PalEON Dendro Methods - 2014 & Forward Sampling Protocol

Four sampling plots per forest with multiple nests per plot.

- experience in a few forests shows a range of 28-105 trees/plot depending on nesting and forest density;
- these plots take 4-5.5 hrs each with a crew of 5; a crew of 6 might be optimal

<u>For Each Plot</u>

Inner Nest - 13m radius. Sample trees ≥ 10 cm DBH

- ID all trees, live, dead, downed ≥ 10 cm DBH to species, determine crown position (dominant, co-dominant, intermediate, suppressed) & measure DBH for trees ≥10 cm DBH; for dead trees, estimate to genera for samples without bark
- map these stems via distance and azimuth from plot center
- Document '*stump holes*' - holes in the forest floor that look like they held a tree that is no longer visible and no log can be found. Map, measure two diameters at the ground surface using calipers, ID, and assign a tree number
- core everything ≥10 cm, including solid snags and logs;
- take 2 cores/tree
- determine decay classes for all deadwood (1 recent -> 5, nearly soil; http://goo.gl/FnGVW) – decay class descriptions on next page
- to estimate the amount of C not being cored
    - tally all stems 5-9.99 in DBH from plot center out to 9 m
    - tally all stems 2.5-4.99 cm DBH from plot center out to 5 m

Outer Nest - 13 - 20 m. Sample trees ≥ 20 cm DBH:

- ID all trees, live, dead, downed ≥ 20 cm DBH to species, determine crown position (dominant, co-dominant, intermediate, suppressed) & measure DBH for trees ≥20 cm DBH; for dead trees, estimate to genera for samples without bark
- map these stems via distance and azimuth from plot center
- Document '*stump holes*' - holes in the forest floor that look like they held a tree that is no longer visible and no log can be found. Map, measure two diameters at the ground surface using calipers, ID, and assign a tree number
- core everything ≥20 cm, including solid snags and logs;
- take 2 cores/tree
- determine decay classes for all deadwood (1 recent -> 5, nearly soil; http://goo.gl/FnGVW) – decay class descriptions on next page

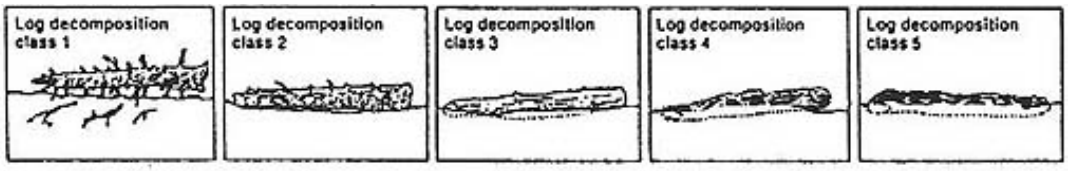
PalEON Old Forest Protocol

In addition to the two nests above, sample area 20-30 m from plot center in old to old-growth forests

Old-growth Nest - 20 - 30 m. Sample trees ≥ 30 cm DBH:

- ID all trees, live, dead, downed ≥ 30 cm DBH to species, determine crown position (dominant, co-dominant, intermediate, suppressed) & measure DBH for trees ≥30 cm DBH; for dead trees, estimate to genera for samples without bark
- map these stems via distance and azimuth from plot center
- Document '*stump holes*' - holes in the forest floor that look like they held a tree that is no longer visible and no log can be found. Map, measure two diameters at the ground surface using calipers, ID, and assign a tree number
- core everything ≥30 cm, including solid snags and logs;
- take 2 cores/tree
- determine decay classes for all deadwood (1 recent -> 5, nearly soil; http://goo.gl/FnGVW) – decay class descriptions on next page

Decay Class Descriptions



	Class 1	Class 2	Class 3	Class 4	Class 5
Wood Texture	Intact, hard	Intact, hard to partly decaying	Hard, large pieces, partly decaying	Small, blocky pieces	Many small pieces, soft portions
Portion on Ground	Elevated on support points	Elevated but sagging slightly	Sagging near ground, or broken	All of log on ground, sinking	All of log on ground, partly sunken
Twigs < 3 cm (if originally present)	Present	Absent	Absent	Absent	Absent
Bark	Intact	Intact or partly missing	Trace	Absent	Absent
Shape	Round	Round	Round	Round to oval	Oval
Invading Roots	None	None	In sapwood	In heartwood	In heartwood