PnET-II simulates cohorts independently, all calculations of photosynthesis are internally consistent in units of density (x/m2). Applications of PnET-II to mixed conditions has been done by running PnET-II for each component (hardwood/conifer) and then blending the values together weighted by the component’s relative contribution to the stand. This approach works well and can be replicated within PnET-Succession, when the contribution of the respective components is relatively stable. There is no precedent for modeling conditions when one component is removed from the stand.

Relative contribution to the stand can be allocated by biomass or leaf area. Directly using these values and dividing individual values by the sum of the values implies a constant complete filling of space. We have implemented an alternative means for defining completely filled space as when the cohort LAI reaches its MaxLAI. This means when LAI < MaxLAI, the cohort does not occupy all of the space available to it. Each cohort has a potential proportion of the full canopy that it can occupy defined as LAI/MaxLAI. When there are multiple cohorts present in a layer, they each have a potential canopy proportion. The relative space that each cohort occupies is equal to it’s potential proportion, until the sum of site proportions > 1. At that point, the canopy is considered fully occupied and closed. When the canopy is closed, the relative space that each cohort occupies is weighted proportionally based on the cohorts’ respective potential proportions.

When a cohort from a layer is removed, the remaining cohorts can