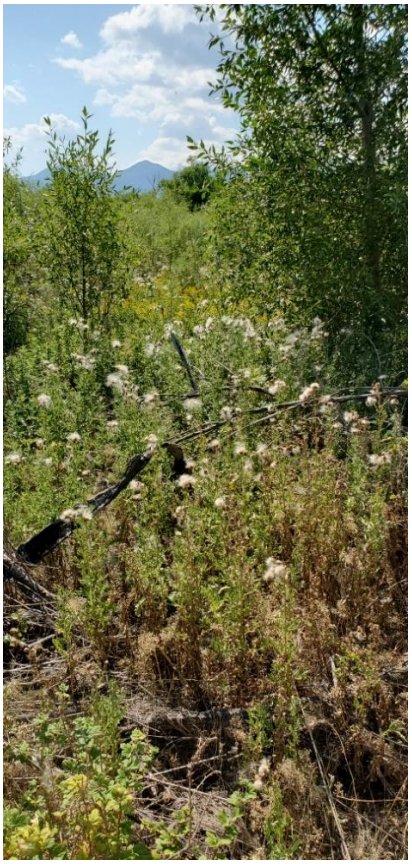
*Spotted Knapweed After #3*



*Leafy Spurge, Cheatgrass Example*



*Leafy Spurge*



*Canada Thistle, throughout thick vegetation*