Invasive Annual Grass Control for Ventenata In Cascade County

2022-2024

Ventenata Patch on Eden Hill, Cascade County MT, 2020

Targeted Implementation Plan
for Montana Focused Conservation

GREAT FALLS NRCS FIELD OFFICE

Summary Introduction

The average person driving through Montana's landscape likely sees beautiful mountains and abundant grass waving in the wind. However, in parts of the state, there is a very subtle problem that even a trained eye may have difficulties identifying. There is an innocent looking grass, kind of yellow and fluffy in the early fall, that can be easily mistaken for another grass. Even though this grass is detrimental to the landscape, it can be managed. The grass that we are talking about is on a mission to change what you see into it own ecosystem – in a sense its own evil empire. It's ventenata, a species that is not native to this landscape. It would have not been found when Lewis & Clark first explored this area. It an invasive species, meaning it is invading the natural landscape, that originated on the other side of the globe and it isn't a forage that's readily consumed by livestock or wildlife. It is so high in silica, the same compound that is used in the making of glass which is considered inedible for herbivores – cattle, sheep, deer, elk etc. These lands are more than room for cattle and deer. They are lively hoods, history, part of the character of the ranching community that lives throughout the west. Furthermore, this annual grass is having an impact on wildlife not often considered when looking at rangeland – grassland bird species. The nesting habitat is literally being overrun for many birds such as the western meadowlark, lark bunting, and the chestnut-collared longspur all of which considered to be species of concern and showing declining population trends.

Now add in the naturally occurring fire cycle that shaped the west for eons, and we have another environmental concern. Ventenata by its nature of quickly drying out in the summer sun provides a ready fuel source for any spark or lighting strike that may happen. So it helps to fuel the fire then it is quick to germinate new plants before the natural grasses can get going again. It literally benefits from the same wildfires that it helps fuel. Becky Kerns, a research ecologist with the U.S. Forest Service states "It doesn't need fire to trigger an invasion, but fire may exacerbate and increase the population." It is appearing that ventenata will recolonize burned acres more quickly than native species. Since it is the first, it tends to be the most abundant, and the intensity of the next fire is increased. Then it again has an advantage as it now has even more area to colonize. And the cycle will continue to grow and grow – not in native vegetations favor. It is now "driving the ecosystem" and as such can take it to such a state that it will be incredibly difficult and expensive to recover from.

But all is not yet lost. In Cascade County Montana, we believe we have detected the invasive grass early enough to get ahead of this cycle. With landowners, Federal, County and State efforts involved along with promising treatment options being made available, the feeling is hopeful that we will get ahead of this nuisance. The USDA Natural Resources Conservation Service (NRCS) is using a focused approach through the Montana Focused Conservation (MFC) program. The Great Falls Field Office in Cascade County has a Targeted Implementation Plan (TIP) that has been awarded about $300,000 which will begin to address the problems here starting in the late summer of 2021. All partners involved are encouraged by this funding and are confident that we will see positive results in the reduction on this grass and other noxious weeds as well as improved health in our Montana rangelands – a benefit that reaches far beyond the local rancher.

So, when you see grass blowing in the wind as you travel across Montana, enjoy the beauty our state has to offer. Just be aware that there may be an ecological battle taking place that you are not aware of. We have to succeed in this battle, the stakes are very high.

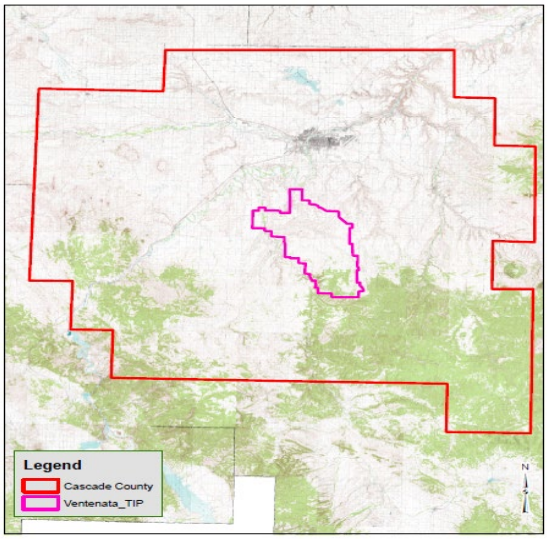
Thank you,

Brad Holliday
District Conservationist
USDA / NRCS Great Falls Field Office

Invasive Annual Grass Control for Ventenata In Cascade County

Montana Focused Conservation - Targeted Implementation Plan

Targeted Focus Area: Southern Cascade County: Eden Noxious Weed Area (Ventenata TIP location)

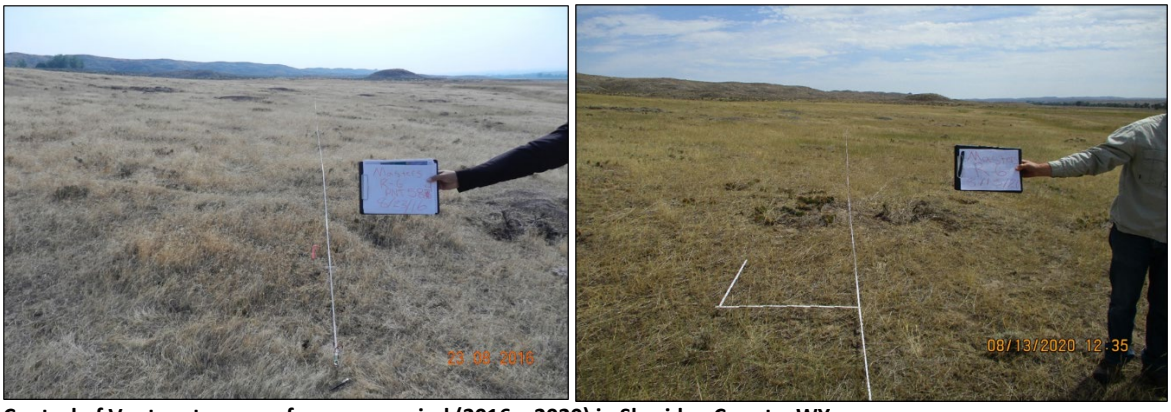


Cascade County and TIP Location

Program: Montana Focused Conservation (MFC); Environmental Quality Incentives Program (EQIP)-Targeted Implementation Plan (TIP).

Overview and Problem:

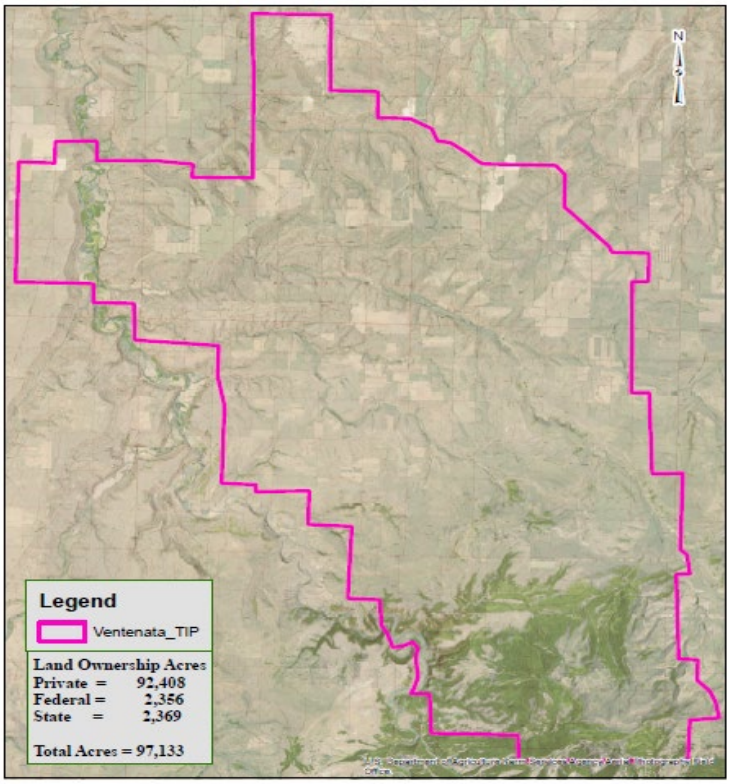
Ventenata dubia goes by several names, most common are Ventenata, Voodoo grass, or North African wiregrass. It is an aggressive non-native winter annual grass from the Mediterranean region of Europe and Northern Africa. Ventenata germinates in the fall, and seedlings generally emerge in October to mid-November. It overwinters and produces a seed head the following spring, usually in May and June. Ventenata litter quickly builds up on the soil surface, which is thought to aid in the germination of new seedlings by creating its own microclimate favorable to the invasive species. Based on continued research of Ventenata, it is believed that seeds are viable for three to five years. So, with aggressive control and a good monitoring plan, it is possible to significantly reduce or eradicate areas of infestation.



Control of Ventenata over a four-year period (2016 – 2020) in Sheridan County, WY

Ventenata was added to the state of Montana Noxious Weed list in June 2019 as a Priority 2A noxious weed. Montana Department of Agriculture defines Priority 2A weeds as: “common in isolated areas of Montana. Management criteria will require containment and suppression where common, and eradication or containment, prevention, and education where less abundant. Management shall be prioritized by local weed districts. Prior to 2019, Ventenata was primarily found west of the Continental Divide, but was confirmed in Cascade County shortly after being added to the Montana Noxious Weed List.

The concern is that Ventenata spreads quickly, is difficult to control, and will degrade native rangeland, transitional forest habitats, pastures, hay fields, and CRP all over the western United States. Ventenata can greatly reduce forage production (potentially up to 70%) and rapidly become the dominant species. It has been reported to even outcompete cheatgrass, another invasive winter annual. Ventenata offers little to no forage value for livestock or wildlife due to its growth habits and high silica content. These factors decrease stocking rates and will have a negative economic impact on livestock producers. Wildlife habitat, especially for nesting birds, will also potentially be negatively impacted. Dense Ventenata infestations not only create more competition for resources for native or desirable grasses, but by completing its lifecycle and drying out sooner, it creates a thatch of fine fuels. The result is increased fire danger that begins earlier in the year compared to sites dominated by deep-rooted perennial vegetation. Ventenata’s shallow root system increases the potential for erosion and limits waterway function. Dryland hayfields are also at risk to Ventenata infestations, and caution must be used as to not spread seed further into fields during harvest and/or by moving haying equipment or hay bales to non-infested areas.



Cascade County Ventenata TIP Area highlighted in pink.

The TIP area, currently named Eden Noxious Weed Area, is largely rangeland and tame pastures interspersed with both irrigated and dryland hay along with dryland crop interspersed. The southern portion of the treatment area begins to transition to wooded foothill country. The landscape varies from

coulees and benches to low rolling hills as you move towards the Missouri river. Grazing with livestock, predominantly cow-calf pairs, is the major use of the rangeland areas that are the most vulnerable to infestation. The majority of the area lies within the High Category as defined in the Sage Grouse Initiative Ecosystem Resilience & Resistance map.

In the fall of 2020, the Cascade County NRCS Field Office was contacted by a group of concerned landowners with property located approximately 18 miles south of Great Falls, hereinafter referred to as the Eden Noxious Weed Area (See above map – Cascade County and TIP location). This group is currently made up of landowners who are coordinating efforts with Cascade County Weed & Mosquito (CCWM) to fight noxious weeds in the Eden Noxious Weed Area. The Eden area is in the Smith River Watershed, and the predominant land use in the basin is farming and ranching. Following an outreach meeting and subsequent virtual meetings, 13 landowners have either initiated inventory of their property or have expressed interest in inventories summer of 2021. Between the landowners, CCWM, and aerial observation during 2020 spraying activities, we have identified approximately 2,000 acres of Ventenata scattered throughout the Eden Noxious Weed Area. Based on discussions with CCWM, US Fish & Wildlife, discussion with other Field Offices, the rate of spread in known communities, combined with an increase in identification skills, and personal observation, we expect to see a steady and dramatic increase in identified acres. CCWM is confident that planning for 6,000 acres of treatment over the next 3 years is a realistic rate of discovery and spread.

The increase in acres above what is known is due to three factors: 1) It was just recently discovered late last summer which did not allow time to survey the areas between known infestations beyond a cursory level. It is highly likely that there will be more discovered this year during the growing season. 2) The fact that the rate of spread in other counties is quite high. It has been estimated by NRCS employees very familiar with the plant and actively engaged in its control in both Montana and Wyoming at over 50% from one year to following year (in several cases almost 100% increase was noted), and 3) the professional Judgement of the Cascade Weed and Mosquito Superintendent and his experience. Following discussions with him we are very comfortable that this is a realistic number.

Plant Pest Pressure i.e. Invasive weeds were determined to be the highest priority resource concern at local workgroup meetings held in 2019. This priority is referenced in the Cascade County Long-Range-Plan in Section IV: Natural Resource Problems and Desired Future Outcomes on pages 38-40. The Eden Noxious Weed Area has worked with CCWM over the past several years to secure funding through the Montana Noxious Weed Trust Fund to address noxious weeds, Ventenata being one of them. Since the Ventenata infestation is relatively new to the area, and there is also uncertainty surrounding the continuation of the MT Noxious Weed Trust Fund grant program, it was decided that now is the best time to implement a plan and actively manage this extremely invasive annual grass.

Ventenata in foreground. Notice the wispy, open panicle and tawny to pale-yellow color. Ventenata infestations can also be seen in the background.

Goals and Objectives:

The goal of this TIP is to improve the percentage of desirable forage and range species, both native and tame, within the treatment area. We would seek to have 100% containment within the first 3 years of the TIP contract with efforts to fully eradicate over the following years. Success will be evaluated through permanent monitoring sites that record canopy cover, clipping, and photo points. Monitoring will be conducted by the landowner with NRCS involvement for the first 3-years of the contract and will be encouraged for the following years by the landowner with assistance from NRCS as available. Ventenata is easily discernable in the fall, so use of a Cascade Conservation District's drone to take yearly aerial photos from a benchmark spot will provide a quick visual reference monitoring tool.

The primary resource concern this TIP will address by eradicating Ventenata is:

- Plant Pest Pressure

Additionally, the following resource concerns may also be addressed:

- Plant Productivity and Health
- Terrestrial Habitat for Wildlife and Invertebrates

Education will be a large part of the success of this project. Producers and landowners in this area are aware of ventenata, how to identify it, and the negative impacts it can have on the landscape. Education regarding effectiveness of treatment, monitoring, and how proper grazing can promote rangeland health and resiliency against unwanted invaders is needed and will be the focus of educational efforts.

Alternatives:

1. **No action:**
    a. Under the "no action" alternative, minimal changes will be made to the current land management practices. Rangeland and pastureland will continue to degrade as diversity decreases and ventenata becomes more widespread. Wildlife habitat will deteriorate. Grazeable forage (stocking rate) will decrease. This high-risk alternative has the potential to result in significant reduction in profitability and overall ecosystem function in the long-term. No action treatment does not meet the goals of the landowners, local working group, or the conservation district.

2. **Landowner education:**
    a. This alternative would not include financial assistance to the producers to help control ventenata but would focus technical assistance efforts on outreach and education. Making landowners aware of how to monitor efficacy of treatment and how proper grazing can promote rangeland health and resiliency against unwanted invaders will give them the tools necessary to make informed decisions on how to manage their property. This alternative is helpful but does not fully meet the goals of the landowners, local working group, or the conservation district.

3. **Herbaceous weed treatment and landowner education:**
    a. This alternative would utilize both technical and financial assistance to educate landowners regarding efficacy of treatment of ventenata, promote rangeland health and resiliency against ventenata, and offer financial assistance for chemical control of ventenata on rangeland and pastureland acres. Depending on the chemical used and

extent of infestation, require at least 1 year of grazing deferment in the treatment areas to allow for recovery of any damage and prevent degradation of the sites while allowing preferred community to become strong enough to compete with ventenata. This is the chosen alternative as it meets the goals of the landowners, local working group, conservation district, and addresses the resource concern.

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

Proposed Solutions and Actions:

As of this proposal, management activities have shown little effect while chemical control of infestations has shown the most success. Thus, financial assistance for using and applying chemical will be utilized.

According to the MSU MontGuide MT201810AG Ventenata publication, the following chemicals are approved for treatment:

- Esplanade 200 SC (Rejuvra)
- Axiom DF
- Sinbar WDG

Esplanade (Now labeled as Rejuvra for rangeland use) is a pre-emergent herbicide that when properly applied at 5 oz/ac will provide consistent control of invasive annual grass for up to 4 years. Axiom DF and Sinbar WDG are currently labeled to control ventenata with limited application in rights-of-way and natural areas, not rangeland or pastureland. Rejuvra is the only chemical in the above mentioned that is approved to be used on rangeland or pastureland. The following chemicals are labeled for use on cheatgrass and Japanese brome, but may also be effective on ventenata:

- Outrider
- Plateau
- Laramie 25 DF or Matrix

Chemicals such as Plateau will likely offer one year of control, so yearly applications are necessary to deplete the seedbank. Rejuvra has been shown to offer three or more years of control, depending on climate and soils. Root damage to desirable perennial grasses, especially in Western Montana has been seen and is a concern, however when large scale treatment areas in Wyoming were observed there was minimal impact to native and tame plant communities. We will require at least 1 year of grazing deferment in the treatment areas to allow for recovery of any damage and prevent degradation of the sites. The area of deferment will be a case by case basis. At a minimum we will defer the areas of treatment and in some cases we will need to defer a larger area due to landscape or other factors. For all chemical applications, timing is critical to their effectiveness. Landowners and managers should carefully weigh the benefits and risks prior to any herbicide application and be aware of potential unintended consequences.

In addition to chemical treatment of infestations, NRCS will work with landowners to establish permanent monitoring locations within the treatment areas. The methods of monitoring will be largely a line transect with clip and photos at 10, 30, 50, 70, & 90 feet. Clip & weigh prior to treatment and in the

subsequent years will provide us with pounds of forage to use as a measuring tool for success in our efforts. Aerial photos will be used to provide landscape views in the fall for a quick visual reference of success.

Partnerships:

Cascade Conservation District (CCD), Cascade County Weed and Mosquito Management, and the Eden Area Noxious Weed Group are the primary partners for the implementation of this TIP. CCD is providing labor, outreach & Education, and potential funding on smaller tracts of land. CCWM is providing expertise, labor & chemical at their cost. The Eden Group is providing labor and their portion of the cost share funding on their individual tracts of land. Technical assistance will be provided by Montana Fish, Wildlife, & Parks primarily in the area of habitat for upland game bird species in the area. There is the potential of project specific funds but that will be on a case by case and funding availability. Prairie Pothole Joint Venture, and Northern Great Plains Joint Venture will both provide technical support on habitat and management techniques for grassland bird species. During the initial discovery and treatment of the known areas, the Eden Weed Group treated approximately 580 acres utilizing around $22,750 of their Noxious Weed Trust Fund grant. The overall size of the known infestation and the cost of treatment is such that they cannot continue alone. CCWM will offer chemical at cost and has spraying equipment available for rent. The Cascade Conservation District will assist with education and outreach and are able to apply for educational funding (e.g. DNRC 223 grant, etc.) for workshops as needed. Workshops and informational meetings will utilize MSU Extension and Cascade County Weed and Mosquito Management and their knowledge of ventenata to assist landowners with efficacy of treatment, management decisions, etc. Outreach will play an integral role in the success of this TIP. With the assistance of the Cascade Conservation District, a series of field tours and workshops are planned. The first workshop will take place in the summer of 2021 and focus on efficacy of treatment of ventenata and proper monitoring to track infestations. Later workshops will focus on promotion of proper grazing to increase and promote rangeland health and resiliency against unwanted invaders.

PARTNERS	CONTRIBUTION Type 1	CONTRIBUTION Type 2	CONTRIBUTION Type 3
Eden Hall Community Landowners	Labor	Landscape & Local Knowledge	Financial Input & Securing Grant Funding Opportunities
Cascade County Weed & Mosquito	Labor	Technical Oversight & Input	Provide Chemicals at Cost
Cascade County Conservation District	Labor / Field Investigation	Outreach & Education	
Montana Fish, Wildlife & Parks		Upland Bird Habitat & Biology Oversight	Potential Funding on Project Specific Basis
Northern Great Plains Joint venture		Grassland Bird Habitat & Biology Oversight	
Prairie Pothole Joint Venture		Habitat & Biology Oversight	

Project Implementation and Budget:

This project will begin by a focus and aggressive scouting effort. Identifying the outer edges of any infestations will be key in the control of the spread of Ventenata. Once we have identified this edge we will begin treatment from the outside in. The front runner for treatment is the use of Rejuvra followed by deferment of grazing for at least one full year. If we can treat the outside edges the nature of Rejuvra will prevent the continued spread of Ventenata. There will be a need for a second application approximately 4 years later to account for any remaining viable seeds.

Expected Outcomes will be an increase in forage production in the treatment areas. Ventenata being high in silica does not provide useable forage for either livestock or wildlife. As with any annual grass there is an increase in the risk of fire. Effective control will result in a healthier rangeland and a subsequent reduction of fire risk. With the reduction of invasive grasses there should be an improved grassland bird nesting success along with other wildlife benefits already mentioned. There will be an increased opportunity to have conversations with the producers involved and to help educate the general public on the topic of rangeland health and how it has an impact on all of us.

Eligible practices include:

Practice Code	Practice Name	ESTIMATED Payment Rate
315	Herbaceous Weed Treatment, Chemical Aerial Application (scenario #5)	$32.61/ac
315	Herbaceous Weed Treatment, Ground Application (scenario #4)	$41.96/ac
315	Herbaceous Weed Treatment, Spot Treatment (scenario #3)	$91.94/ac
528	Prescribed Grazing (scenario #12, deferment)	$6.64/ac

Funding for this project is requested for 2022, 2023, and 2024 and it is anticipated that chemical application will be completed in the fall once the contract is approved. Acres can be retreated as needed. Missed areas or skips will be addressed as needed and should be identified during monitoring field visits. Each contract has the potential to include up to one year of grazing deferment as needed, depending on the size and density of infestations. Implementation of contracts will begin in 2022 and all contracts should be completed by 2027. This MFC TIP will be re-evaluated on an annual basis to determine if the need is still present and if the treatment is effective. Yearly contracting estimates are based on the FY 2021 NRCS EQIP Program Guide for payment rates. A $15,000 cost overrun will be figured into the estimated annual payment calculation.

Notice control of ventenata in this field, even though a skip exists.

2022 Annual Payment Calculation:

Practice	Acres	Payment Rate	Total
315 Herbaceous Weed Management; Chemical Aerial Application	1500	$32.61	$48,915
315 Herbaceous Weed Management; Chemical Ground Application	400	$41.96	$16,784
315 Herbaceous Weed Management; Chemical Spot Treatment	100	$91.94	$9,194
528 Prescribed Grazing (deferment)	2000	$6.64	$13,280
Cost Overrun	-	-	$15,000
TOTAL	**-**	**-**	**$103,173**

A 3% increase in the annual estimated costs are figured to allow for increases to future EQIP Cost Lists.

Total Project Budget:

Year	Acres	Projected Cost
2022	2,000	$103,173
2023	2,000	$106,268
2024	2,000	$109,456
PROJECT TOTAL	**6000**	**$318,897**

NRCS is taking an Early Detection Rapid Response approach to control ventenata by treating known infestations, identifying new infestations, and managing them quickly. Staff from NRCS and Cascade Conservation District are available to handle the workload this TIP will produce. The importance of outreach and education in implementing this TIP cannot be stressed enough. NRCS will provide ongoing technical assistance to landowners to monitor infestations and encourage proper grazing management.

Ventenata patches are lighter in color in this 2020 picture of Eden Ridge, Cascade County MT

Progress, Evaluation and Assessment:

Progress and success of this TIP will be measured by the overall increase of available and preferred forage, the acres of ventenata treated in Cascade County and the degree of control treatment provides as determined by yearly monitoring. Overall, if pounds of forage, 100% of the 6,000-acre project goal is effectively treated, spread is contained as verified through monitoring investigation, and the landowners in the TIP area are educated to the point they can proceed on their own, the TIP will be considered a success.

As part of each contract, NRCS will set up monitoring plots and evaluate them yearly through the life of the contract and then assist the landowners as we can in the subsequent years. By using photos, line qudrat transects, and clip and weigh comparison we will be able to document progress and general outcome of the project. There will be at least one permanent monitoring site set up in each area of treatment. We will use a 100' tape stretching in an orientation running from east to west with 1 meter quadrats set every 20 feet beginning at the 10' mark for 5 quadrats in all. In the first and third year the quadrats will be clipped and weighed after separating by desirable and non-desirable species as well as grass, forb, shrub. In the off years photos will be taken in the four directions from the east end of the transect. We will utilize a monitoring and suppression plan as a template and guide. This plan outlines the role of the NRCS, its partners and the landowners over the next 8 years as we work to address this issue. See Appendix 1. Regular visits will be conducted for inventory and during treatment. Contract status reviews will be performed during the duration of the contract. A project report will be completed and include the monitoring photos as contracts are finished to help quantify the results of the TIP.

Ranking:

1. Will the treated acres be immediately adjacent to other ventenata treatment areas to help achieve a larger continuous block of treated acres?
2. Will the treated acres be within two miles of other ventenata treatment areas?
3. Are the treated acres immediately adjacent to a live water source?
4. Are the treated acres within one mile of a live water source?
5. Will the participant allow for two years of deferment on all treated acres?

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Appendix 1

United States Department of Agriculture

Invasive Annual Grass Control for Ventenata In Cascade County Montana
Ventenata Monitoring & Suppression Plan

This plan will assist in ensuring long-term treatment is effective in exhausting seedbank of *Ventenata* on the planned acreage. Effective control for more than 5 years is likely needed to ensure no annual grass seed establishes during the suppression period, thereby depleting annual grass seedbank.

This Monitoring Plan, together with the Suppression element of the Herbaceous Weed Treatment (CPS 315) herbicide and the other IPM elements of Prevention and Avoidance make up the management strategy to accomplish the goal of removal of *Ventenata* on the sites.

Unfortunately, because Non-Chemical control measures are not known to be effective at this time, no Non-Chemical control measures are discussed in this document. Additionally, because the treatment areas are native/naturalized rangeland pastures wind and water erosion are presumed to be near natural, background levels. WEPS/RUSLE2 are not applicable to rangeland and therefore are not included in this plan.

Monitoring Plan Actions by Year from CPA 1155 Schedule of Operations:
Year 1—Scheduled Practices:

Herbaceous Weed Treatment (315)
Need: Establish Control/Suppression of Annual Grasses and Setup Scouting/Monitoring Program
Resource Concerns Addressed:
Degraded Plant Condition: Excessive Plant Pressure
Degraded Plant Condition: Inadequate Structure and Composition Degraded Plant Condition: Undesirable Plant Productivity and Health
Degraded Plant Condition: Wildfire Hazard, Excessive Biomass Accumulation Livestock Production Limitation: Inadequate Feed and Forage
Monitoring & Suppression Plan Actions:
- Completed WIN-PST report. Complete WIN-PST portion of Year 1 Certification section.
- Pest control herbicide recommendations from Cascade County Weed Control Specialist. Complete herbicide and application portions of Year 1 Certification section.
- Key Areas were established during NRCS Inventory to observe and document pre-treatment infestation levels. If desired additional Key Sites may be established or Key Sites relocated to better reflect operational use patterns. These sites can be used for post-treatment scouting/observation of annual grass infestation as part of the

monitoring element of this plan. Photos from repeatable Photo-Points are a good way to document.

Year 2—Treatment of new acres, No practices scheduled on treated acres. Observe effects of treatment. Record annual grass scouting/detection data. Contact NRCS with concerns.

Monitoring & Suppression Plan Actions:

— Conduct annual grass scouting/detection survey, with focus on heavy pre-treatment infestations as well as those of low or no pre-treatment infestation. Record location of sites for future use if different than NRCS established sites.

Landowner/Operator scouting/detection survey methods should include at minimum: Map or other location notes to reflect areas surveyed and infestation levels. Photos and repeatable Photo-Points are a good way to document.

Year 3— Treatment of new acres, No practices scheduled on treated acres. Observe effects of treatment. Record annual grass scouting/detection data. Contact NRCS with concerns.

Monitoring & Suppression Plan Actions:

— Conduct annual grass scouting/detection survey. If possible, survey same sites as Year 2.

Landowner/Operator scouting/detection survey methods should include at minimum: Map or other location notes to reflect areas surveyed and infestation levels. Photos and repeatable Photo-Points are a good way to document.

Year 4—Scheduled Practices:

Herbaceous Weed Treatment (315) – NOT COST SHARED

Need: Ensure Continued Effectiveness of Control/Suppression. Herbicide effect from Year 1 treatment may be diminished enough to allow establishment of annual grasses by this time. If annual grasses are establishing, Year 5 treatments may be accelerated to Year 4.

Resource Concerns Addressed:

Degraded Plant Condition: Excessive Plant

Pressure Monitoring & Suppression Plan Actions:

— Conduct annual grass scouting/detection survey for emergence of annual grasses. **Observe as many areas as possible to maximize annual grass detection**. Record location of any annual grass establishment. Photos and repeatable Photo-Points are a good way to document. If possible, survey same sites as Years 2 &3.

Landowner/Operator scouting/detection survey methods should include at minimum: Map or other location notes to reflect areas surveyed and infestation levels. Photos and repeatable Photo-Points are a good way to document.

Year 5—Scheduled Practices:

Herbaceous Weed Treatment (315) – NOT COST SHARED

Need: Re-Establish Control/Suppression. Herbicide effect from Year 1 treatment is likely to be diminished enough to allow establishment of annual grasses by this time. Repeat treatment to ensure original Resource Concerns continue to meet Planning Criteria and Landowner/Operator Objectives.

Resource Concerns Addressed:

Degraded Plant Condition: Excessive Plant Pressure

Degraded Plant Condition: Inadequate Structure and

Composition Degraded Plant Condition: Undesirable Plant Productivity and Health
Degraded Plant Condition: Wildfire Hazard, Excessive Biomass Accumulation Livestock Production Limitation: Inadequate Feed and Forage

Monitoring & Suppression Plan Actions:

— Conduct annual grass scouting/detection survey for emergence of annual grasses. **Observe as many areas as possible to maximize annual grass detection**. Record location of any annual grass establishment. Photos and repeatable Photo-Points are a good way to document.

— Conduct scouting/monitoring of annual grass infestation levels in Key Sites observed in Year 2.

Landowner/Operator scouting/detection survey methods should include at minimum: Map or other location notes to reflect areas surveyed and infestation levels. Photos and repeatable Photo-Points are a good way to document

The following Monitoring & Suppression Plan Actions for years 6, 7, & 8 will be conducted by the producer with assistance by NRCS staff. These actions will not be included on the 1155 Schedule of operations:

Year 6— No practices scheduled. Observe effects of treatment. Record annual grass scouting/detection data. Contact NRCS with concerns.

Monitoring & Suppression Plan Actions:

— Conduct annual grass scouting/detection survey. If possible, survey same sites as Years 2 & 3.

Landowner/Operator scouting/detection survey methods should include at minimum: Map or other location notes to reflect areas surveyed and infestation levels. Photos and repeatable Photo-Points are a good way to document.

Year 7— No practices scheduled. Observe effects of treatment. Record annual grass scouting/detection data. Contact NRCS with concerns.

Monitoring & Suppression Plan Actions:

— Conduct annual grass scouting/detection survey. If possible, survey same sites as Years 2 & 3.

Landowner/Operator scouting/detection survey methods should include at minimum: Map or other location notes to reflect areas surveyed and infestation levels. Photos and repeatable Photo-Points are a good way to document.

Year 8— No practices scheduled. Observe effects of treatment. Record annual grass scouting/detection data. Contact NRCS with concerns.

Monitoring & Suppression Plan Actions:

— Conduct annual grass scouting/detection survey. If possible, survey same sites as Years 2 & 3.

Landowner/Operator scouting/detection survey methods should include at minimum: Map or other location notes to reflect areas surveyed and infestation levels. Photos and repeatable Photo-Points are a good way to document.