

DEPARTMENT OF ENVIRONMENTAL QUALITY

LAND QUALITY DIVISION

CHAPTER 4, APPENDIX 4A

Species Diversity and Composition Standard

I. Applicability

A. For lands disturbed prior to the effective date of the species diversity and composition standard as determined under W.S. 16-3-104(b) of the Wyoming Administrative Procedure Act (2007), the operator may choose from two options:

1. The operator may use the evaluation methods and commitments for attaining species diversity and composition approved in the permit, or
2. The operator may use the standards for species diversity and composition in this appendix.

B. For lands disturbed after the effective date of the species diversity and composition standard as determined under W.S. 16-3-104(b) of the Wyoming Administrative Procedure Act (2007), the operator shall meet the standards in this appendix or alternative standards and methods approved by the Administrator.

II. Sample Unit with the grazingland, and/or fish and wildlife habitat land uses are required to meet the standard for species diversity and composition. Sample Units with the pastureland land use shall meet a separate standard for species diversity and composition. Both standards are listed in this appendix.

III. This standard is semi-quantitative. Therefore, successful achievement of the species diversity and composition standard will be evaluated using a nonstatistical comparison of numerical data.

IV. Vegetation sample parameters for the species diversity and composition standard for Sample Units designated as grazingland and/or fish and wildlife habitat are:

A. The requirement for the average number of species per 100 square meter belt transect shall be determined by the Administrator.

B. The average frequency for the following life forms, when they appear in the vegetation baseline study, shall be determined by the Administrator:

1. Cool season graminoids, including all species native to North America and introduced species except graminoids defined in Chapter 1 as “Species

lacking creditable value”.

2. Warm season graminoids, including all species native to North America and introduced species except graminoids defined in Chapter 1 as “Species lacking creditable value”.

3. Full shrubs and subshrubs, except all species defined in Chapter 1 as “Species lacking creditable value”.

4. All annual, biennial and perennial forbs, including all species native to North America and introduced species except defined in Chapter 1 as “Species lacking creditable value”.

V. Vegetation sample parameters for the species diversity and composition standard for Sample Units with the pastureland designation are:

A. The requirement for the average number of species per 100 square meter belt transect shall be determined by the Administrator.

B. The average frequency for the following life forms shall be determined by the Administrator:

1. Cool season graminoids, including all species native to North America and introduced species except graminoids defined in Chapter 1 as “Species lacking creditable value”.

2. All annual, biennial and perennial forbs, including all species native to North America and introduced species except those species defined in Chapter 1 as “Species lacking creditable value”.

VI. If the parameters derived from belt transects associated with the randomly placed cover transects do not achieve the species diversity and composition standard, the operator may selectively place additional 100 square meter non-overlapping belt transects within the Sample Units in order to increase the numerical value of the parameter(s) that did not achieve the standard. These transects may originate in or pass through areas, such as mitigation wetlands, with known inclusions of species or life forms which demonstrate achieving the standard.

VII. Frequency is defined as the percentage of the 100 square meter belt transects in which an individual life form is present.

VIII. The average number of species per transect and each of the life form frequency values will be evaluated separately, and each evaluation shall carry equal weight for demonstration of this performance standard within each Sample Units

IX. A species list shall also be provided, organized by life form, scientific binomial, and common name for each Sample Unit. The species list will not be compared to any quantitative, semi-quantitative, or qualitative criteria, but will provide information on overall species diversity and composition of the Sample Units.