United States Department of Agriculture
Natural Resources Conservation Service

Water Quality Enhancement Activity –*WQL01 – Biological Suppression and Other Non-chemical Techniques to Manage Brush*

Biological Suppression and Other Non-Chemical Techniques to Manage Brush
The reduction of invasive, woody brush using naturally occurring enemies of the invasive species as well as management techniques to reduce the impact of the plants on agriculture and the environment.

Land Use Applicability
This enhancement is applicable on rangeland, and native or naturalized pasture.

Benefits
Controlling brush with biological suppression or other methods instead of herbicides, helps to reduce the potential for contamination in the environment. Wildlife species such as pollinators and other beneficial insects may also benefit from reduced exposure.

Criteria
1) Implementation of this enhancement requires the use of biological pest suppression techniques instead of pesticides. These techniques can include activities such as:
    - Grazing animals (primarily through the use of goats) to target undesirable vegetation.
    - Introduction of beneficial insects to attack undesirable vegetation.
    - Introduction of beneficial micro-organisms to attack undesirable vegetation.

2) Biological suppression techniques should be based on techniques recommended by the local Land Grant University.
3) Biological suppression must be preceded by an analysis to ensure the proposed biological agent is compatible with the agronomic, ecological and social objectives of the operation.
4) Following initial application some regrowth, resprouting, or reoccurrence of brush should be expected. Additional treatment of individual plants or areas needing retreatment should be completed as required to effectively control the targeted species.

Documentation Requirements
Written documentation for each treatment area and year of this enhancement including:
    a. A full description of all biological suppression techniques utilized including the number of animals or insect colonies to be distributed and the planned time frame of the treatment.
    b. A map showing where the activities were applied including treatment acreage

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Additional State Criteria:

One of the most commonly used biological brush control measures is grazing. The effectiveness is dependent upon the species of brush, herbaceous vegetation present, age of the brush, species of animal, and management objectives of the landowner. Generally, sheep and goats are most effective at stressing or reducing the presence of woody brush. Care must be taken to ensure that the grazing animals do not increase the erosion risk from the site or negatively impact water resources. Refer to the Brush Management Design Procedures (314DP) or Range and Pasture Tech Note #18 "Procedures Using Targeted Grazing for Invasive Plant Management" for additional information.

Documentation Required:

1. Complete the following table documenting the pastures where the practice was applied.
2. Complete a Brush Management Plan (NE-CPA-19) that indicates the brush species to be controlled, the existing brush canopy or density and extent, method of control, and, if applicable, the number, kind and size of the grazing/browsing animals to be used in the treatment.
3. If targeted grazing is used complete the Prescribed Grazing Jobsheet (NE-ECS-528) showing the timing, sequence, and duration of brush management in the pasture(s) treated.
4. Provide a map showing the location of treated areas.
5. Provide a photograph of the treated areas showing the treatment applied.

Tract	Pasture	Brush Species to be Controlled	Description of Control Method	Acres Treated	Dates Applied

I certify that biological suppression technique to manage brush in the pasture(s) listed above meets specifications and have included the following documentation:

1. A full description of all biological and/or physical suppression techniques utilized.
2. A completed Brush Management Plan (NE-CPA-19).
3. A completed Prescribed Grazing Jobsheet (NE-ECS-528) if applicable.
4. A map showing the location of the acres treated.
5. A photograph of the treated areas.

Certified by: _____ Date:_____