Table S1. Vascular plants recorded in the experimental area. No vascular plants were detected by the pinpoint analysis.

***Calluna vulgaris* (L.) Hull**
Campanula rotundifolia L.
Dactylis glomerata L.
Deschampsia flexuosa (L.) Trin.
Dryopteris dilatata (Hoffm.) A. Gray
Epilobium angustifolium (L.) Holub
Epilobium sp.
Hypochoeris radicata L.
Picea abies (L.) H. Karst.
Pinus sylvestris L.
Quercus robur L.
Senecio sylvaticus L.
Sorbus aucuparia L.
Vaccinium vitis-idaea L.

Table S2. Total cover of bryophytes (%), based on image analysis of photos, before (t = 0), and 0.5, 1.5, 2, 2.5 and 3 years after ash application. Mean values, standard errors in brackets. N = 5. Values followed by similar letters do not differ significantly (one way ANOVA on the particular years, Tukey two way comparison).

Ash dose	Time after ash application (years)					
(t ha^{-1})	0	0.5	1.5	2	2.5	3.0
0	65.6 (4.6)	89.6 (1.6)^{a}	92.7 (1.9)^{a}	73.8 (5.0)^{ab}	83.9 (2.0)^{a}	75.5 (2.6)^{a}
3	62.5 (1.9)	84.1 (4.9)^{a}	92.2 (2.9)^{a}	79.9 (3.5)^{a}	85.9 (3.8)^{a}	80.3 (4.1)^{a}
9	64.3 (2.4)	58.3 (4.7)^{b}	75.4 (2.2)^{ab}	61.1 (2.0)^{abc}	79.1 (2.3)^{a}	71.7 (2.3)^{ab}
15	65.2 (7.4)	37.4 (7.1)^{c}	63.7 (8.4)^{bc}	52.1 (5.8)^{bc}	68.7 (7.8)^{ab}	67.4 (7.1)^{ab}
30	65.2 (3.2)	21.4 (4.3)^{cd}	51.1 (4.1)^{c}	44.3 (6.2)^{c}	63.5 (8.7)^{ab}	62.5 (7.5)^{ab}
90	65.1 (5.5)	5.3 (1.2)^{d}	50.0 (5.6)^{c}	39.5 (8.9)^{c}	46.0 (9.6)^{b}	48.5 (6.2)^{b}

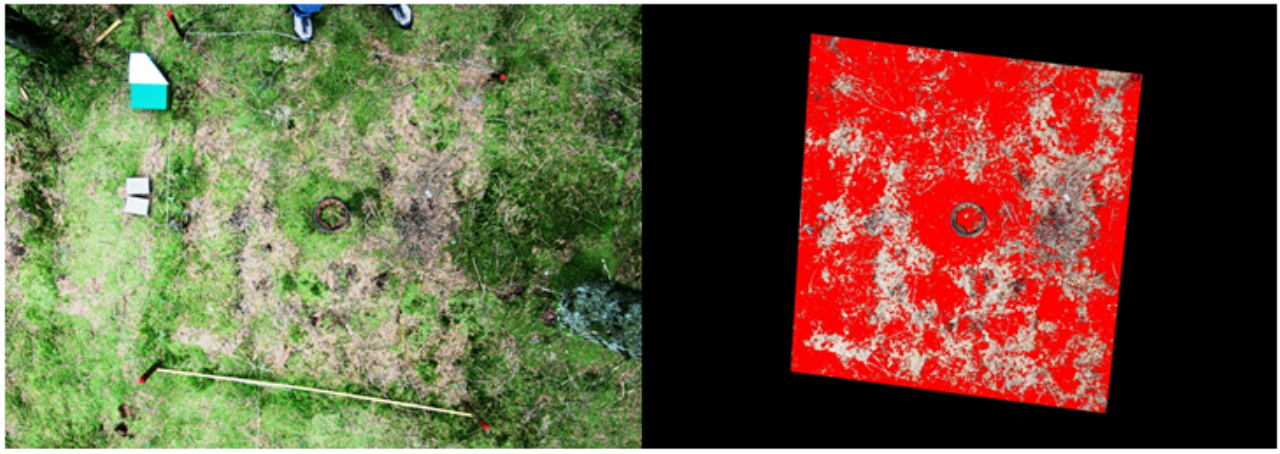


Figure S1. Measurement of total bryophyte cover, using the program ImageJ. Left: picture of a 2mx2m plot, 2 years after receiving 15 t ash ha^{-1}. Right: The same picture, where the area outside the plot is cut away and green areas are marked red, by adjusting saturation and hue in the program ImageJ. The percentage of green (red) area is based on the marked pixels.



Figure 2. Pinpoint analysis of a plot 1.5 years after receiving 90 t ash ha^{-1}. On each string 11 knots, with a mutual distance of 20 cm, mark the pinpoints. A total of 11 strings covered the plot, with 20 cm between each string. The vegetation was recorded under each of the 121 knots. Registrations included mosses, liverworts, and bare ground. For one pinpoint, several registrations were possible, hence the total number of registrations exceeded 121.