

# 2024

## Huerfano County Noxious Weed Department Monthly Report

### MAY-JUNE 2024 WORK ACTIVITY TOPICS

1. End of Season Treatment for Priority B List Species
2. Landowner Outreach
3. Diorhabda Relocation
4. Fall Woody Species Treatments
5. Brush Bullet Applicability Test Sites & Key Takeaways
6. GIS Asset Mapping & EDDMaps
7. CWMA Board Nomination
8. Moving Forward



Charles Bryant

Huerfano County Government

11/7/2024

## Table of Contents

**Page**

---

**Topic #1:** End of Season Treatment of Priority B List Species

**Topic #2:** Landowner Outreach

**Topic #3:** Diorhabda Relocation

**Topic #4:** Fall Woody Species Treatments

**Topic #5:** Brush Bullet Applicability Test Sites & Key Takeaways

**Topic #6:** GIS Asset Mapping & EDDMaps

**Topic #7:** CWMA Board Nomination

**Topic #8:** Moving Forward



### **1. TOPIC #1: End of Season Treatments for High Priority List B Species**

During the months of September and October work is primarily focused on the late season treatment of biennial and perennial broadleaf species, particularly Scotch, musk & Canada thistle, leafy spurge and Russian knapweed. The majority of areas treated were considered “retreatments” as most of the areas have been previously addressed earlier in the season. The ample moisture during this period provided ideal conditions for late season growth. One of the more problematic areas found was within Navajo Ranch where fiber optic cable has been installed. The disturbed soil sites caused by this work have triggered a considerable flush of Scotch thistle seedlings. Upper Western Navajo saw the greatest density of seedlings (of which were treated) while areas to the east had lesser densities. It is anticipated that this area will need additional work during the 2025 season.

Leafy spurge was also fairly prolific, with the bulk of work taking place west of La Veta. Retreatments within 2023 treatment areas showed around a 60% stand reduction. The greatest improvements were noted along the confluence of Middle, Indian, Oak and Abeyta Creeks. This particular area has been of high strategic importance for all high priority species given the heavily infested nature of these areas both before and after the 2018 Spring Fire.

### **2. TOPIC #2: Landowner Outreach**

In cooperation with our partners at the Colorado Department of Agriculture, the Natural Resources Conservation Service, Upper Huerfano Conservation District and USFS we have continued to assist Huerfano County landowners through our state funded Landowner Assistance Program. Through this service we provide technical and on the ground assistance for landowners affected by high priority noxious plant species. Given the fact that our funding for this program runs through the end of this year, during the upcoming weeks staff will begin the final reporting and uploading of species distribution mapping associated with the site\landowners assisted. Staff will explore what similar funding opportunities might be available to assist Huerfano County residents for the upcoming 2025 season. The state-issued reimbursement for this program is anticipated to arrive in early 2025.

### **3. TOPIC #3: Adult Diorhabda Relocation**

Given the high population of adult Diorhabda present on the Thorne Ranch in September of this year (as viewed by the BOCC during the Thorne Ranch visit), approximately 600-800 adult beetles were captured for relocation to the Muddy Creek drainage in far northwestern Huerfano. The Muddy Creek site is at the highest elevation range common for both tamarisk and Diorhabda establishment, being around 7,300-7-500'. Should this colony successfully establish, it will be among the highest elevation population in North America, joining the ranks of our other record high elevation sites. The timing of this release was just before the adult Diorhabda entered their winter dormancy. The overall goal of this high elevation release site is to establish populations that are tolerant of adverse high elevation conditions, allowing the control of tamarisk stands that would otherwise not be targeted by the lower elevation favoring established populations. It is anticipated that these Huerfano born and bred Diorhabda will have better acclimated to our unique site conditions, unlike those reared in a controlled setting as those from the Palisade Insectary.

#### **TOPIC #4: Fall Woody Species Treatments**

During the fall season our target woody species are in their most vulnerable state as they ready themselves for overwintering. Herbicides applied at this time have the best translocation within the target plant, providing the highest level of control possible within the treatment season. Our primary woody species targeted during this time are Russian olive and tamarisk, with a greater emphasis being placed on Russian olive as there are no biological controls available as there are for tamarisk. Work has continued among previously treated areas within the Thorne Ranch that required additional work, with efforts advancing into previously untreated areas within the eastern portions of the ranch. Tamarisk is treated when found in isolated areas, while areas that provide travel\site linkage for transient *Diorhabda* populations are generally avoided due to the biological controls avoidance of chemically treated trees due to plant induced repellent pheromone production.

Our treatments for woody species this fall have mainly been performed with the *Ez-Ject* herbicide lance as it has proven to provide the greatest level of control towards the target species. This system utilizes .22 cal brass casings which are filled with concentrated imazapyr. These cartridges are inserted into the lance which is a six foot long device that holds 400 shells. The end of the lance is placed against the base of the target tree\brush at about a 45 degree angle and a firm thrusting motion is made which delivers the herbicide laden shell into the cambium layer of the target tree. While the delivery of the herbicide is somewhat delayed requiring 12-18 months for full effect, it has resulted in around a 95% control rate in sites where it has been utilized. This system has been very useful during periods of inclement weather where other treatment methods would not be feasible. The residual qualities of imazapyr provide extended control of other Russian olives and noxious species that may sprout or have a root system in close proximity to the targeted plant.

Other sites treated include upkeep of an NRCS EQUIP Program site on the Huerfano River, treatment of sporadic Russian olive populations among the rights-of-ways in the La Veta and Gardner areas and retreatment of Russian olive\tamarisk within the Fiesta Park trail system. Additional upkeep work was performed among Huerfano County owned lands in the Bosque, primarily focusing on Russian olive regrowth from the flood mitigation work performed in 2019. While normally not targeted for treatment, staff have begun treating certain native species that either pose hazards or compromise Road & Bridge assets, especially concerning the growth of woody vegetation that obstructs culverts or cattle guards. These treatments have taken place during our routine GIS asset mapping efforts that are described later in this report.

#### **TOPIC #5: Brush Bullet Applicability Test Sites & Key Takeaways**

Our department would first like to thank Mr. Hribar, Mr. Young and the Huerfano BOCC for allowing us to explore this relatively new treatment approach. After purchase of the necessary equipment, department staff established a number of test\monitoring sites so that staff can determine the suitability and best use sites for this new treatment approach. Each of the test sites was chosen due to their contrasting soil and native plant compositions. The active ingredient of *Brush Bullet* is hexazinone, which is delivered in a solid form projectile that is eventually dissolved by subsequent moisture of 0.75" or more. Upon being dissolved the roots of the target plant uptake the herbicide. Given this delivery route, soil texture and composition heavily dictates the movement and persistence of the herbicide within the site.

##### **Site #1**

Our first site was established in the Dog Springs arroyo on the south Thorne property in a predominately sandy area occupied by tamarisk and native coyote willows. This site is being used to document the mobility of the herbicide within

sandy soils and to determine to what extent desirable native species (like coyote willows) are impacted. A small, dense stand of willows was located with heavy stands of old growth tamarisk on either side (upstream & downstream). Brush Bullets were applied at the recommended rate among the tamarisk on either side of the willows. This site will be monitored in the spring and early summer of 2025 to determine what impacts the chemical application may have had on target and non-target species.

#### **Site #2**

The second site selected was within the eastern portion of the primary Thorne Ranch within a cottonwood gallery type setting with moderate amounts of Russian olive and tamarisk. Unlike the previously described site, this area had heavy clay soils with a fair amount of organic matter. This site is being used to document the mobility and persistence of the herbicide in heavy clay soils as this type of soils lends the least potential for mobility given the high number of charge\adsorption sites carried by each soil particle. While the mobility of the herbicide is anticipated to be reduced, its persistence will likely be enhanced due to the qualities of the clay soil. One mitigating factor related to persistence maybe the enhanced biological activity within the organic surface litter which will lend to a greater degree of biodegradation.

#### **Site #3**

The third site was established inside the La Veta\Huerfano County Fairgrounds within a select number of the corral alleyways to the north of the rodeo arena. According to the Brush Bullet manufacturer, the product can be used for total vegetation control when used at the appropriate application rate. This site will be used to determine the products applicability for bareground\total vegetation control efforts in industrial and ROW settings, especially in sites that are difficult to access with traditional spray equipment. Department staff anticipate that this product may prove to be very useful for small areas like those found in the rodeo ground corrals, inside cattleguards and near fixed airport runway lights. This application was made by hand dispersal rather than using the pneumatic marker.

#### **Site #4**

The fourth site was established among a dense Russian olive monoculture with primarily sandy soils adjacent to the Huerfano River. Being nearly wholly occupied by Russian olive, this site allowed staff to perform a wide area treatment within dense old-growth where sensitive native vegetation was not present. This site will be used to determine the efficacy of the product when used liberally in a heavily infested site containing tall and large diameter trees.

#### **Site #5**

The fifth site was established among the large coyote willow and native clematis monocultures that occupy the easternmost portions of the hayfields on the Thorne Ranch. Nearly half of this area had been treated with foliar sprays in 2023 which provided exceptional control. The other half of the area is located in such a manner that spray equipment cannot reach it due to heavy vegetation and depressions. This previously untreated area was targeted for treatment using the Brush Bullet due to the fact that the herbicide could be applied from afar. A number of hard to reach Russian olive that had gone untreated were addressed as well. This site will be used to determine the products suitability towards controlling coyote willows that even though are native, are the bane of many landowners in our area, especially the Gardner and La Veta areas.

## Key Takeaways Utilizing the Brush Bullet System

Given the slow acting nature of the herbicide, it will not be until next spring\early summer that the full effects will be apparent among the targeted areas. However, from an application standpoint, the Brush Bullet treatment approach is much more efficient than other common treatment methods. Sites such as those described for test sites 1,2,4 and 5 took a minimal amount of time to treat due to the fact that each individual tree\bush did not have to be approached as required for other methods. From a fixed point, staff was able to treat areas that provided little to no access. Sites that had a looser or damp soil texture, or that had some degree of leaf litter were found to be more favorable as it relates to preventing ricochets or fracturing of the projectile. Multi stemmed plants such as tamarisk and willows also helped prevent the off-target defelection of projectiles given the funnel type growth structure that caught and directed the projectile to the basal portion of the target plant.

The occurrence of ricochets was greatly reduced by lowering the discharge pressure of the marker and by developing a “mortar” like shot technique where the projectile was fired at low pressure from a near upwards\vertical angle, allowing the shots to arch in such a manner that they fall into the targeted patch from above, rather than being shot in from a horizontal angle into the side. This technique was particularly useful among the large willow patch described for test site #5.

While the herbicide is intended to be primarily applied by the pneumatic marker, our department anticipates that the Brush Bullet will be very useful in sensitive areas where it can be inconspicuously applied by hand, thereby preventing undue public concern that comes with traditional spraying and that which would certainly come with “shooting” plants. This application technique may prove to be very effective and efficient for control of unwanted vegetation in small treatment areas like around runway lights, cattleguards, fire hydrants, etc.



Brush Bullet Projectiles



Russian Olive Treatment  
@ Thorne Ranch



Partially Dissolved Brush  
Bullet After Application  
(0.21" of rain)

## **TOPIC #6: GIS Asset Mapping & EDDMaps**

As field work subsides for the season, staff begins to upload all species mapping data gathered throughout the season into the EDDMaps system. The CDA requires the sharing of this species distribution mapping data on an annual basis so that they can amend and/or establish statewide treatment goals. EDDMaps serves as the central portal where this information is received. The records for Huerfano, all other counties in Colorado and the entire nation can be viewed at [eddmaps.org](http://eddmaps.org). Search queries can be tailored to species, region, date, treatment status, etc. The complete upload of this information is anticipated to be completed by December 2024. Our next report will provide the BOCC with our total treated acres by species for the 2024 season.

During the recent days of inclement weather staff has also resumed a dedicated effort towards collecting condition assessments for R&B assets, mainly cattleguards and culverts at this point. While data was gathered during the course of noxious weed field work this season, there were a number of the more inconspicuous culverts that were inadvertently missed. Also, the data recorded will need to be transferred to the Diamond Maps system (due to it being comingled with weed mapping) as an alternate platform is used for mapping noxious weeds. Last season the assets east of I-25 were mapped, while this winter season staff will be focusing on the western portion of the county, south of Hwy 69. Given the topography of western Huerfano, progress is likely to be somewhat slower given the increased number of assets in the area, especially culverts.



Original CF&I Culverts on Ideal Road

**TOPIC #7: CWMA BOARD OF DIRECTORS NOMINATION**

In August of this year the President of the Colorado Weed Management Association (Marissa Neuzil), asked that I (Charles Bryant) consider serving on the CWMA Board of Directors. Being receptive to this opportunity and keeping in mind that our region is often underrepresented at the state level, I accepted the nomination for the position. There are currently two openings on the board and inside reports indicate that we are in a very favorable position to be awarded one of the open seats. Should I advance to this position, I am hoping to be an advocate for Huerfano and other liken countys that have historically been in a fiscally disadvantaged position compared to their other (especially front range) counterparts. I also look forward to assisting the CWMA in their efforts to ensure that pesticide legislation is developed in a responsible, scientific manner so that land managers have the greatest amount of tools at their disposal to combat the spread of invasive plant species. The misguided policies regarding local pesticide preemption will once again be at the forefront of issues in the new legislative year here in Colorado and will likely be a national issue as well given the rhetoric of the assumed successor to the Federal Health and Human Services Director position. I would like to thank the Huerfano BOCC for their concern and opposition towards these issues during the recent 2024 Colorado legislative session.

**TOPIC #8: MOVING FORWARD**

As field duties subside with the onset of colder months, department staff will be closing out the grants received during 2023-24 and will be providing the required annual reports to the state, along with species distribution mapping. Time will also be spent preparing for the department's upcoming presentation for the Upper Arkansas Weed Management Association's Annual Conference. As mentioned in the previous report, our topic will be environmental protection utilizing biological control agents, particularly as it relates to the sensitive areas within Cuchara Canyon. I look forward to promoting the work that we have done with biological controls in our region and the force multiplying effect that they have for a small department like ours.

Upon completion of my seasonal office work, I will be focusing on the application of preemergent herbicides around county facilities as well as targeting invasive woody species as the late fall\early winter months provide an ideal control window. I plan on continuing work within the Huerfano River corridor on the Thorne Ranch along with our continued work along the Cuchara River in areas around Walsenburg.

Thank you all again for your continued support, please reach out if you have any questions or concerns.

Respectfully Submitted,

Charles Bryant-Huerfano County Noxious Weed Manager