



"You have choices, we just do it better"

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Missouri River Islands – 2023 **Noxious & Invasive Weed Management**



Prepared by;

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We provide weed control solutions that restore ranges

2023 Applications

Total acreage: ~ 100 acres managed

Through GPS tracking, waypoint setting, and polygon construction of all gridded, mapped and/or sprayed areas, we were able to show approximately 100 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 so as not to waste herbicide or damage unnecessary plants and grasses. A total herbicide summary is tabulated at the end of this report and is equivalent to 34 acres applied. Access for the application was done utilizing a jet boat when water levels on the Missouri River were favorable. Our applicators use a combination of backpack sprayers and an Intelli-Sprayer equipped with a 300ft hose reel to spot spray noxious weeds growing on large islands between Holter Dam and Pelican Point FAS, as well as select islands downstream to Cascade. Herbicide was applied to noxious weeds growing above the high-water mark. Buffers were given along banks and in areas where leeching was a concern due to soil type.

Summer Application:

The summer application occurred from June 22nd – June 29th. Spotted Knapweed and Canada Thistle were our primary targets on the upper portion of the river, with Toadflax and Houndstounge as secondary targets. Below Stickney Creek FAS, Leafy Spurge becomes the main priority, with other weeds existing in more limited numbers. Our areas of concentration were larger islands above the high-water mark. As seen in the picture below (Eagle Island), the Summer 2022 and 2023 applications took place during the late bolting/early flowering stages. Overall, we're observing positive application results, with the majority of regrowth and remaining weeds limited to high traffic areas and dense vegetation. The photos below are a great indicator of what a sprayed vs unsprayed area looks like, with native grasses starting to take over space that was previously all noxious weeds.



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Observations:

In previous years the most prevalent weeds have been Spotted Knapweed, Leafy Spurge, Whitetop (Hoary Cress), and Canada Thistle. Through successful mitigation we're seeing significantly less weeds overall. Prior to our 2022 application we observed a significant amount of cheatgrass on a handful of islands between Holter Dam and Craig. Mitigating noxious weeds on these islands has perpetuated cheatgrass growth in pockets where soil type makes it difficult for native grasses and forbs to grow, as well as locations where cheatgrass is already established throughout mature weed stands. One example is the large island directly downstream of Wolf Creek Bridge, which contains a rocky bench that was previously infested with Spotted Knapweed. Once treated the cheatgrass spread into areas where knapweed existed, this is typical of areas with rocky/sandy soils where native grass and forbs struggle to compete. We also observed a large infestation of wood boring ants on the same island. This has contributed to significant tree and forb damage throughout the island.

Regrowth of noxious weeds is primarily limited to areas below the high-water mark, along with locations that have high amounts of human and animal traffic. Most of these islands see significant traffic along banks and trails from recreational floaters and fishermen, contributing to the spread of seeds throughout the river corridor. Overall, we have observed significantly less weeds each season, and have been very pleased with the results. We have observed limited new weed growth in areas we have previously sprayed, which is typical of established weed stands that produce large seed banks. In these locations that previously contained large infestations of Spotted Knapweed, we're now observing significant native grass regrowth. We're also observing similar results with Leafy Spurge and Toadflax as shown below in the photos of Eagle Island.



Herbicides Used:

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

Summer Application:

Method @ 8 ounces/acre

Escort @ 1 ounce/acre

Liberate as surfactant

This mix was for general broadleaf weed control, and was applied in accordance with the label recommended application rates. Precaution was 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:

Method: 272 ounces

Escort: 34 ounces/weight

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

West River Land Management, LLC



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Missouri River Weed Control – 2023

2023 Application Photos



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