**FoRTE – Tree Crown Conditions Survey**

**2020 – Protocol**

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**Reference:** Schomaker … (2007). USDA, Forest Service, Southern Research Station. <https://www.srs.fs.usda.gov/pubs/gtr/gtr_srs102.pdf>

This protocol was adapted from the Forest Inventory and Analysis (FIA) tree crown condition indicator protocol. Specifically, the “crown dieback” metric was adapted to quantify disturbed tree crown deterioration in FoRTE because of its simplicity and relevance to stressed or disturbed trees.

For a definition of “crown dieback” see: <https://www.srs.fs.usda.gov/pubs/gtr/gtr_srs102.pdf> .

**Measurement:** The exact protocol described in Schomaker et al. (2007) was used except for some minor changes to the scale. While the FIA protocol requires 5% classes, for simplicity and efficiency, 25% classes were used instead. In addition, while not specified in the FIA protocol, branches with all brown leaves or orange/red needles were considered dead. If leaves were partly green, the branch was designated “live”. Below is an adapted 0-5 scale.

0 – 0% crown dieback; no dead branches in the upper and outer portions of the tree.

1 – 1%-24% crown dieback

2 – 25%-49% crown dieback

3 – 50%-74% crown dieback

4 – 75%-99% crown dieback

5 – 100% crown dieback; this tree is completely dead above the girdle