**Methods for gradient analysis**

We subset data from the permanent transects in Denny wood to only include those plots which lost ≥75% of the BA they had in 1964 at any point from 1964-2014. Then we calculated the number of years since 1964 (i.e. Year-1964). Following this we used a logit it transformation to ensure that the percentage change values were bounded above a 100% loss of BA (Warton and Hui, 2011)⁠. Since one plot lost 100% BA a constant consisting of the smallest non zero value (0.03) was added to the value of all BA change prior to transformation (Warton and Hui, 2011)⁠. A series of linear mixed models were used to determine the dynamics of BA change in these plots, with a random effect fitted to account for difference in trajectories of each plot. The models tested were a linear relationship, log and a polynomial relationships between time since 1964 and transformed percentage change in BA

The model with lowest ranked AICc included only a log term and all other models had a delta AICc>7, and thus were considered to be poorly supported. The marginal R2 of this model was 0.17.

Using back-transformed predictions from the model suggested that plots lost 25% of BA after 7.4 years (+/- CI), 50% by 14 years (+/- CI), 75% after 24.9 years and had declined by 95% (+/- CI) after 50 years.