

Ventenata Invasive Grass Control

Targeted Implementation Plan

January 28, 2019

Montana Focused Conservation Planning Strategy

Hardin USDA-NRCS Field Office

****Note* June 23, 2020 - Addendum added at the end of the document for TIP modification to request an additional 3000 acres of Herbaceous Weed Treatment***

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Ventenata Invasive Grass Control Proposal

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The purpose of this project is to assist landowners in proactively addressing control of ventenata in Big Horn County through proper rangeland management, education, and chemical control methods before this invasive grass becomes widespread.

Project Background

For years, Cheatgrass has been the common invasive grass species on rangeland in Big Horn County, as well as on many other ranches throughout Montana. Recently, other invasive grass species such as Ventenata (*Ventenata dubia*, commonly referred to as African Wiregrass), has begun to raise concern on Montana ranches as well. As of the date of this proposal, Ventenata is not yet listed as a noxious weed by the State of Montana, nor is it listed as a noxious weed in Big Horn County.

A brief description from the USDA-NRCS Plant Guide for Ventenata states:

“Ventenata is beginning to replace perennial grasses and forbs along roadsides and in hay, pasture, range, and CRP fields in the western U.S. In addition to having minimal forage value for livestock or wildlife, Ventenata is also undesirable because its shallow root system may cause the soil to be more prone to erosion. Over time, decline of productivity and land value occurs.” With 2/3rds to 3/4ths of Big Horn County’s land base consisting of rangeland, control of Ventenata is of prime importance.

Controlling invasive weeds, as well as getting more education regarding weeds, in Big Horn and Rosebud Counties has been highlighted as a priority in past Local Working Group meetings. For the FY2019 Crow Tribal LWG meeting held March 18, 2018, the number one Priority Resource is, “Degraded Plant Condition – Excessive Plant Pest Pressure.” This SI would specifically address this resource concern. According to the FY2019 Big Horn County LWG meeting held February 1, 2018, the LWG group added the comment, *“The Big Horn County Local Work Group agreed there is a need to continue support for rangeland soil health education within Big Horn County, included invasive species awareness and control....* According to the FY2018 Northern Cheyenne Tribal LWG meeting held on November 15, 2017 (the FY19 LWG meeting has not yet been held), it was noted in the minutes, *“... Attendees believed that weeds on all land uses should be the priority concern....”*



Ventenata infestation about seven miles east of Pryor, MT, circled in yellow. Photo courtesy of Randell Hopkins, USDA-NRCS.



Close up of a heavy Ventenata infestation. Note the thin clover and smooth brome plants as the only other plants growing in the infestation. Photo courtesy of Randell Hopkins, USDA-NRCS.



Ventenata infestation in Big Horn County. Note the smooth brome and clover as the only other plants growing in the infestation. Photo courtesy of Randell Hopkins, USDA-NRCS.

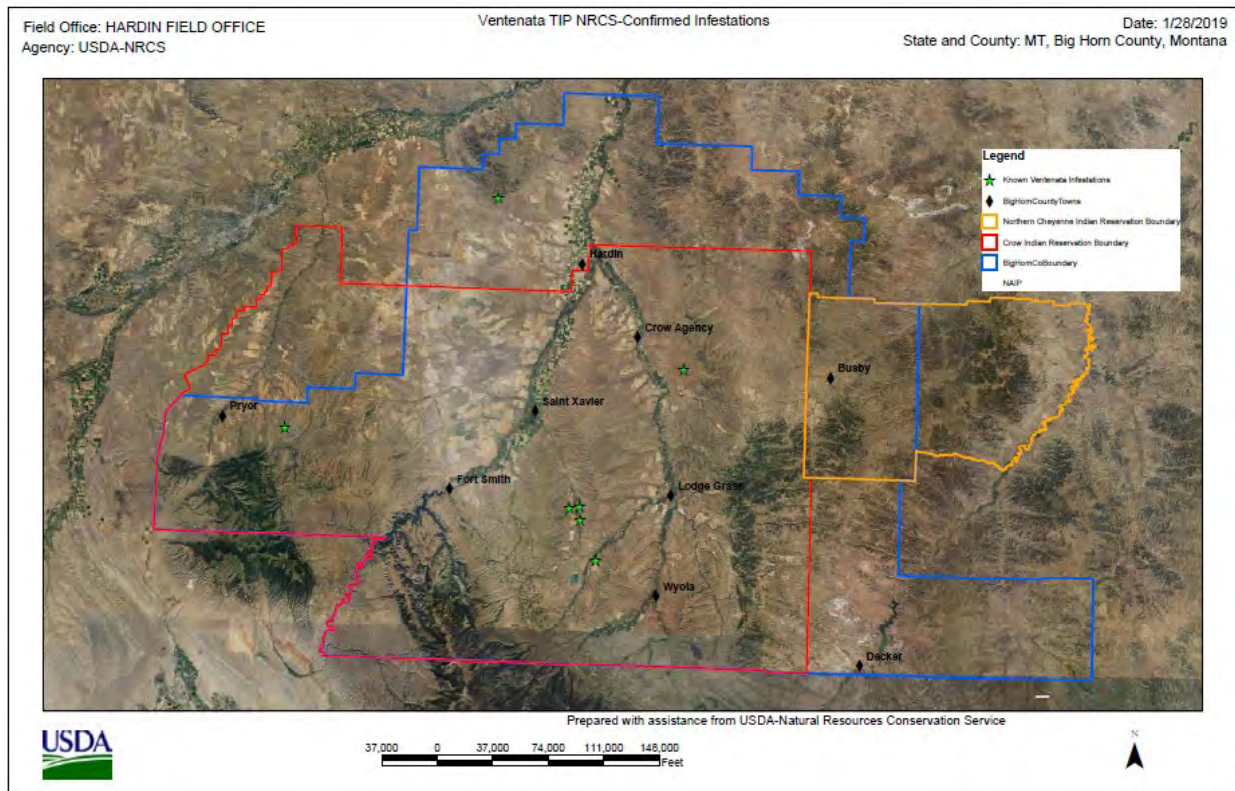
As of November 13th, 2018, the Big Horn Conservation District had a DNRC 223 Grant approved for education and outreach regarding Ventenata Control. If this EQIP Special Initiative could be funded, the Hardin NRCS would already have a plan in place for education and outreach regarding Ventenata identification and control. This 223 DNRC Grant provides the BHCD with \$7000 for Ventenata Identification education, and for education regarding rangeland management, in order to prevent further rangeland degradation that can lead to invasive grass species infestations. The proposed education plan for this grant is as follows:

- Invasive Grass Identification Workshops- Planned for four locations (Hardin, Pryor, Decker, and Crow Agency) in Big Horn County.
- Rangeland Management Field Day – Field tour to two ranches west/southwest of Lodge Grass, MT, where the producers both utilize intensive grazing rotations on their ranches in order to increase rangeland health, and to fight invasive and noxious plant species on their ag operations.
- Rangeland Management Basics Workshop – Planned for one location, probably in Hardin. This workshop will cover the Whys, How's, and various methods for rangeland management. This would be a similar workshop to one we held in Crow Agency, MT in September 2018.
- Long-Term Rangeland Management Workshop – Held over two days, this intensive workshop would work with ranchers on developing a grazing rotation on their ag operation and educate

attendees about why range and pastureland management is so important for their ranches. We're hoping to follow a similar format that the Baker NRCS FO has implemented over past years in their county.

Following educational invasive grass workshops held in Billings, MT and Sheridan, WY, Hardin NRCS Field Office staff noted the extensive invasion of *Ventenata* throughout Big Horn County, once the staff could identify the plant they were looking at.

Ventenata Infestations have been found by NRCS Field Office staff in locations throughout Big Horn County; along Highway 212, east of Crow Agency, MT, along Rotten Grass Creek west of Lodge Grass, MT, and also along BIA Highway 91A (referred to as the St. X/Pryor road), east of Pryor, MT. There are also unconfirmed areas of infestation reported by Wyola, MT, and in the Pine Ridge area northwest of Hardin, MT. Total acreage infestations are difficult to fully determine, as NRCS staff know there are likely other scattered areas of infestation that we have not yet discovered in Big Horn County. Because of this, we would like to keep the extent area to range and pastureland acres in Big Horn County, and not limit this to one or two watersheds. Please see the map below.



*Note the map with the NRCS-confirmed *Ventenata* infestations in Big Horn County.*

Goals and Objectives

The objective of this project is to improve range function; control the spread of *Ventenata* in Big Horn County; and to educate local producers about the identification and control of *Ventenata* while also promoting good rangeland management.

Goals:

- (315) Herbaceous Weed Treatment on at least 500 acres
 - Much of this infestation would be confined to relatively rugged areas; as such, the Spot Spraying or Ground Spraying practice components would likely be chosen in order to access the infestation sites.
- (528) Prescribed Grazing management on at least 20,000 acres.

Objectives:

- Decrease plant pest pressure
- Provide education to producers in Big Horn County
- Improve rangeland plant health

Desired future outcomes within the next five years include improved production from beneficial perennial grasses for grazing animals and wildlife habitat. It is predicted that control of *Ventenata* as well as education regarding this plant in addition to proper rangeland management will have a direct correlation to these desired outcomes.

Alternatives

There are three alternatives to be considered:

1. No Action

- a. The “No Action” approach will lead to continued range degradation, decreased stocking rates, and an overall long-term negative effective on the local economy in Big Horn County due to no control of *Ventenata*. The no action alternative does not meet the goals of the landowners, Big Horn Conservation District, Big Horn Local Working Group, or the Crow Tribal Local Working Group.

2. Herbaceous Weed Treatment

- a. This alternative would consider only utilizing chemical control on *Ventenata* on rangeland acres. For heavier infestations, it is likely the site would need to be reseeded to a perennial grass mixture. While initially this alternative may have the desired effect, without proper grazing land management, the location may eventually revert to its prior state or may suffer infestation from other invasive plant species.

3. Herbaceous Weed Treatment, Prescribed Grazing

- a. The third alternative would utilize both chemical control of *Ventenata* as well as prescribed grazing, in order to allow for a long-term control and management of *Ventenata* as well as other invasive plant species. In order to allow for a prescribed grazing plan to be implemented, additional practices such as crossfencing and stockwater may also need to be installed in order to facilitate this.

As with any projects involving NRCS technical and financial assistance, National Environmental Policy Act (NEPA) concerns will be addressed through environmental evaluations that include tribal consultation, cultural resource reviews, and endangered species reviews.

Proposed Solution and Actions

Study results that were presented at the Yellowstone County, MT and Sheridan, WY, 2018 workshops on controlling *Ventenata* showed that some of the chemical control methods were highly cost prohibitive

to use on rangeland. Mowing was shown to have limited success on small infestations of Ventenata; good range management for prevention, as well as chemical control on infestations have shown to have the most success in control of Ventenata. According to the MSU MontGuide MT201810AG Ventenata publication, the following chemical methods were approved:

- Esplanade 200 SC (active ingredient indaziflam)
- Axiom DF (a.i. flufenacet and metribuzin)
- Sinbar WDG (a.i. terbacil)
- The following chemicals are labeled for use on Cheatgrass and Japanese Brome, but are also effective on Ventenata:
 - Outrider (a.i. sulfosulfuron)
 - Plateau (a.i. imazapic ammonium salt)
 - Laramie 25 DF (a.i. rimsulfuron)

This project will help offset the cost of controlling Ventenata infestations on range and pastureland in Big Horn County by utilizing the (315) Herbaceous Weed Treatment EQIP practice, as well as additional practices that will assist in Ventenata control and management, including:

- (528) Prescribed Grazing
- (512) Forage & Biomass Planting
- (550) Range Planting
- (342) Critical Area Planting
- Practices that would allow a Prescribed Grazing rotation to be implemented including:
 - (382) Fence

The producer's willingness to implement (528) Prescribed Grazing will be used as a method to determine application priority, as such:

- High Priority – (315) Herbaceous Weed Treatment and Prescribed Grazing (528) planned, and either (512) Forage and Biomass Planting, (550) Range Planting, or (342) Critical Area Planting. No (382) Fence.
- Medium Priority – (315) Herbaceous Weed Treatment and either (512) Forage and Biomass Planting, (550) Range Planting, or (342) Critical Area Planting. (382) Fence.
- Low Priority – (315) Herbaceous Weed Treatment planned, no Prescribed Grazing.

Proposed Ranking Questions Would Include:

1. If funded, would this be the applicant's first EQIP contract? (30 pts)
2. Is 528 (Prescribed Grazing) Being Contracted with this application?
3. Will (512) Forage & Biomass Planting; (550) Range Planting; or (342) Critical Area Planting be contracted?
4. If funded, how much of the land to be treated is within Priority Area 1:
 - a. 100% of the land to be treated is within priority area 1
 - b. 50-99% of the land to be treated is within priority area 1
 - c. 25-49% of the land to be treated is within priority area 1
 - d. Less than 24% of the land to be treated is within priority area 1
 - e. None of the land offered is located within priority area 1

5. If funded, how much of the land to be treated is within Priority Area 2:
 - a. 100% of the land to be treated is within priority area 2
 - b. 50-99% of the land to be treated is within priority area 2
 - c. 25-49% of the land to be treated is within priority area 2
 - d. Less than 24% of the land to be treated is within priority area 2
 - e. None of the land offered is located within priority area 2

The resource concerns that we are planning address include:

- Degraded plant Condition – Excessive Plant Pest Pressure (Primary Resource Concern)
- Additional resource concerns addressed would include:
 - Soil Quality Degradation- Organic Matter Depletion
 - Degraded Plant Condition – Undesirable Plant Productivity and Health
 - Inadequate Habitat for Fish and Wildlife – Habitat Degradation
 - Livestock Production Limitation – Inadequate Feed and Forage

Progress, Evaluation, and Monitoring

A common concern with Invasive or Noxious Weed Control has been project follow-up. Contract status reviews will be performed twice-yearly during the contract duration, and on the fifth year of this project NRCS would complete an in-depth review and project report to document implementation. We would also like to provide a report on the project at local workshops.

NRCS will also set up photo point monitoring on the areas of control and will plan to use these points in order to document long-term control efficacy. The photo monitoring will also be able to be used for reports and progress reviews.

Project Timeframe and Budget

The proposed timeframe for this proposal would cover five years. We would plan to have an EQIP signup in Fiscal Years 2019-2021 and would leave FY2022 and 2023 as implementation and monitoring years. We would request \$150,000 of EQIP funding for this project in order to fully implement it over the five-year timespan. I feel that by implementing this Special Initiative through EQIP in conjunction with the Big Horn Conservation District's 223 Grant, we can be proactive in making an impact on Ventenata control in Big Horn County.

Yearly contracting estimates are based on the FY2019 NRCS EQIP General Cost List payments rates. A \$5000 overrun will be figured into the estimated annual payment calculation in the event that after funding all possible projects for the application period, enough money remains to only partially fund the next ranked project on the list; or if there are applicants who may qualify for a Socially Disadvantaged payment rate. A 2% increase in the annual estimated costs are figured to allow for increases to future EQIP Cost Lists.

Annual Payment Calculation – Year 1

Practice	Amount	Extent	Payment Rate	Total
Herbaceous Weed Treatment (315) (Chemical, Spot-Spraying)	100	ac	\$57.95	\$5795

Range Planting (550), Native-Standard Prep	75	ac	\$114.32	\$8574
Prescribed Grazing (528)	2000	ac	\$1.47	\$2940
Fence (382)	4000	ft	\$1.28	\$5120
Cost Overrun			\$5000	\$5000
Total				\$27,429

Total Project Budget

Year	Acres (315)	Projected Cost
Year 1	100	\$27,429
Year 2	200	\$55,956
Year 3	200	\$57,075
Total for Project	500	\$140,460

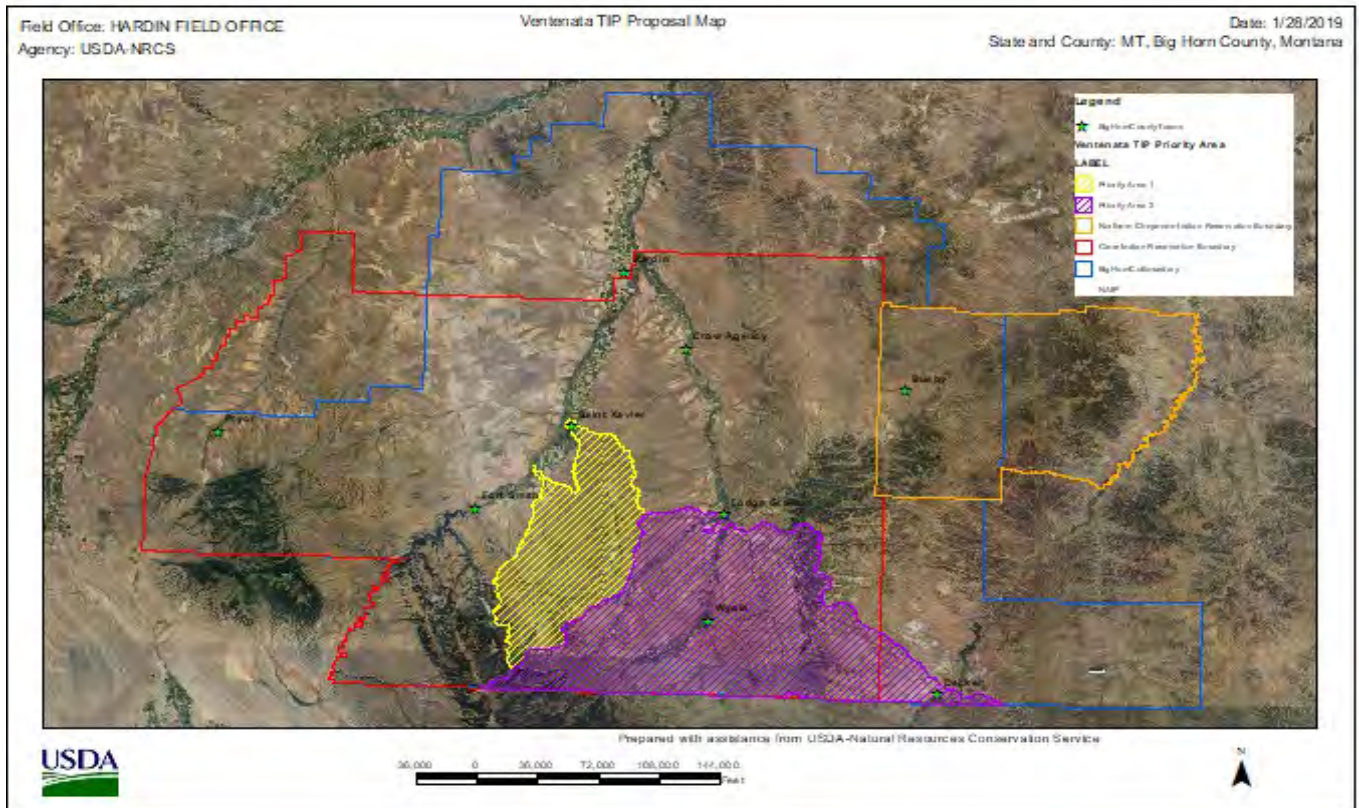
Project Partners and Other Funding Sources

Partners with this project would include:

- Big Horn Conservation District
- Big Horn Weed Control District
- Montana State University Extension Big Horn County
- Private Landowners

The Big Horn Conservation District has the ability to apply for the Montana Department of Natural Resources and Conservation (DNRC) HB 223 grant program to assist landowners and USDA-NRCS in providing outreach and education to local landowners. The Big Horn County Weed District Coordinator has the ability to provide some of the listed approved chemicals through their chemical cost-share program for Big Horn County residents.

Project Area Map



Big Horn County Boundary in Blue, Crow Indian Reservation in Red, Northern Cheyenne Indian Reservation in Orange. Rangeland, Pastureland, and Grazed Forest within the Big Horn County Boundary is the proposed project area, with Priority 1 Area consisting of Rotten Grass Creek and Soap Creek Watersheds in yellow crosshatch, and Priority 2 Area consisting of Lodge Grass Creek, Upper Little Bighorn River, Owl Creek, and Tongue River-Badger Creek Watersheds in purple crosshatch.

Addendum – Modification requested to add additional acres to project

Objective: The objective for this project has not changed; there remains a significant need to control Ventenata on rangeland acres in Big Horn County.

Tip Boundary: Remains the same.

Current TIP Progress/Status: As of June 17th, 2020, we have had 3 Contracts obligated for 603.2 acres of Herbaceous Weed Treatment and 4,524.7 acres of Prescribed Grazing. Of these three contracts, 403.2 acres of Herbaceous Weed Treatment have been completed so far. We have two Preapproved EQIP applications for 262.4 acres of Herbaceous Weed Treatment and 712 acres of Prescribed Grazing planned. We also have one application on file for 601.8 acres of Herbaceous Weed Treatment, as well as 801.5 acres of Prescribed Grazing.

	Herbaceous Weed Treatment	Prescribed Grazing
Current Contracts	603.2	4,524.70
Preapproved Applications	262.4	712.00
Applications on File	601.8	801.50
Totals:	1467.4	6,038.20

In addition to program contracting, by working together with the MSU Extension Office in Big Horn County as well as with the Northeast Wyoming Invasive Grass Species Work Group (NEWIGWG), we have been able to show the Crow Agency Bureau of Indian Affairs Natural Resource staff the extent of this problem on the Crow Indian Reservation, and they are currently working on securing weed control funding for Ventenata control on Tribal Trust Land. The Crow BIA Natural Resource staff are also setting up small study plots nearby the Willow Creek Reservoir (located about 16 miles southeast of Lodge Grass) to observe the efficacy of various control methods for combating Ventenata.

As a result of the Ventenata Workshop we organized with the Big Horn County MSU Extension Office and Big Horn Conservation District (BHCD) in November 2019, we worked with a local rancher and the BHCD to submit a Grazing Lands Conservation Initiative (GLCI) application to look at various rangeland monitoring methods on Ventenata-infested rangeland. This project proposes to examine the effects of grazing on Ventenata or North African Wiregrass, Ventenata dubia evaluated using new technology and tested photo monitoring methods. This proposal will determine if the use of Drone imagery and photo technology can be used in a manner that can still blend previous monitoring methods in order to keep the prior collected information relevant, as well as answer the original question of the effects of grazing on Ventenata. This proposal was approved in May 2020, and we are looking forward to this project being implemented in the near future.

Need for Modification: At the time of funding this TIP proposal, we were unaware of the exact extent of the Ventenata infestation in Big Horn County (as evidenced by our contracted and planned Herbaceous

Weed Treatment amounts). In two fiscal years, the total acres of contracted and preapproved Herbaceous Weed Treatment acres were over 170% of the original planned amount, proving the inherent need to address this resource concern. In order to fully address this TIP, we will add an additional 3,000 acres of Herbaceous Weed Treatment, as well as an additional year of EQIP funding (adding Fiscal Year 2021 for contracting) to continue to plan and contract Ventenata Control. This modification would still address the priority resource concern of this contract.