

**Fig. A1**. The two log response ratios (LRnet and LRext) based on whether the response variable was measured at the focal (within) trophic level or at adjacent (bottom-up and top-down) trophic levels. Bottom-up means the effect of producer richness on herbivores or associated invertebrates, and top-down means the effect of changes in species richness at any trophic level on the level of the resources or the flux of nutrients.

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**Fig. A2**. Jacknife simulations showing the effects of removing each of five individual studies (listed on the y-axis) on the relationship between producer richness on consumption.

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**Fig. A3**. Comparing log response ratios (LRnet and LRext) between state and rate variables for production, consumption and biogeochemical fluxes.