



Improving habitat in the Douglas Creek sheep herd: post-fire cheatgrass mitigation

Project Type

Habitat

Affiliate

Wyoming Game & Fish Department

Location of Project

Douglas Creek bighorn sheep herd, southeast Wyoming

Description of Project

Cheatgrass is a highly invasive annual plant that has affected much of the West, including Wyoming (DiTomaso 2000). Invasion of native plant communities impacts the quality and quantity of native forage species often preferred by wildlife, thereby degrading habitats. The proliferation of cheatgrass reduces native plant production, diversity and density. If left untreated, it can create monotypic stands with little value for wildlife. Unfortunately, cheatgrass is often one of the first plants to establish after disturbance, including wildfire. As a result, cheatgrass is recognized as an invasive species of special concern in the Wyoming State Wildlife Action Plan (Wyoming Game and Fish Department 2017) and is a top priority in the Wyoming Game & Fish Department's Strategic Plan.

On September 17th of this year, the Mullen Fire was reported in the Savage Run wilderness, southwest of Centennial Wyoming. During the ensuing 6 weeks the fire burned across > 176,800 acres in the southern portion of the Snowy Range on the Medicine Bow National Forest, making it one of the largest wildfires in Wyoming history. This burned acreage included a substantial portion of the Douglas Creek bighorn sheep herd (Figs 1 and 2). We request support from the Wyoming Wild Sheep Foundation to treat 607 acres within the herd unit boundary (Fig. 1) to prevent the establishment and subsequent spread of cheatgrass.

The Douglas Creek herd provides trophy hunting opportunity, with two licenses available every other year in conjunction with the Encampment River herd. The herd was reestablished on historic sheep range through three transplants from the Whiskey Mountain herd in the 1970s. Since that time, the population has fluctuated around 75-100 animals, with a high of 245 animals in the early 1980s. The Mullen Fire, and resulting habitat change, offers the potential for shifts in sheep distribution and perhaps population expansion if cheatgrass can be mitigated effectively.

Literature

DiTomaso, J. M. 2000. Invasive weeds in rangelands: species, impacts, and management. *Weed Science* 48:255-265.

Wyoming Game and Fish Department. 2017. Wyoming State Wildlife Action Plan. Wyoming Game and Fish Department, Cheyenne.

Problem to be Solved

Given the high likelihood of cheatgrass invasion in the Douglas Creek herd unit (Noseworthy 2015), and the propensity for cheatgrass to spread quickly post-fire, we need to take immediate steps to mitigate establishment. Cheatgrass is most likely to establish on steep, south facing slopes which often overlap productive sheep habitat. Preliminary estimates from the US Forest Service indicate that >17,000 acres within the Mullen Fire burn scar are at high risk for cheatgrass invasion, and likely will require some form of treatment. The substantial, landscape-scale habitat degradation brought by cheatgrass necessitates quick action.

Literature

Noseworthy, C. E. 2015. Cheatgrass (*Bromus tectorum* L.) in Wyoming: Distribution, Prioritization, and Targeted Grazing for Control. Thesis, University of Wyoming, Laramie, USA.

Describe How you Propose Solving the Problem

This project is part of a larger initiative to treat the >17,000 acres identified for cheatgrass control following the Mullen Fire. Herein, we propose to aerially spray herbicide in targeted, high priority acres (607 ac) in the Douglas Creek bighorn sheep herd unit, July – September, 2021. These acres correspond with USFS ownership where indaziflam was recently approved for widespread use. Indaziflam offers the potential for longer-term cheatgrass suppression, relative to other chemicals. Depending on the degree of suppression that we achieve with the initial application, however, we may need to re-treat a portion of the area 3-4 years later to achieve project goals. Due to current restrictions on mechanized treatments, our target area does not include designated wilderness. To evaluate the efficacy of our treatments, we will monitor cheatgrass establishment at appropriate timescales before and after herbicide application.

Biography of Applicant

Name. Embere Hall

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Are you a current member of WY-WSF? No

Budget (narrative)

We request \$10,000 from the Wyoming Wild Sheep Foundation to help mitigate cheatgrass in the Douglas Creek sheep herd. The total project cost is \$38,291. This includes aerial indaziflam application (\$38,241; 607 acres @ \$63 / acre) and small equipment purchases associated with pre / post treatment monitoring (\$50). We have cash-in hand or planned requests for \$28,291 (details below).

Other Organizations Providing Financial Aid

CASH. Numbers reflect the amounts relevant to the 607 acres identified in this proposal, rather than entire requested or in-hand amounts: US Forest Service (Burn Area Emergency Response; application pending); Wyoming Game & Fish Commission (Platte Valley Mule Deer Initiative; \$14,000 in-hand); Wyoming Wildlife and Natural Resource Trust (application planned March 2021; \$14,000)

IN-KIND. Wyoming Game & Fish Department will provide vehicles and equipment associated with treatment oversight in the field and pre / post treatment monitoring. Amounts are not assigned in the budget to this contribution.

Media Contacts

Laramie Boomerang
The Saratoga Sun

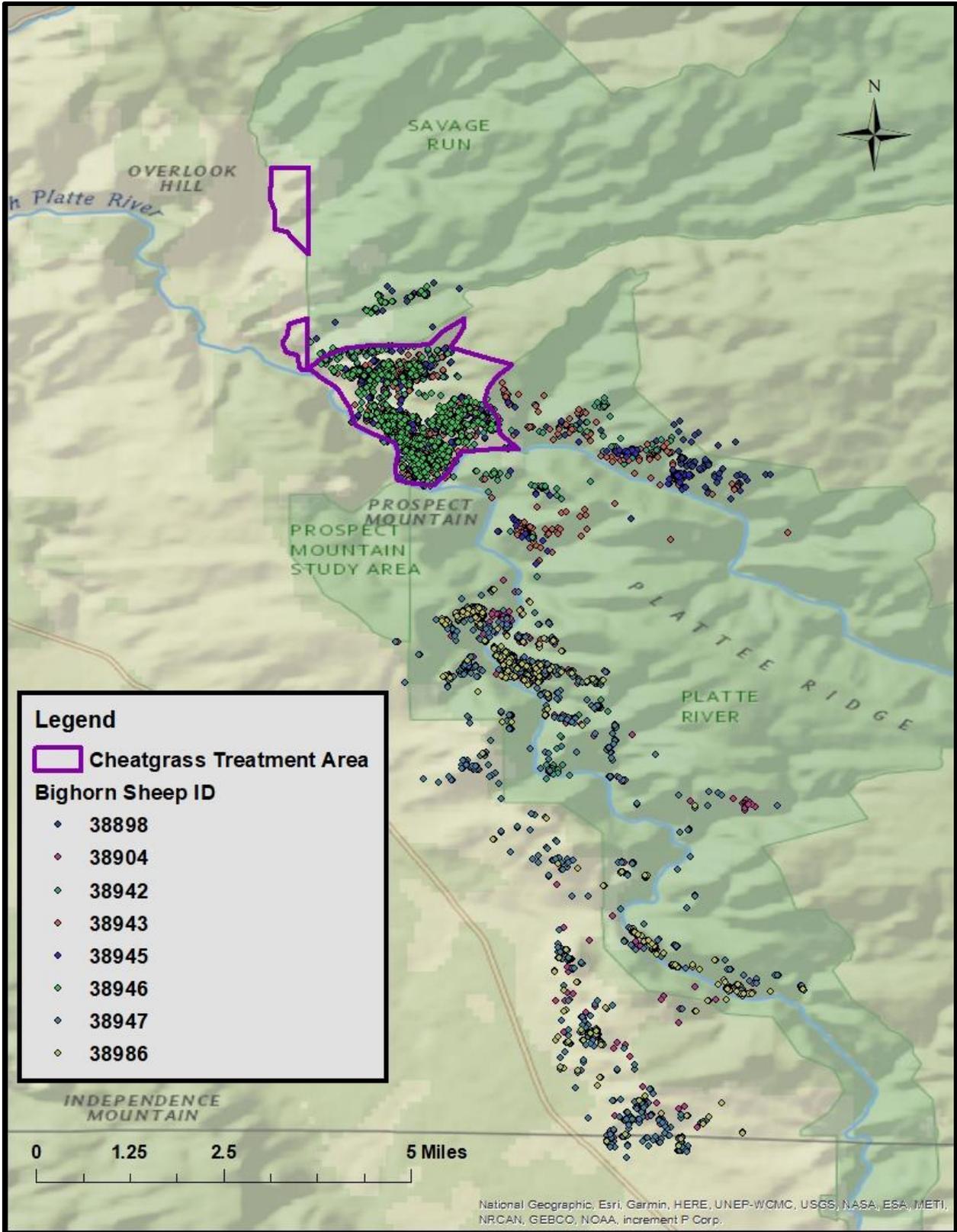


Figure 1. Proposed cheatgrass treatment area in the Douglas Creek bighorn sheep herd unit. Dots denote GPS locations associated with 8 currently collared ewes.



Figure 2. Area burned by the Mullen Fire along the Platte River in the Douglas Creek bighorn sheep herd unit.