

Appendix A. Forest Regeneration Metric

Overview: This Forest Regeneration Metric (FRM) is a survey methodology designed to assess natural regeneration by seedling and sapling size classes. The design and protocol have been created to be utilized by foresters as an additional measure during their routine stand assessments. This type of regeneration metric can be used to characterize stand-level regeneration or be used in multiple stands to characterize regeneration by cover type on a county, regional, or statewide scale.

Plot Location and Number: Foresters have a variety of different methods to select cruising locations when assessing a forest stand. Whether it is arranging GPS points ahead of time or walking a specific bearing and distance, ensuring that a measurement location is unbiased is critical. We suggest conducting this regeneration metric at the same locations used to collect cruising data. The greater number of regeneration plots measured, the better representative the data will be of the stand.

FRM Procedure:

1) Plot Establishment

- a) The forester will establish a plot center location. Again, it is important that the plot center location is not biased. We suggest that each forester establish a rule that is consistent across plots and stands. For example, a forester may measure regeneration at every other cruise point within a stand, and the center for the regeneration plot is always on the outside of their right foot at the location at which they stopped to cruise.
- b) A datasheet template has been provided. Foresters may use whatever means of data collection that is easiest and most convenient for them, but be sure to include all the necessary data. The datasheet includes a plot number which may be arbitrary or correspond to cruise point numbers. FRM requires important stand-level information, including:
 - Date
 - Primary cover type
 - County
 - Township/range/section
 - MFL Order # (if applicable; note if NIPF non-MFL)
 - Stand
 - Stand acres
 - Compartment
 - Property
 - Management record (includes most recent past and future planned harvests)

2) Stem Counts

- a) Once a plot center is established use a stake or chaining pin to attach a measurement tape. Or the forester may want to use a pre-marked piece of rope or stick to identify the 6.8 foot radius (i.e., 6' 10" radius, ~1/300th acre plot).
- b) Tally all seedlings and saplings (<5" dbh) by species and height class within the FRM plot. Tip – On plots with very high seedling numbers, it is acceptable to count a portion of the plot and multiply by an expansion factor. For example, count all the seedlings within one quarter of the plot and multiply by four. The height classes are:
 - 2"-1 ft. 1-3 ft. 3-5 ft. 5-10 ft. >10 ft.

- 3) Overstory Shading - Note the potential available light for understory trees by recording **full sun**, **partial**, or **shade** in the *overstory shading* space on the datasheet.

- 4) Understory Competition - In the *understory competition* space, note the percent cover for both herbaceous and **woody** competition. Understory competition categories are as follows:

	Percent Cover				
	0%	1-25%	26-50%	51-75%	76-100%
Herbaceous	H-0	H-25	H-50	H-75	H-100
Woody	W-0	W-25	W-50	W-75	W-100

- 5) Deer Browse – Deer browse is recorded as the percentage of stems browsed (Browse Severity Index), rounded to the nearest whole number, and is calculated and recorded for each individual species. Unlike overstory shading and understory competition, which would be the same for all species within a single plot, the deer browse may be different for each species. The intent of this metric is to assess current browse impacts rather than historical browse. Evaluate the percentage of stems by species that appear to have been browsed in the previous 12 months (i.e., approximately the current and previous growing seasons).
- 6) Deer Exclosure – Record whether the FRM plot is located within a deer exclosure.

Height Classes

>10 feet



