

Guidance on Seeding for Pothole, Floodplain, and Other Wetlands

Purpose:

This guidance is provided to develop seeding plans for easement programs. However, the principle of developing seeding plans based on ecological zones of soil moisture and landscape aspect, and diversity of stem density, heights and forb components is desirable for all seeding programs. This method of tailoring the seeding to the soil resource and landscape position does a much better job of providing a quality seeding for a site and will provide quality habitat for a wider range of wildlife species.

Establishing vegetation on pothole, floodplain and other wetland sites is critical in attaining maximum ecological benefits and carrying out program objectives. A well thought out revegetation plan and installation process is critical to the most effective use of program and landowner resources. In all cases the NRCS FOTG Conservation Cover - 327 Standard will be followed.

The following guidance has been developed to help field staffs design seeding plans on pothole, floodplain, and other types of wetland sites. This guidance is program neutral. Specific program criteria can be found in the appropriate conservation program manuals.

Design Considerations:

When developing seeding plans during conservation planning the conservationist is to consider the soils, moisture regimes, and topography of the site. From this information, the conservation planner should develop prescription mixes for each of the ecological zones using the Conservation Cover - 327 Standard. This approach to developing conservation cover on the site is more ecologically based than the traditional standard "one mix covers all" method for seeding recommendations. Use the Iowa Seeding Calculator or Iowa CPA-4 to design and document all seeding plans.

Each of the zones discussed below can be defined locally using the appropriate soils survey information. Using the soils survey data on the frequency and duration of flooding or inundation to determine which zones are present on the area to be seeded is a start. On-site visual observation and other site-specific data are the final determination of which zone criteria to use for the seeding plan. The zones are defined below.

Zone 1: This is the area that is frequently flooded, inundated, or saturated for frequent (80 to 100% of years) and usually for long periods. This is the lowest portions of the flood plain or the seasonal and wetter zones of pothole wetlands.

This area will be allowed to undergo natural revegetation without any seeding. The rationale is these areas can not be successfully established to any seeding and there already exists a seed bank of appropriately adapted plant species present.

Zone 2: This is the area that has frequent flooding, inundation, or saturation (50 to 79% of years) but the wet periods are of a short duration in most years. These areas are characterized by soils that are poorly to somewhat poorly drained. Seeding used on EWP sites will fall under this option, unless some incidental areas of high ground are included. This zone will also be found on portions of many WRP sites and also includes any wet swales or depressions in uplands that will be seeded down under non-easement programs.

Zone 2 areas will be seeded to either a solid stand of Virginia wild rye, a mixture of 50% Virginia wild rye and 50% switchgrass or some other mixture of wet adapted cool or warm season native grasses. Seedings in this zone are mainly done for the purpose of providing a temporary cover while these areas undergo a natural succession over time. Due to its aggressive nature, solid stands of switchgrass are not preferred and should only be used on a limited basis.

Possible situation where a solid stand of switchgrass may be desirable is for a small block or strip where winter cover is required and no other sources of winter cover are available. For non-easement restoration plantings, this area could be seeded to an introduced cool season grass mix to help control noxious weeds. Use the 327 Conservation Cover Standard, Table 2, Introduced Plant Species or Table 3, Native Plant Species, prairie and wetland reconstruction column to develop seeding mixes for this zone. Introduced grasses should be selected from either the wet or 'both' habitat preference category and native grasses should be selected from either the wet or wet-mesic moisture regimes.

Zone 3: These are areas that are still flooded, inundated, or saturated but only on an infrequent basis (25 to 49% of years) and normally only for short time periods. These areas often include those soils that are somewhat poorly drained to moderately well drained. These areas may include ephemeral or temporary wetlands but they are often the transitional areas between wetlands and uplands.

Seed Zone 3 areas to a mixture of at least 4 native grasses. Hydric forbs, those in the mesic and wetter categories, should be included in the mix for these areas. When doing a reconstruction on any easement, use a minimum of 8 forbs for areas in this zone. At least 60% of the forbs should be perennial. It is recommended for other non-easement programs that hydric forbs be included in all seeding for areas in this zone. The rationale for including forbs is to establish a greater diversity in the vegetative community and provide for more niches for wildlife habitat.

Zone 4: This is the true upland portion of a site. It is the areas that are rarely, if ever, inundated or flooded and the duration of any saturation is not significant. They are usually well drained to excessively well drained soils that tend to be located in the uplands, second or third stream benches, or are soil map units whose slope range is in the higher end of the B slope class or steeper.

Zone 4 areas should be seeded to a minimum of 5 native grasses and 10 forbs. The forbs should be at least 80% perennial species to ensure they have the best chance of retaining the added diversity that the additional expense of forb seedings entails.

Zone 4 can be split into two sub-zones, the mesic and the xeric. Well-drained soils and a wet mesic to mesic moisture regime characterize the mesic sub-zone. The xeric sub-zone is associated with excessively well drained soils and a dry mesic to dry moisture regime. It is recommended that when seeding the zone 4 portion of a site that different seed mixtures appropriate to the moisture regime should be developed each these two sub-zones.

Zone 3 and 4 Summary:

Use Table 3, Seeding Chart for Native Plant Species, of the 327 standard to develop seeding mixes for native grass and forbs species to use in both zones 3 and 4. To determine the grass portion of the seed mix for Zone 3 and 4 grass species, use the Prairie and Wetland Reconstruction column. Consult the habitat preference and moisture regime columns to determine which forbs are appropriate for the seeding mixture. Adjustments to the species mix composition may be necessary if herbicides such as Plateau are used.