

The strength of the biodiversity ecosystem function relationship depends on spatial scale

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Supplementary Figures

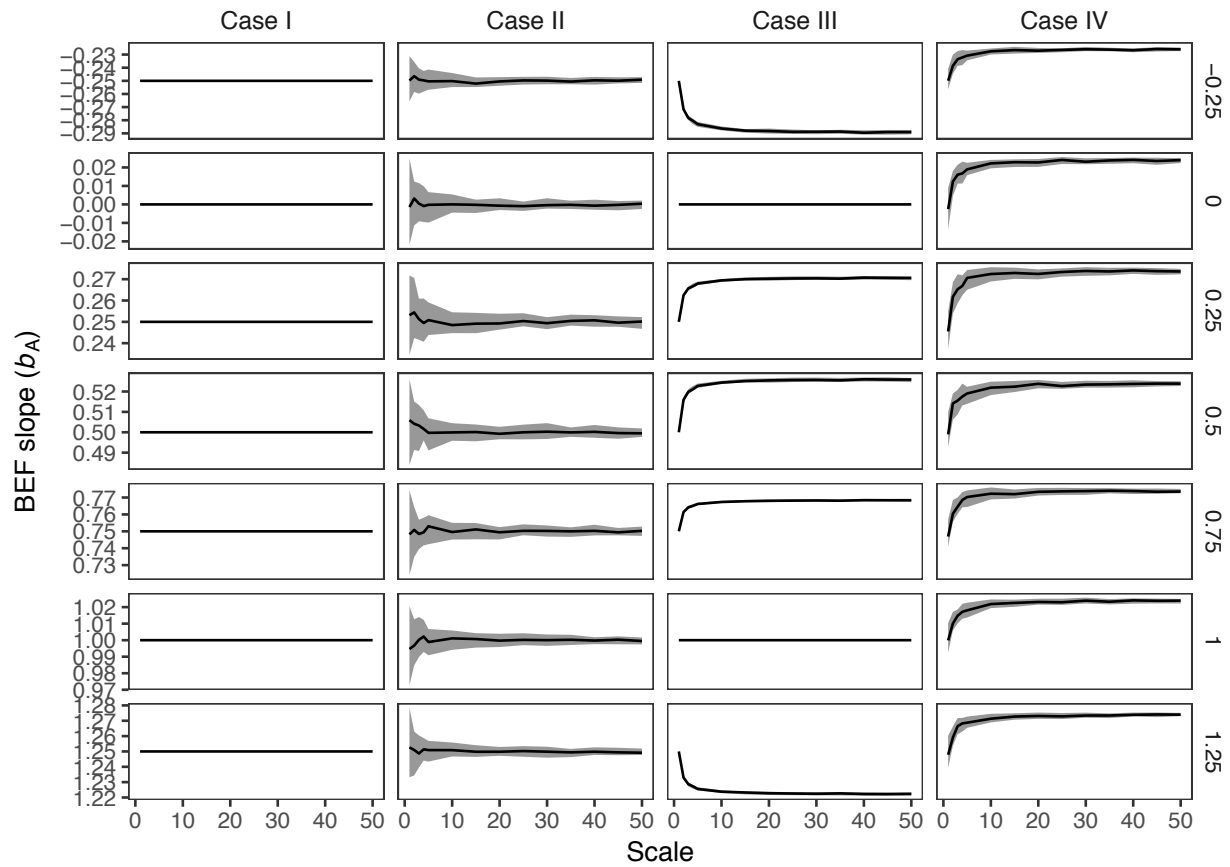


Figure S1. The relationship between b_A and spatial scale in cases I – IV. Each row of the figure corresponds to a different mean local slope \bar{b}_l . The solid lines show the median value of b_A and the bands show the interquartile range based on 100 replicate simulations.

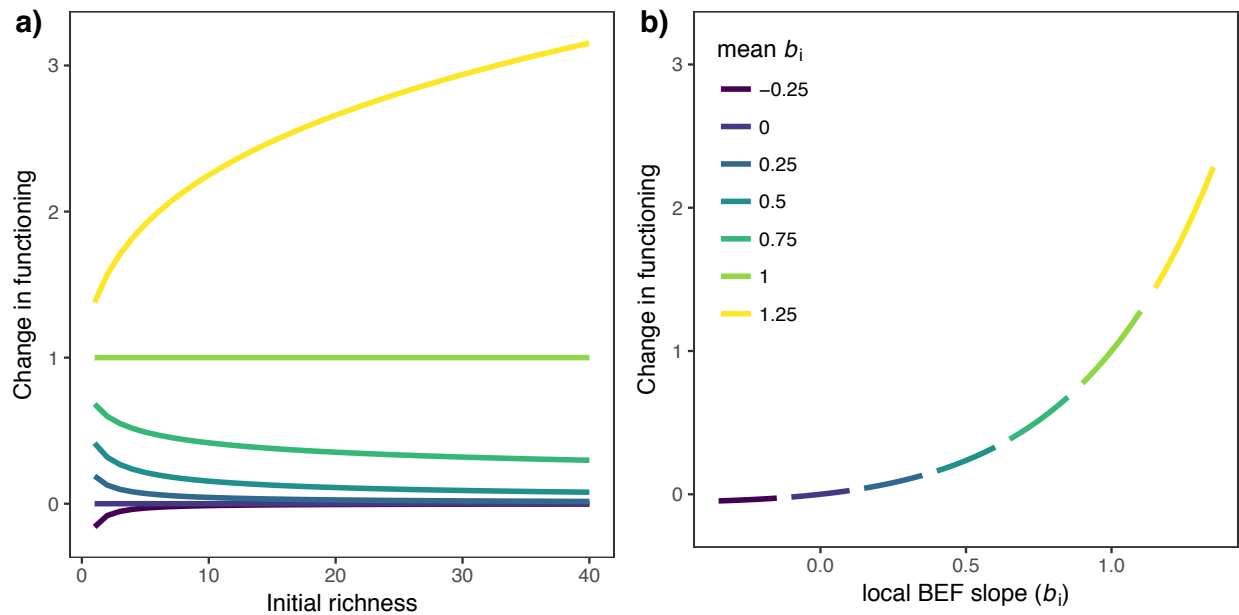


Figure S2. Change in local ecosystem function with the loss of one species from each patch vs. either (a) initial local species richness or (b) the strength of within-patch local biodiversity effects, b . Panels (a) and (b) respectively correspond to cases III and IV. Panel (b) shows the effect of changing local within-patch richness from 15 to 14 species.

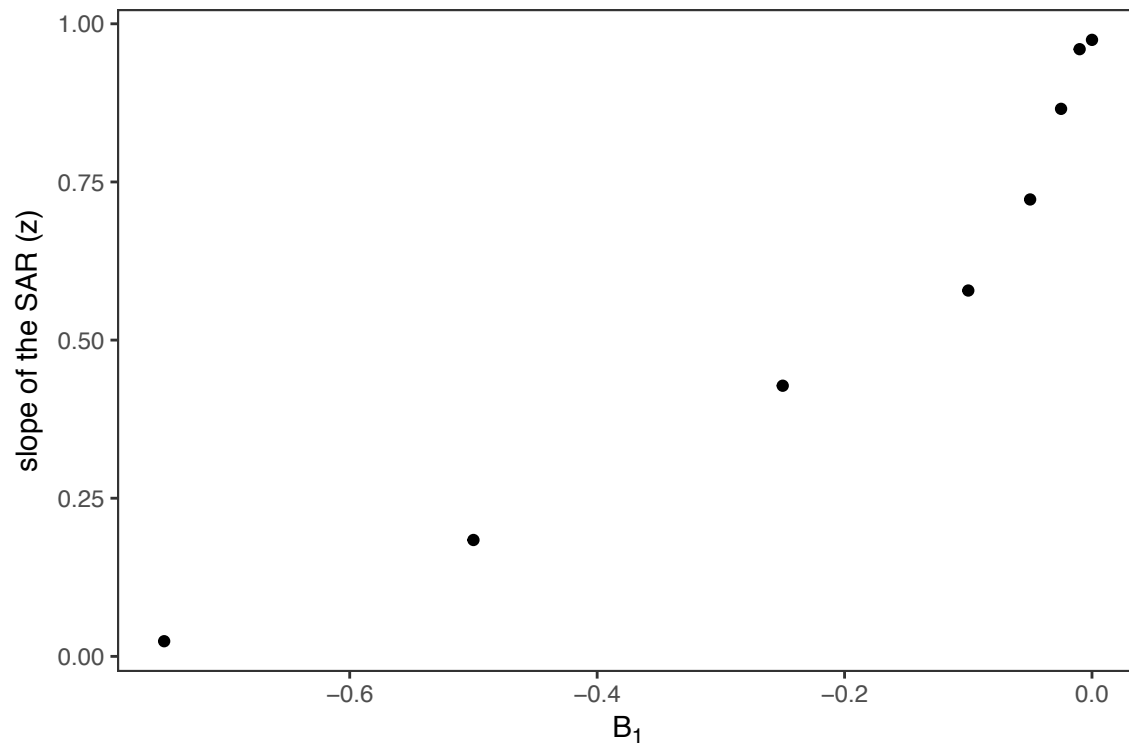


Figure S3. The relationship between B_1 and the slope of the species area relationship z . This was estimated by simulating regions with different values of B_1 and estimating z as the slope of the species accumulation curve in 25 replicate regions.

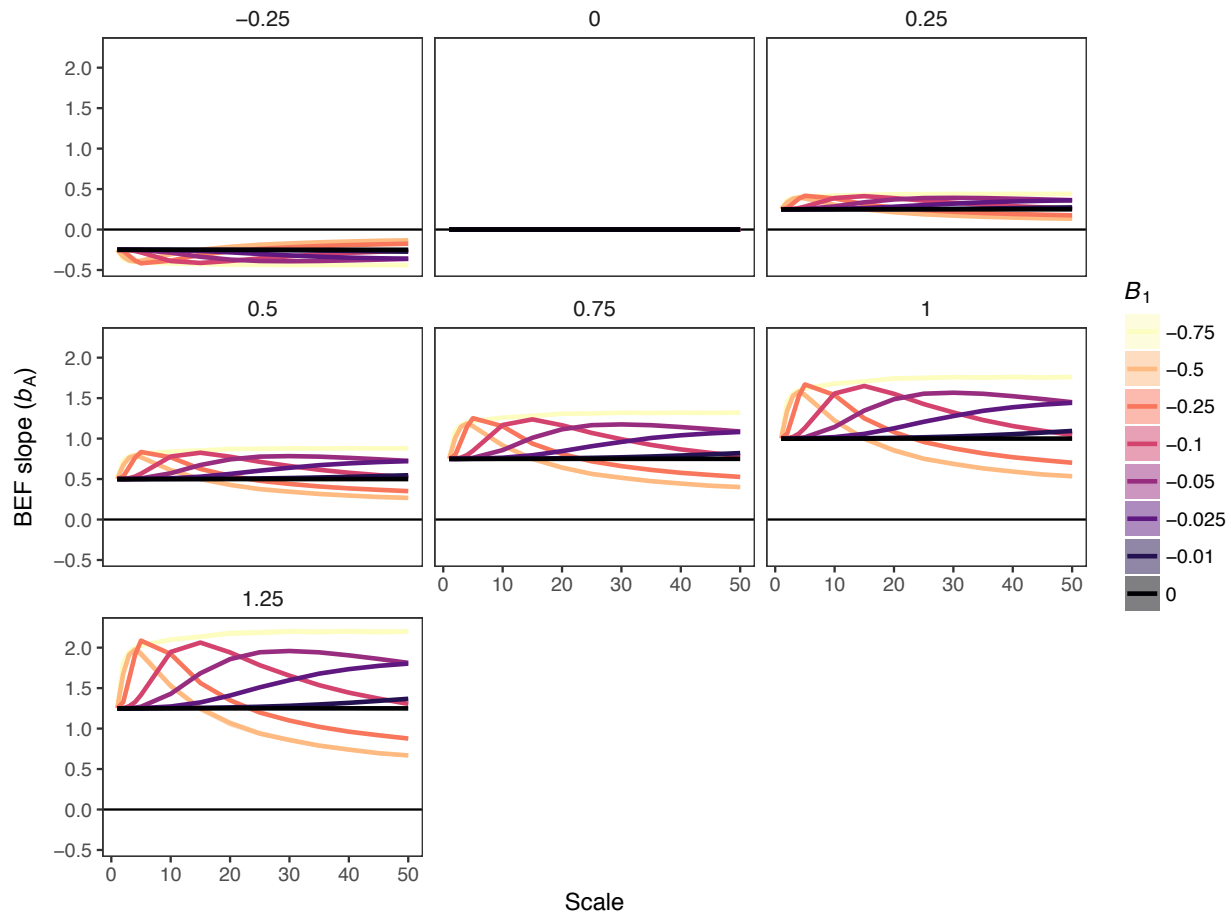


Figure S4. The strength of biodiversity effects, b_A , at different spatial scales when there is incomplete compositional overlap across local patches. Each panel represents a different mean local slope \bar{b}_l , as indicated by the number above the panels. Different degrees of compositional overlap are indicated with the colours (low values of B_l correspond to high overlap, $B_l = 0$ indicates no overlap). The solid line indicates the median across 100 replicate simulations each consisting of 2000 replicate regions at each scale. The bands show the interquartile range.