Supplementary Information

Ecosystem engineering and food web stability

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Supplemental Figures

Figure S1. Effects of engineering on community stability in the cascade model. Change in engineering effect on stability with varying (a) proportion of receiver species p_R and (b) proportion of different types of engineering effects (decreasing growth rates q_r and foraging rates q_a). In (a), q_r = 0.2 and q_a = 0.8. In (b), p_R = 0.3. A cascade food web is assumed. N = 60 and C = 0.1.

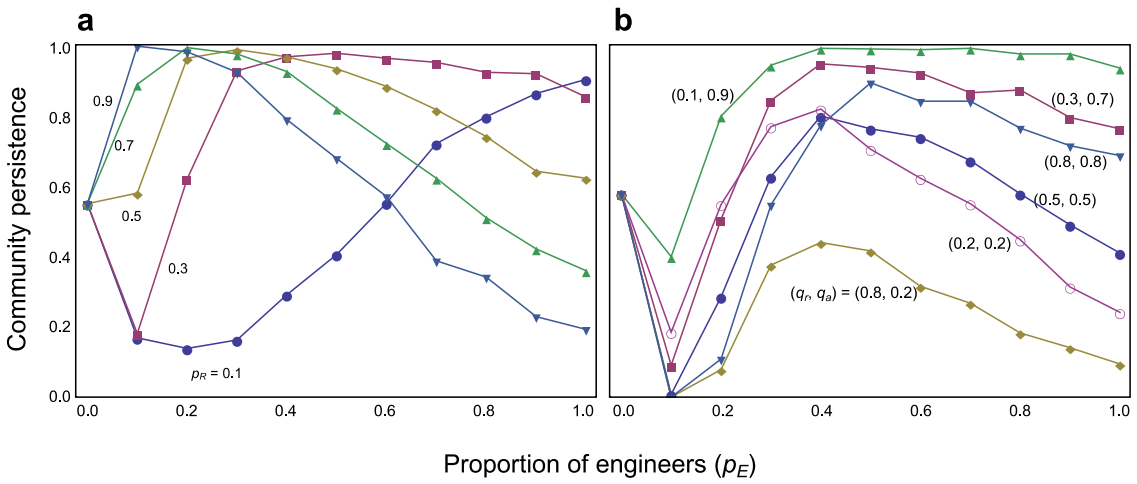

Figure S2. Effects of engineering on a complexity (species richness)−stability relationship in the random model. Colors represent the levels of species richness. In (a)–(c), q_r = 0.1 and q_a = 0.9. In (d)–(f), q_r = 0.2 and q_a = 0.8. (a, d) p_R = 0.1. (b, e) p_R = 0.2. (c, f) p_R = 0.5. I assume C = 0.1.

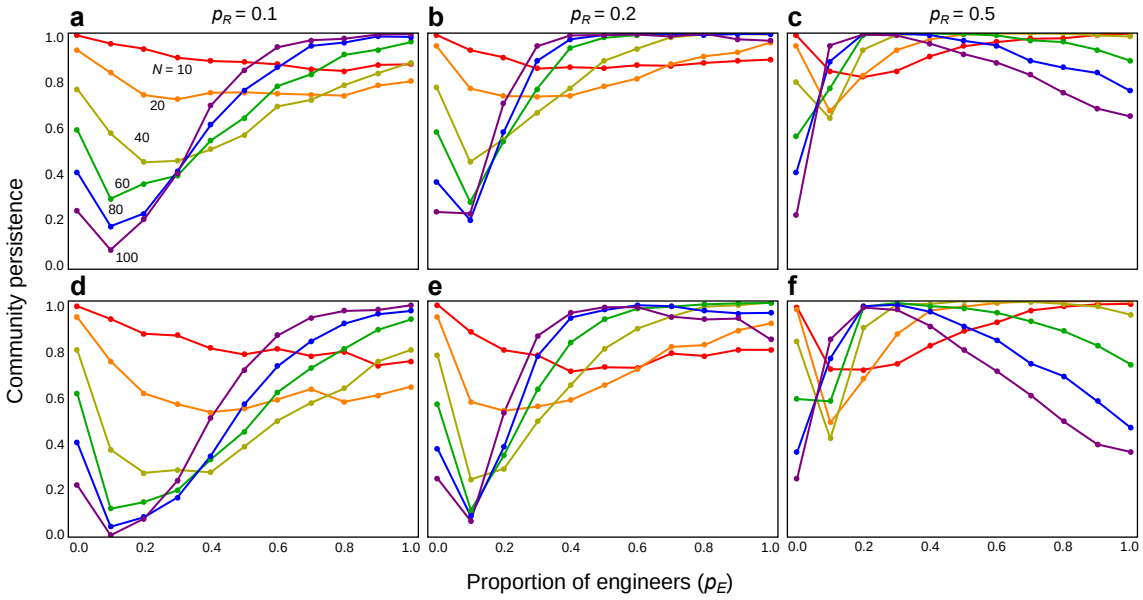

Figure S3. Effects of engineering on a complexity (species richness)−stability relationship with varying connectance in the random model. Colors represent the levels of species richness. (a) C = 0.15. (b) C = 0.2. (c) C = 0.25. Parameters are: p_R = 0.2, q_r = 0.2 and q_a = 0.8.

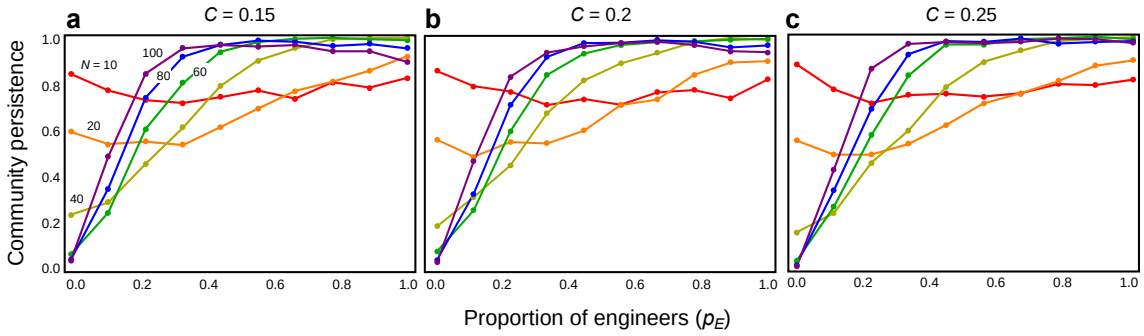

Figure S4. Effects of engineering on a complexity (species richness)−stability relationship in the cascade model. Colors represent the levels of species richness. In (a)–(c), q_r = 0.1 and q_a = 0.9. In (d)–(f), q_r = 0.2 and q_a = 0.8. (a, d) p_R = 0.1. (b, e) p_R = 0.2. (c, f) p_R = 0.5. I assume C = 0.1.

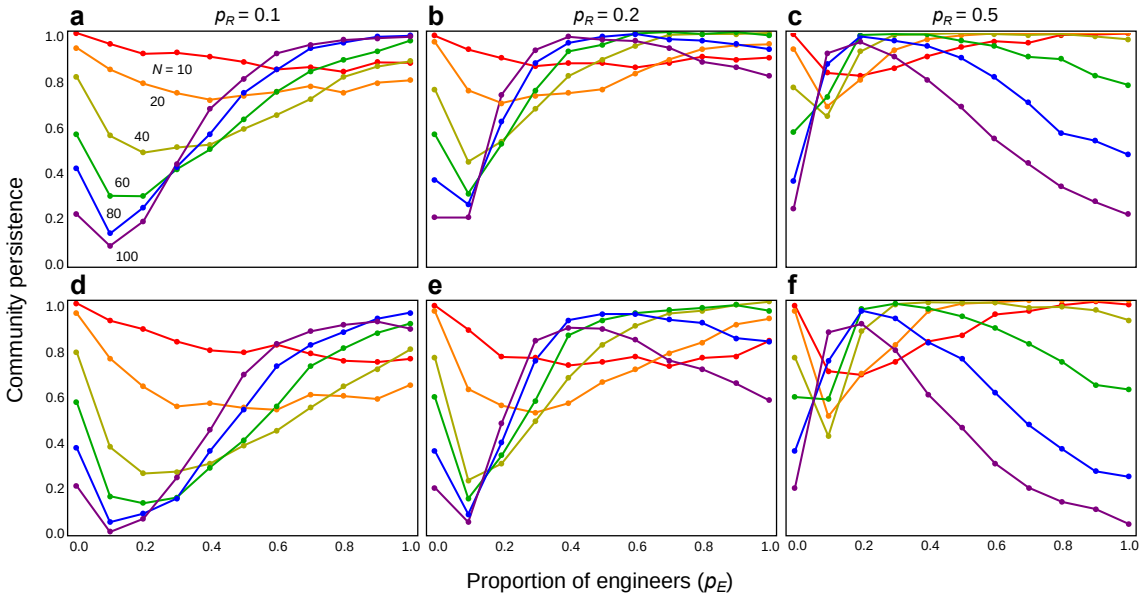

Figure S5. Effects of engineering on a complexity (species richness)−stability relationship with varying connectance in the cascade model. Colors represent the levels of species richness. (a) C = 0.15. (b) C = 0.2. (c) C = 0.25. Parameters are: p_R = 0.2, q_r = 0.2 and q_a = 0.8.