Aim and Design of the “Gap-Experiment” at 10 forest-EPs per Exploratory

Aim:
To test, whether a large forest gap, deadwood, and their interaction differently affect biodiversity and ecosystem services in differently used forests.

Design:
Factorial Gap x Deadwood treatment at 10 EPs.
Next to 10 EPs 2 gaps will be cut of about 30m diameter.
- One gap will be freed from the cut deadwood.
- A second gap will be left equipped with cut deadwood.
- A further subplot will only be equipped with cut deadwood (but no gap).
- A further subplot within the EP serves as control.
Red hatching = deadwood

Overall this results in 3 x 10 x 4 = 120 experimental subplots.
Dimensions of the gap subplots in the Gap-Experiment

- Length: 70 m
- Width: 70 m
- Inner circle: ca. 30 m
- Inner rectangle: 20 m × 20 m
Arrangement of deadwood in the deadwood subplots
Remark

In spring 2019, before the grant deadline, also a herbivore exclusion treatment was planned. This has been omitted for three reasons:

- The split-plot herbivore exclusion treatment would have yielded very many subplots.
- Setting-up the many fences for the exclusion treatment would have been very costly and laborious.
- Most important: despite fewer subplots in the new design, the question, how herbivore pressure affects the interacting effects of gap, deadwood and surrounding forest management, can still be answered, because we know the herbivore pressure per EP and year, which is and will continue to be measured separately.