Potential Enduring Trees (PET)

**Rationale:** From aboveground biomass dynamics and growth efficiency of Sequoia sempervirens forests: *silviculture that includes indefinite retention of Sequoia trees can sustain high productivity while also improving both the carbon sequestration potential and conservation value of managed forests* (Sillett, et al., 2020. [Link](#)). Purposeful, indefinite retention of superior redwoods will also contribute to the replacement of the large trees in Mendocino County’s redwood ecosystems over time.

**Strategy:** Retain 2 dominant or codominant 2nd growth trees per acre that represent the best vigor and phenotype of the site. Old-Growth trees will be retained per existing policy. PET are additional permanently protected trees.

1. Prefer redwood, provide for the full diversity of species present on site.
2. Prefer individual trees over stump sprouts, when available.
3. Retain both clusters of trees and well-spaced individuals to provide for heterogeneity.
   a. Tree clusters may perform better over the long-term on upper slope positions or those regularly exposed to high winds.
   b. Clusters in cable logging areas should be oriented somewhat linearly perpendicular to the slope to facilitate yarding operations.
4. Trees should have dominant or codominant crown position with adequate free growing space present or provided during the proposed harvest.
5. Prefer trees with high leaf area and full crown as a sign of good vigor and carbon sequestration capacity.
6. Retention trees should generally be from the larger diameter class, but leaf area, crown position, and spacing are better predictors of long-term carbon sequestration potential than diameter alone.
   a. Trees with insect damage, disease, deformities, or poor health should not be retained as PETs but should be considered for retention to provide other ecosystem benefits.
7. Strive for at least 1 tree per acre to provide for large tree retention within a sustainably managed forest and not as set-aside reserves.
   a. Total tree retention to be determined by PET goal per acre x area to be harvested (excludes WLPZ, Geology, Wildlife, or other restricted harvest areas).
   b. The goal of this is to provide flexibility in retention patterns, not to reduce total retained trees.
8. Consider proximity to logging infrastructure such as roads and skid trails.

**Tree Marking and Inventory**
- High visibility double orange band at DBH and butt mark during harvest to alert falling and yarding crews.
- Monument trees with aluminum tags (naming convention to be determined)
- Collect species, DBH, at frequencies at least equal to harvest entries into stand.