RAMAPO

Results

- Mortality rates and recruitment rates varied dramatically among the twelve most common tree species in the study plot.
  - By far the highest mortality rates were experienced by white ash, followed by flowering dogwood and sassafras (Figure 1). All three of these species, as well as American beech, experienced higher mortality rates in the more recent time period in the study (Figure 1)
  - The highest recruitment rates occurred for American beech and sassafras (Figure 2). Notably, higher recruitment rates occurred in the most recent time period for sassafras, sugar maple, and black birch, while substantial declines in recruitment occurred for red maple and flowering dogwood (Figure 2).
  - When considering the mortality and recruitment rates together, the population of white ash experienced the most dramatic decline, while populations of flowering dogwood and all of the oak species were also in decline (Figure 3).
    - Species with increasing populations included American beech, sassafras, and black birch (Figure 3). The trends for the remaining species, including the most abundant species (sugar maple), were either less consistent or appeared to be more stable (Figure 3).
- Trunk diameter growth was statistically consistently lower in 2017-2023 than in 2011-2017 for most species ($p < 0.05$), while no statistically significant trends were observed between the two time periods for flowering dogwood, sassafras, and black oak.
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