Restoration and Management of Declining Habitats
Prairie Establishment

Illinois Job Sheet – 643 ***November 2009***

Photo by Lynn Betts, USDA, Natural Resources Conservation Service

Introduction:

Tall grass prairie was a prominent landscape type in all but eight of the 102 counties in Illinois. Prairies consisted of a diverse collection of native grasses and wildflowers and is the plant community responsible for the highly productive soils within Illinois. This job sheet will provide the information necessary to reconstruct a prairie on your site that has some of the typical plant species common to natural prairies with the same soils, landscape and other characteristics as your site. This type of prairie reconstruction is necessary where the site has few if any native prairie species, the site has been managed for other landuses like cropland or pasture of introduced species, and the goal is to re-establish the prairie plant community the site once had. Management recommendations are also given to keep the prairie healthy and in good condition.

Species selection and sources:

Attached is a specification sheet with the grasses, forbs (wildflowers) and shrubs to be planted and the seeding rates for each species. The species that have been selected are for the specific type of prairie that is being restored and for the soil, moisture and other characteristics of the site. Do not substitute species without making sure that it is an appropriate substitute. There are at least 3 to 5 grasses (depending on type of prairie) and at least 10 forbs to provide some of the diversity of the prairie type that is being restored. More species make it an even more diversified community closer to that of a native prairie.

Seed should originate from within a 100-mile radius of the site where possible and be produced in the USA. Commercial sources specializing in locally collected and propagated seed are listed in the publication *Prairie Establishment and Landscaping* by William E. McClain, 1997. Technical Publication #2. Illinois Department of Natural Resources. An updated version of this list can be accessed at: http://dnr.state.il.us/conservation/naturalheritage/prairie/appen2.htm.

Seeding rates for each species is given in “pure live seed” (PLS). The seed must be purchased at the PLS rate, or if sold as a bulk rate, the amount of seed purchased must be increased to provide the PLS rate given the percent germination and purity of the seed.

Seedbed preparation and seeding:

Soil tests and supplemental fertility such as lime and fertilizer are not required for this practice. Seeding will be performed within the seeding dates listed on the attached specification sheet.

Prepare fields for seeding by eradicating all existing vegetation which may compete with prairie species. Controlling weeds and competing introduced species before seeding will greatly improve establishment and reduce maintenance needs. For fields coming out of cultivation, spray weeds that have germinated with an approved burndown herbicide then plant. For old fields, pastures and fallow areas several treatments for one or two growing seasons may be required, using a combination of herbicides, mowing, and burning, to eradicate aggressive undesirable vegetation. If cultivation is required allow time for weed seeds to germinate after cultivation then spray with a burndown herbicide before planting. A cover crop of oats can be seeded on fields prone to erosion, especially if the site will require more than one year to prepare.

Dormant seeding during late fall or early winter when soil and air temperatures will remain cold enough to prevent germination is the recommended establishment method. A broadcast seeding may be done after the recommended dormant seeding date. The seed will be worked into the ground by the actions of freezing and thawing overwinter. A drill may be used for planting but be careful not to plant too deep, no more than twice the seed diameter. Native seed will usually benefit by cold wet stratification as it overwinters.

Spring seeding may be done by using grain drills and cultipacker-type seeders if the seed delivery mechanism is designed to handle the type of seed being planted. No-till seeding may be done using a seed drill designed for no-till seedings. No-till grain drills are acceptable if the seed delivery mechanism is designed to handle the type of seed being used. Place seed at a depth not to exceed two times the seed diameter.

Management recommendations:

The first growing season mow when necessary to control weeds. Keep mowing height at least 6 inches high. After the first year, prairie communities are best managed by the use of prescribed fire. Prescribed burning should be applied yearly the first few years, if there is enough fuel to carry a fire, to stimulate the prairie plants and control weeds. After the planting becomes established, prescribed burning should be conducted every three to five years. For wildlife considerations, divide the area into smaller management units and burn only 20 to 30 percent of the area each year. The prairie should be burned during the dormant season (late fall to early spring). Only burn with an approved burn plan using the Conservation Practice Prescribed Burning Job Sheet 338js. Use spot mowing or spraying to control noxious weed problems. Woody vegetation should be controlled and not allowed to shade out the prairie plants.

Sketch of the planting site (or attach map or aerial photograph)