Restoration and Management of Declining Habitats - Tallgrass Prairie (643)

Biology Jobsheet #12

Natural Resources Conservation Service (NRCS) - Minnesota

Landowner_____

Definition

Restoring and conserving rare or declining tallgrass prairie communities and associated wildlife species.

Purpose

Provide habitat for rare and declining wildlife species by restoring, conserving and increasing the diversity of tallgrass prairie native plant communities.

Where used

On landscapes which once supported the habitat to be restored and managed, including land retired from agricultural production entered in retirement programs.

Specifications

Site-specific requirements are listed on the specifications sheet. Additional provisions are entered on the job sketch sheet.

Native prairie plant communities will be established utilizing seed harvested from existing Minnesota native prairies within 200 miles of the project site, or utilizing seed mixes comprised of Minnesota ecotype grasses, legumes and forbs, developed to reflect "native prairie" communities as determined suitable for specific site conditions.

Yellow tag "source identified" plant materials from the nearest available source to the project are preferred. However, Minnesota adapted cultivars and ecotypes obtained through commercial seed vendors are acceptable. The use of cultivars will be avoided adjacent to existing native prairie or other sensitive areas. Refer to practice standard 643 Restoration and Management of Declining Habitats for a listing of allowable native cultivars and ecotypes.

Seed mixes will consist of at least 15 native species. The mixture will be comprised of a minimum 5 grasses, and a minimum 5 forbs. At least one forb shall be a legume.

Minimum grass seeding rate will be 8.0 PLS lb/ac. Minimum forb seeding rate will be 8.0 PLS oz/ac. The mixture will result in a minimum 20 PLS seeds per square foot total.

Establishment Considerations

Prepare a firm seedbed for all planting methods.

Conventional Tillage - Prepare a fine firm seedbed to a minimum of 3 inches. The seedbed should contain enough fine soil particles for uniform shallow coverage of the seed as well as contact with moisture and nutrients. If possible, use specialized native grass drills with depth bands designed to handle a wide variety of seed. For conventional drills, as a minimum cultipack before seeding. Cultipack after seeding if possible.

Do not use heavy drills on conventionally prepared seedbeds as heavy drills tend to sink in the soil and depth control is difficult.

Plant seed between one-quarter and one-half inch deep. Some seed may be seen on the surface of the ground after seeding. Tillage should only be used on flatter slopes or in conjunction with erosion control measures.

No-Till - No-till drilling reduces the exposure of the newly seeded site to erosion. A no-till drill must be

used to seed these sites. A drill should be selected that can handle a wide variety of seed (fluffy, smooth, large, and small) and low seeding rates. Plant seed to a depth of one-quarter to one-half inch deep.

Use of a herbicide is essential in order to kill existing vegetation. Land that has been in grass for many years usually has a thick residue layer on the soil surface. To allow for the best no-till seedbed, this residue must be removed. Three options are (1) grazing, (2) mowing with residue removed, and (3) prescribed burn. In the fall a burndown herbicide can be applied to prepare for a spring no-till seeding. An additional spring herbicide application may be required, depending on plant growth.

Broadcast - Prepare a fine firm seedbed to a minimum of 3 inches. Use a roller, cultipacker or similar implement prior to seeding. The seedbed should contain enough fine soil particles for uniform shallow coverage of the seed as well as contact with moisture and nutrients. Broadcast seed at a rate of 1.5 times the normal seeding rate and roll or cultipack again after seeding. Do not harrow in the seed.

During the establishment year, mow weeds after they have reached 12" in height. Mow 2 to 3 times, generally on 30 day intervals from the date of seeding. Mow to a 6-8 inch height. Use a rotary mower or remove the clippings so as not to smother the seedlings. This will slow the weeds but won't harm the prairie plants.

The second year, evaluate the stand to determine if weed control is necessary. If it is, spot mow weeds at a height of six inches. If there is enough material for a prescribed burn, this may be an effective method to control weeds.

Nutrients

Lime and fertilizer are usually not required for native grasses.

Use of Pesticides

Only those pesticides which are labeled for the specific use will be recommended. University and Extension publications and specific label instructions will be used for guidance on herbicide selection and use.

Operation and Maintenance

Operation and maintenance will include but not be limited to the following:

1. Control annual weeds and other competition the year of establishment, with early and timely clipping before seed heads appear, or timely application of herbicides.
2. Prevent disturbance of cover during the primary nesting season for wildlife (May 1-Aug. 1).
3. After the seeding is established control all noxious weeds as identified by state and local laws, by: (a) treating with chemicals per label directions, or (b) spot mow before seed heads form. When possible delay use of control measures until after August 1st to protect nesting wildlife.
4. Protect the acres from unplanned disturbance year round. Fences may need to be constructed and maintained to exclude livestock.
5. Re-seed any areas that do not have adequate permanent cover.
6. Do not use the area for field borders, roads or other uses that will damage or destroy the cover.
7. Manage grasses and forbs periodically to rejuvenate grass quality and vigor. Management should occur within 4-5 years of adequate vegetative establishment. Refer to practice 647 - Early Successional Habitat Management for recommendations. Management activities must take place prior to May 15 or between August 1 and September 1. No more than 50% of the field may be manipulated in a given year.
8. Control rodent infestations that adversely affect the perennial ground cover.
9. Use all chemicals according to label instructions.

Restoration of Declining Habitats - Specifications Sheet

Landowner_____ **Tract Number(s)**_____ **Field Number(s)**_____

Total Acres to be Seeded_____ **Prepared By**_____

	Pure Live Seed Needs			Bulk Seed Needs				
(1) Species	**(2) Strain or Variety**	**(3) PLS lbs/ac * Seeding Rate**	**(6) Purity**	**(7) Germination**	**(8) Bulk lbs/ac needed (3)/(6x7)**	**(9) Acres to be seeded**	**(10) Total Bulk lbs needed (8)x(9)**

Specific Recommendations: *** Note: %PLS = %Germination x %Purity. To obtain pounds of bulk seed needed per acre, use the following: (PLS lbs/ac) divided by (Germination x Purity)**

Planned Application Date_____

Seeding Dates: May 15 - July 1
Dormant seeding after November 1

Companion Crop _____

Seedbed Preparation Method

_____

Fertilizer
Recommendations_____

Total Acres_____ X Estimated Cost per Acre _____ = Project Cost Estimate _____

Restoration of Declining Habitats - Tallgrass Prairie Job Sketch or Map

An aerial view, or if needed an aerial photo of the area to be seeded to Native Grasses and Forbs can be shown below. Other relevant information, such as complementary practices, and adjacent field or tract conditions including structures and crop type, and additional specifications may be included.

Additional Specifications and Notes