

Table S1: Prior and parameter descriptions for the Stan Model.

Parameter & Prior	Description
$\alpha_i \sim \text{Beta}(1, 1)$	Amplification efficiency for species $i$
$\log(\gamma_{Mijt}) \sim \text{Normal}(0, 4)$	True biomass of each species at each site-year
$\log(\eta_{jtk}) \sim \text{Normal}(-4, 4)$	Estimated offset for each PCR reaction at each site-year
$\tau_0 \sim \text{Normal}(0, 2)$	Negative Binomial shape parameter intercept
$\tau_1 \sim \text{Normal}(0, 2)$	Negative Binomial shape parameter slope