

Bucksnort "After the Fire" Noxious Weed Grazing Project

Introduction

During the summer of 2000, the Bucksnort Wildfire consumed over 15,000 acres of forestland and rangeland in the Spokane Hills, east of Helena, Montana. Field specialists confirmed a prediction of a 300 percent increase in noxious weed infestations following the fire. The deep tap-rooted species, such as leafy spurge and Dalmatian toadflax, were some of the first plants to emerge following the fire and continue to be the aggressors.

A local committee was formed in 2000, and organized the "Bucksnort after the Fire" Weed Management Project to ultimately address some 30,000 acres. This project is a coordinated effort of the Lewis and Clark Conservation District, USDA Natural Resources Conservation Service (NRCS), Lewis and Clark County Extension Service, Lewis and Clark County Weed District, the Montana Sheep Institute, Bureau of Land Management (BLM), Montana Department of Natural Resources and Conservation (DNRC), three large landowners leasing the grazing rights on the public land, and the livestock owners.

Weed management strategies in accessible areas include the use of chemicals, biological control, mowing and hand pulling. In remote areas, biological control is being used and recently, grazing animals have been introduced as a weed management tool.

Objectives

- To use bio-control (sheep grazing) to present a cost effective alternative to long-term chemical weed control methods for wildfire reclamation.
- Improve stock water availability and distribution of animals have to allow for biological management (grazing) of noxious weeds in higher elevations in the Spokane Hills.
- Increase water availability to reduce grazing pressure near the standard location, improve livestock distribution, and help balance pasture utilization.
- Increase weight gains on livestock from use of noxious weed forage (high protein content)
- Reduce weed seed production in remote areas of the Bucksnort "After the Fire" Weed Management Area, ultimately benefiting all of the management area.

Study Area

The areas directly impacted by this project include over 9,000 acres that are to be grazed and will indirectly impact all adjacent lands to the project. The acres to be grazed are in the upper elevation of the Spokane Hill. The weed seeds produced there travel throughout the watershed, infesting all lands in the lower elevation, both east and west of the Spokane Hills. There are approximately 88 small landowners on 1,280 acres in the subdivisions adjacent to the project area.

Land that would benefit from this project will include: 2,280 acres of private land and could incorporate 1,720 acres of public land.

Methods

The Montana Sheep Institute will evaluate forage utilization through project monitoring plots. Forage in the plots will be clipped and weighed to identify plant species and pounds per acre. Animal performance data will be collected to determine grazing impacts on noxious weed species and native species. Photo plots were used to record site condition and grazing utilization. An economic analysis will be conducted and contrasted to chemical use.

Approximately 2,500 animals have been utilized to graze noxious weed infestations on the project area. Grazing will continue for four months (May through September), approximately 150 grazing days, after the first three years and beyond if progress continues as results indicate.

The project will be monitored and supervised by Montana State University and Montana Sheep Institute staff. The producers will complete the water developments (one producer will coordinate the developments in conjunction with an EQIP contract). The management of the grazing animals will be coordinated with the Montana Sheep Institute, the livestock owners and an experienced herder. The Montana Sheep Institute, NRCS, Lewis and Clark County Extension Service, BLM, and Montana DNRC will cooperate and coordinate the documentation of the grazing impacts. The Lewis and Clark Conservation District, the Lewis and Clark County Extension Service and the Lewis and Clark County Weed District will produce literature and provide publicity for the project.

Results

During the summers of 2003, 2004, and 2005 approximately 1,200 sheep and goats grazed 5,000 acres in the project area. An estimated 35% of these acres are actual weed acres. Project monitoring plots indicate 84% usage of the leafy spurge. Other noxious weeds grazed were spotted

knapweed, and Dalmatian toadflax. Project cost comparisons from the 2003 and 2004 field season indicated that grazing was about 65% of the cost of herbicide application.

This project demonstrates that grazing presents a cost effective alternative to long-term chemical weed control techniques in wildfire reclamation, primarily in Montana, east of the Continental Divide. The dramatic increase in noxious weed populations after wildfires challenges the resources that are available to combat them. Chemical applications are expensive and they often threaten the recovery of important native plants because of the limited selectivity of many herbicides. Non-target species that are vulnerable to chemical application are important for wildlife browse and cover. Other non-target species are important for wood product production and long-term livestock forage.

The project indicates that the high protein available in weed forage such as leafy spurge, Dalmatian toadflax and knapweeds produced heavier animals. This was a win-win situation for the landowner controlling weeds and the sheep owner receiving high protein livestock forage, which results in heavier animals.

The identified water developments and pumps open up approximately 4000 acres and would almost double the size of the grazing project area. By increasing this area, chemical weed control applications can be reduced by one-third and non-target plant species exposure to chemicals can be reduced. The developed sites are located in areas heavily infested with leafy spurge and Dalmatian toadflax

The project has demonstrated the value of suitable livestock water to support control of noxious weeds by grazing animals in this wildfire situation.

It is hard to estimate the long-term impact resulting from a reduced weed seed population. Ultimately, the watersheds on both sides of the Spokane Hill have benefited.

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