**Section 1817.117 Revegetation: Tree,** **Shrub, and Herbaceous** **Vegetation**

a) For areas to be developed for fish and wildlife habitat (including shelter belts), recreation, or forest products land uses, success of vegetation shall be determined on the basis of tree and shrub population and vegetative ground cover. Such parameters are described as follows:

1) Trees and shrubs that will be used in determining the success of vegetation and the adequacy of plant arrangement shall have utility for the approved post-mining land use. Tree and/or shrub population shall be considered successful if it meets the population required in subsection (b) with 90% statistical confidence (i.e., one-sided t test with a 0.10 alpha error) during the fifth year of the responsibility period or later in the responsibility period. On lands eligible for remining, the period of responsibility shall be 2 full years. Trees and shrubs counted in determining such success shall be healthy, e.g., not demonstrating abnormal growth, coloring, leaf drop or disease. At the time of bond release such trees and shrubs shall be alive, and shall have been in place for at least 3 growing seasons, i.e., 3 years. On lands eligible for remining, trees and shrubs need not have been in place for 3 years; however, such trees and shrubs shall not be counted in determining success during the same calendar year in which they were planted.

2) Vegetative ground cover shall not be less than required to achieve the approved post-mining land use and shall be adequate to control erosion and shall not be less than 70% during the last year of the responsibility period.

3) Permanent roads, parking lots and similar impervious structures on the revegetated area shall not require the planting of trees and shrubs or herbaceous ground cover. Erosion control structures, including pond embankments, shall not require the planting of trees and shrubs.

4) For purposes of this Section, herbaceous species means grasses, legumes and nonleguminous forbs; woody plants means woody shrubs, trees and vines; and ground cover means the area of ground covered by the combined aboveground parts of vegetation and the litter that is produced naturally on site.

5) For purposes of this Section, normal husbandry and conservation practices shall include pruning, disease, pest, vermin and herbaceous vegetation control including mowing, replanting and rill and gully repairs. The replanting of trees and shrubs in areas described in Section 1817.116(a)(2)(C) shall be limited to 20% of the original approved planting rate during the first year of the responsibility period and 10% of the original approved planting rate during the second year of the responsibility period. The repair of rills and gullies shall be limited to those approved as a normal conservation practice under Section 1817.116(a)(2)(C), (D) and (E).

b) For areas where woody plants are used for fish and wildlife habitat (including shelter belts), or recreation land uses, the area shall have a minimum population of 250 trees or shrubs per acre. Planting arrangements such as hedgerows, border plantings, clump plantings, shelterbelts, and open herbaceous areas which increase diversity within wildlife areas may be approved by the Department on a case-by-case basis prior to planting such areas. Where woody plants are used for forest products land uses, the area shall have a minimum population of 450 trees or shrubs per acre.

c) For areas planted to trees or shrubs including wildlife habitat (including shelter belts), recreation, and forest products land uses, the sampling procedure for measuring populations is described as follows:

1) The permittee shall submit a scale drawing or aerial photograph delineating the fields to be sampled and the total number of acres in each field. A one inch equals 500 (1:500) feet or larger scale shall be used. Once field boundaries are established in a submittal, the boundaries shall not be changed unless the Department approves a request in accordance with 62 Ill. Adm. Code 1774.13.

2) One of the following circular plot sizes shall be selected by the sample enumerator:

|  |  |
| --- | --- |
| Plot Size/Acres | Radius/Feet |
| 1/160 |  9.31 |
| 1/120 |  10.75 |
| 1/100 |  11.78 |
| 1/90  |  12.41 |
| 1/80  |  13.17 |
| 1/70  |  14.07 |
| 1/60  |  15.20 |
| 1/50  |  16.65 |
| 1/40  |  18.61 |
| 1/30  |  21.50 |
| 1/20  |  26.33 |
| 1/10  |  37.24 |
| 1/5  |  52.66 |
| 1/4  |  58.88 |

3) The number of plots needed to sample the area will be calculated employing the following formula:

Number of Plots equals 2.5% multiplied by Sample Area in acres divided by plot size.

4) Based on the number of plots needed to be sampled and plot size, locate transect lines an equal distance apart throughout the area to be sampled. Position individual plots an equal distance apart along transect lines. Determine the total length of all transect lines combined and then divide by the total number of plots needed to be sampled. When an individual plot is positioned within 60 feet of the boundary of the area to be sampled, the location of the plot shall be moved perpendicular to the transect line until the plot is 60 feet from the boundary of the area to be sampled or the greatest distance possible where 60 feet cannot be achieved.

5) Sample each plot for compliance with subsections (a)(1) and (b) and record live trees and/or shrubs and species.

6) Calculate population levels as follows:

A) Average number of live trees and/or shrubs per plot equals Total Number of live trees and/or shrubs divided by number of plots; and

B) Number of live trees and/or shrubs per acre equals Average number of live trees and/or shrubs per plot multiplied by plot size denominator.

7) Representatives of the Department shall administer all sampling.

d) Vegetative ground cover shall be measured by the following technique:

1) Twenty random points shall be identified in the area to be tested.

2) A 20 feet engineer's tape shall be extended directly south of each point. If the tape extends beyond the boundary of the area to be tested or extends into an area where herbaceous ground cover has been controlled with herbicides to minimize competition with woody plants, the tape shall be rotated in 90 degree increments until the entire 20 feet length is within the boundary of the area to be tested or area not treated with the herbicide.

3) A measurement shall be taken at each .2 foot increment directly above or below the tape.

4) Ground cover shall be determined to be present if any vegetation identified in subsection (a)(4) is measured at the increment.

5) A percentage of ground cover shall be established for the area tested by taking the total number of measurements where ground cover was determined to be present.

e) For areas where herbaceous vegetation plants are used for fish and wildlife habitat (including shelter belts), or recreation land uses, vegetative ground cover of approved species shall not be less than required to achieve the approved post-mining land use and shall be adequate to control erosion and shall not be less than 70% during the last year of the responsibility period. Planting arrangements such as hedgerows, border plantings, clump plantings, shelterbelts, and open herbaceous areas that increase diversity within wildlife areas may be approved by the Department on a case-by-case basis prior to planting those areas.

(Source: Amended at 47 Ill. Reg. 2390, effective February 3, 2023)