Supplementary Material

1 Figures

Figure S1. Flow chart of peer-revised publication search process following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standards for meta-analysis reporting (Moher et al. 2010).
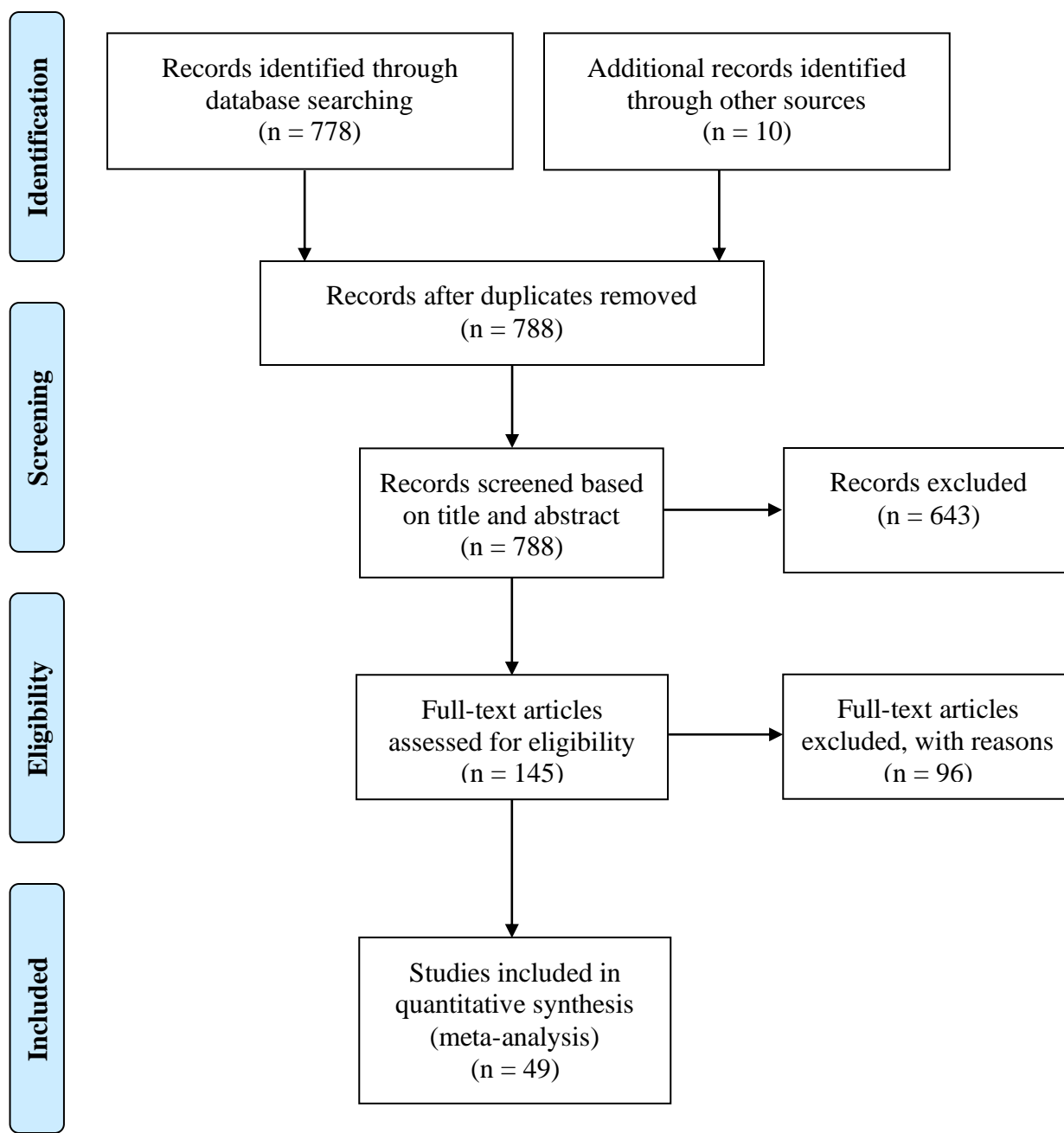
Identification

Records identified through database searching
(n = 778)

Additional records identified through other sources
(n = 10)

Records after duplicates removed
(n = 788)

Screening

Records screened based on title and abstract
(n = 788)

Records excluded
(n = 643)

Eligibility

Full-text articles assessed for eligibility
(n = 145)

Full-text articles excluded, with reasons
(n = 96)

Included

Studies included in quantitative synthesis (meta-analysis)
(n = 49)

Figure S2. Sample size- (**A-B**) and variance-weighted (**C-D**) log response ratios, shown as solid points for intercept only models. Equally-weighted means are unfilled circles and include 95% confidence intervals. Pairs of numbers represent the number of published papers (left) and the number of independent experiments (right) contributing to a given mean. Sample size- and variance- weighted log response ratio sample sizes are shown in italics and equally-weighted are shown in roman font.
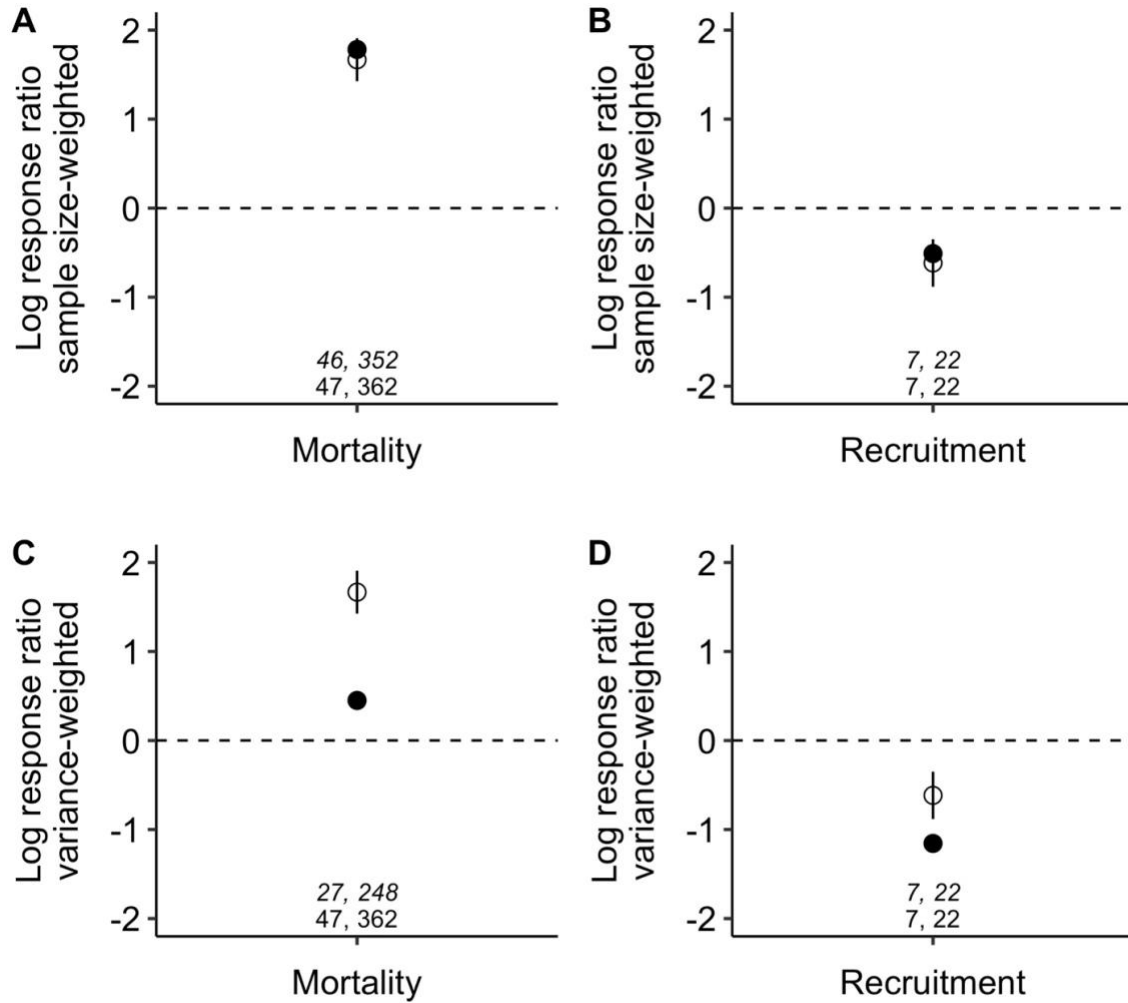
Figure S3. Sample size- (**A-B**) and variance-weighted (**C-D**) log response ratios for exclosure experiments measuring oyster mortality. Points, error bars, symbols, and pairs of numbers as in Figure S2.
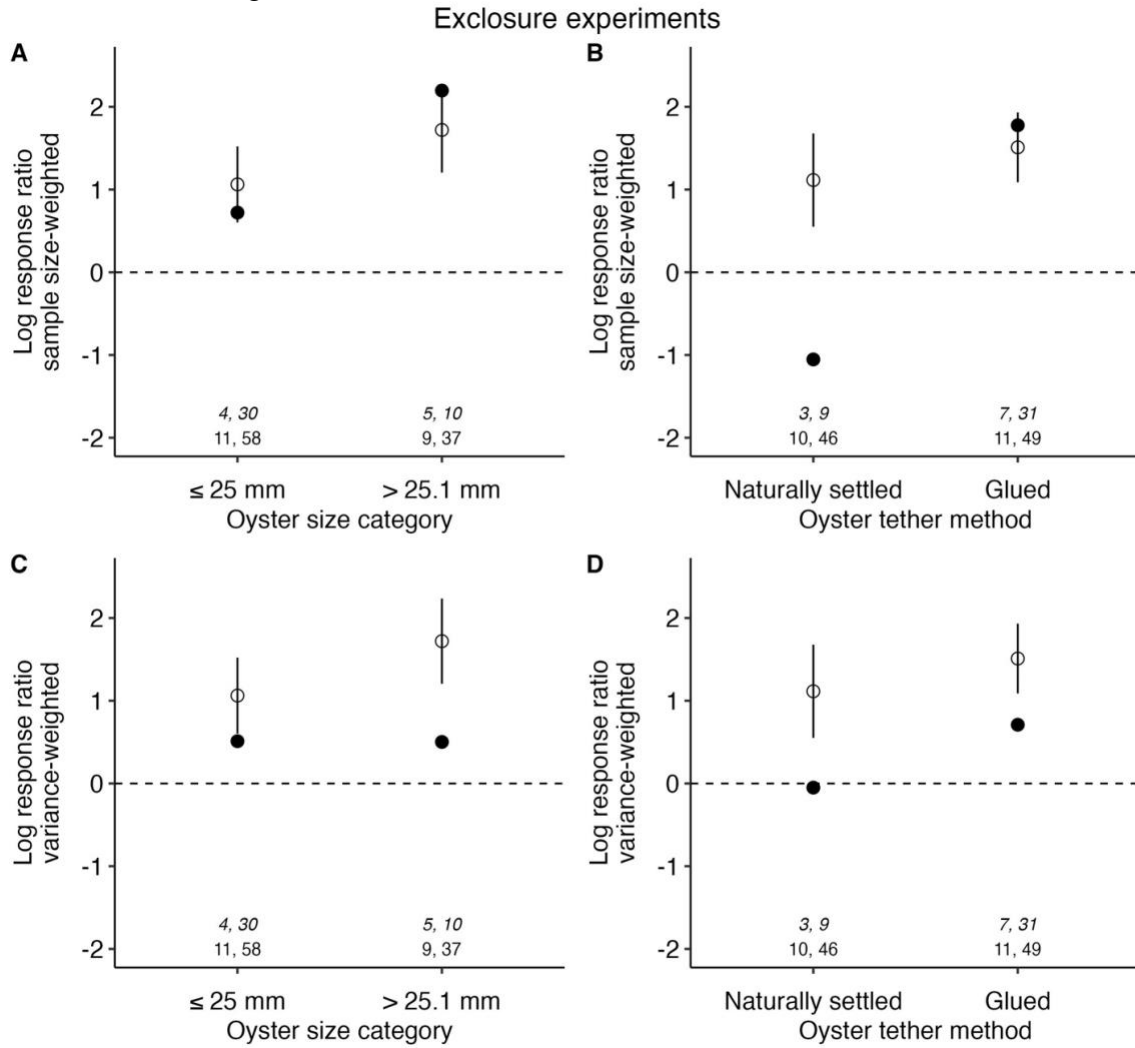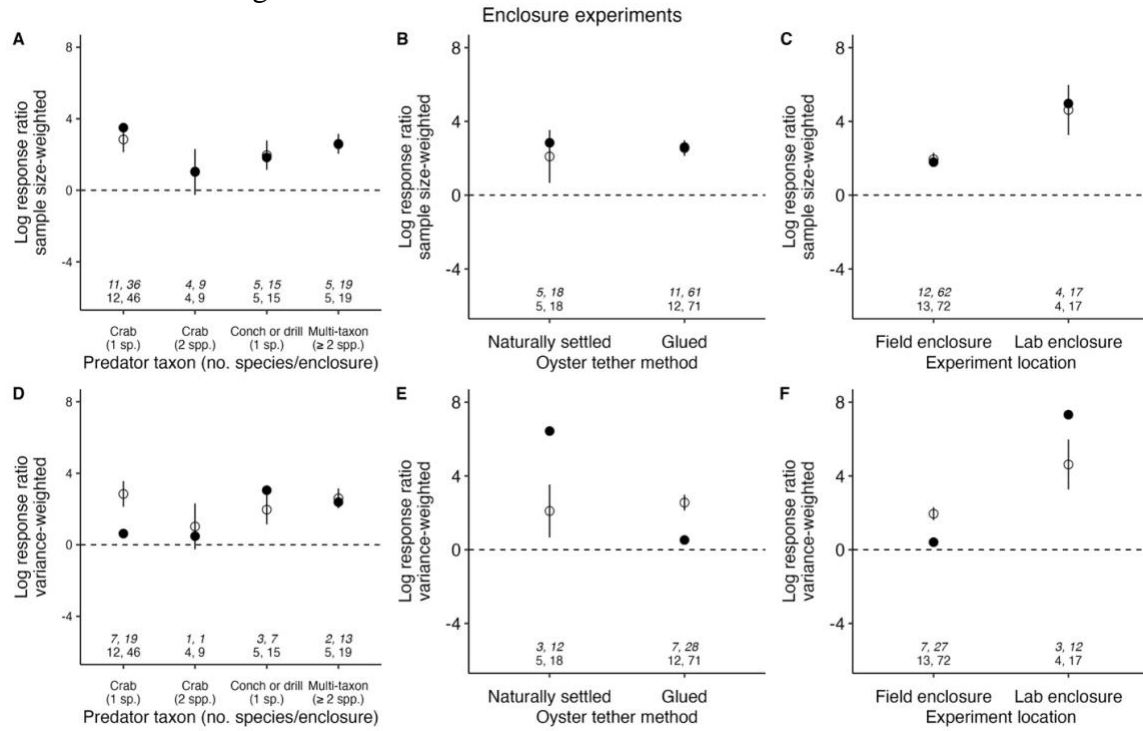
Figure S4. Sample size- (**A-C**) and variance-weighted (**D-F**) log response ratios for enclosure experiments measuring oyster mortality. Points, error bars, symbols, and pairs of numbers as in Figure S2.

Figure S5. Sample size- (**A**) and variance-weighted (**B**) log response ratios for experiments measuring oyster recruitment. Points, error bars, symbols, and pairs of numbers as in Figure S2.
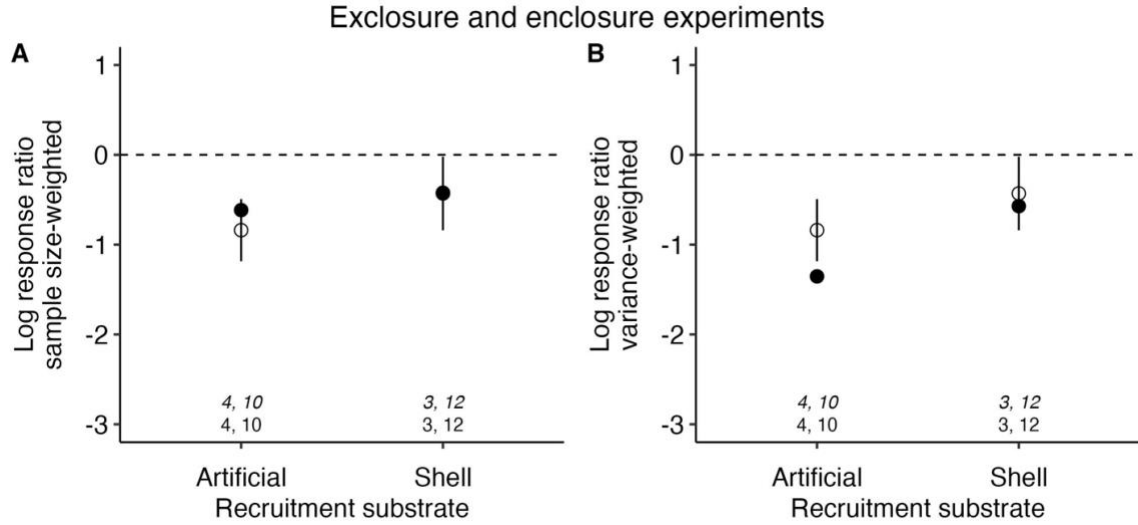
Figure S6. Jack-knifing tests revealed there were no influential publications ($p > 0.05$) after sequentially deleting a publication, re-fitting the model and comparing to the original model including all publications (**A-D**).
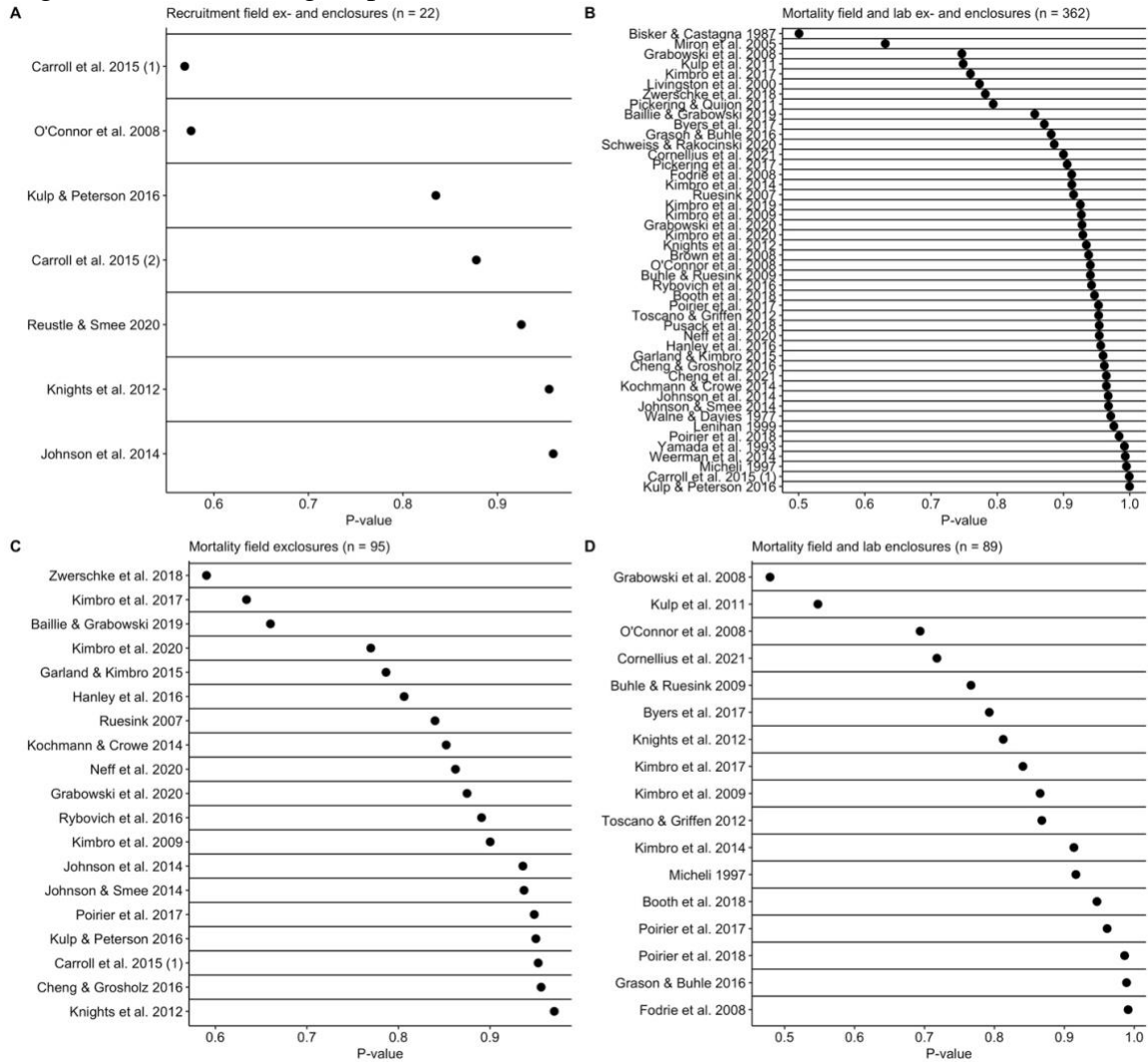
Figure S7. Funnel plots of the data included in each model, with effect size on the x-axis and sample size, via the number of independent replicates on the y-axis. There was no evidence of sample size being a source of publication bias (**A-D**). Studies with lower sample sizes displayed a wider range of treatment effects. Vertical dashed lines denote mean log response ratio.
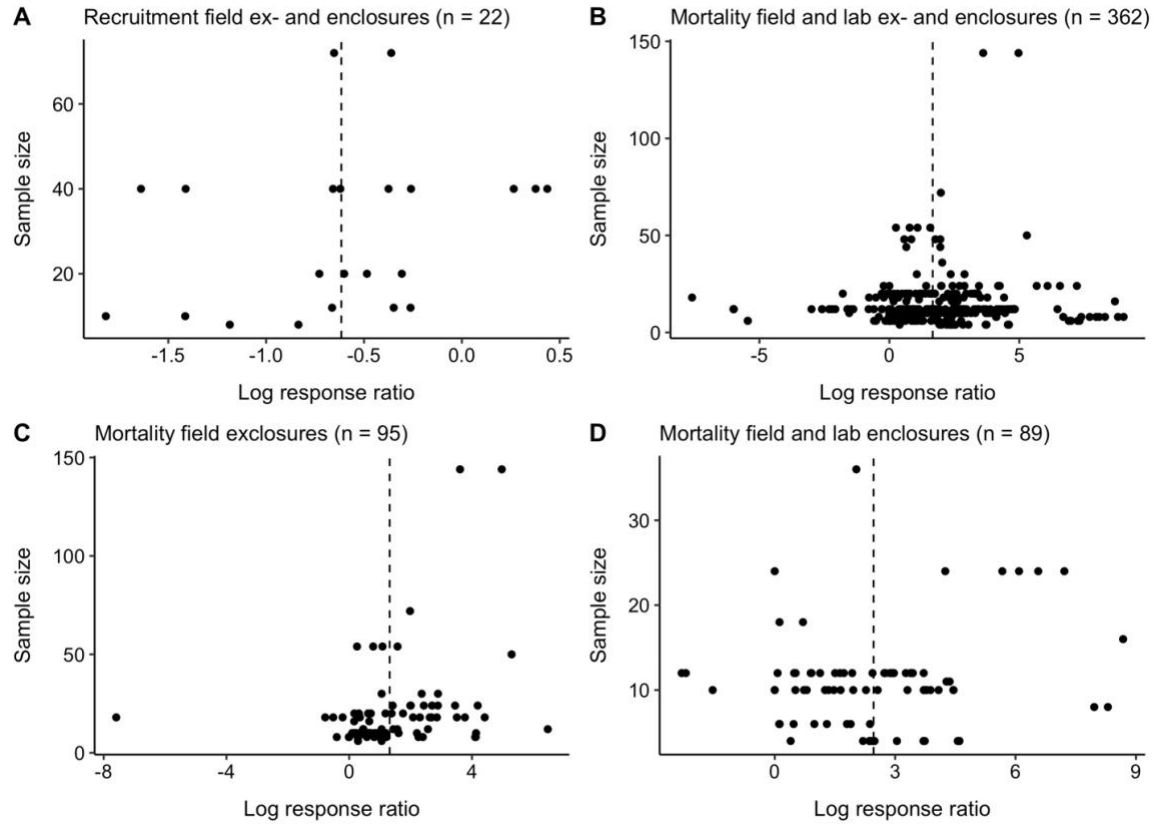
Figure S8. Forest plots displaying individual-publication effect sizes (**A-D**). Points indicate mean effect sizes and error bars show 95% confidence intervals.
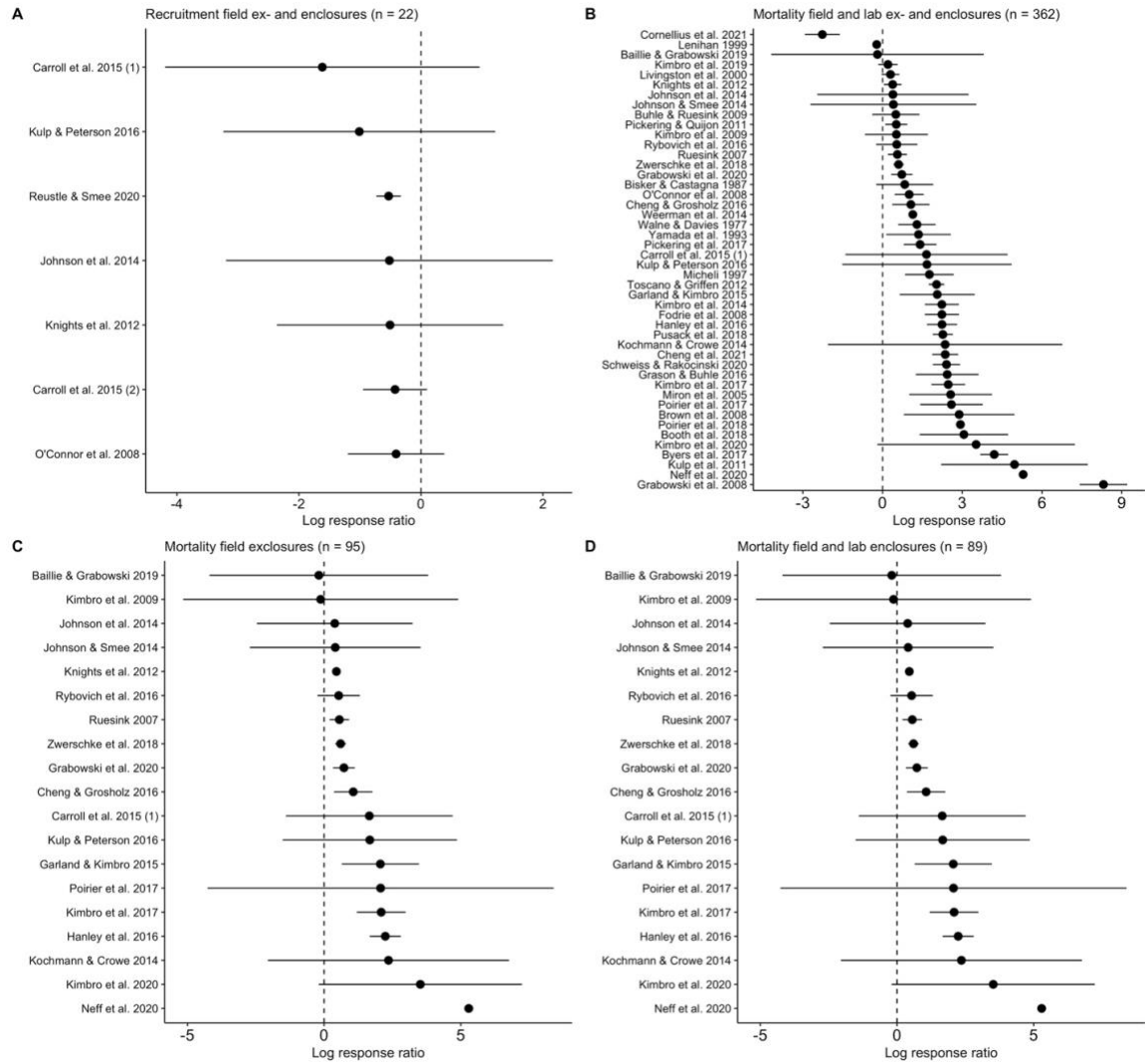
Figure S9. There was no evidence of publication year being a source of publication bias ($p > 0.05$; **A-D**). Points indicate individual experiments (or effect sizes).
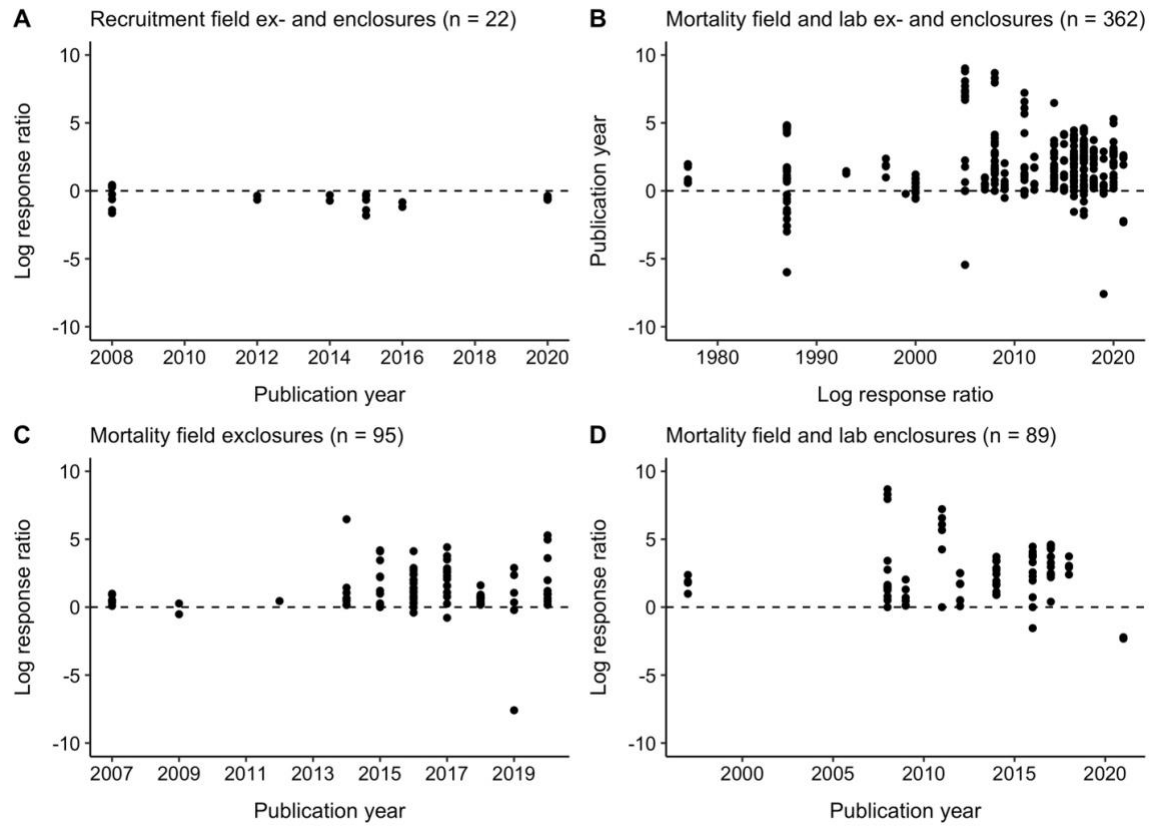
Figure S10. The annual number of publications included in the meta-analysis.
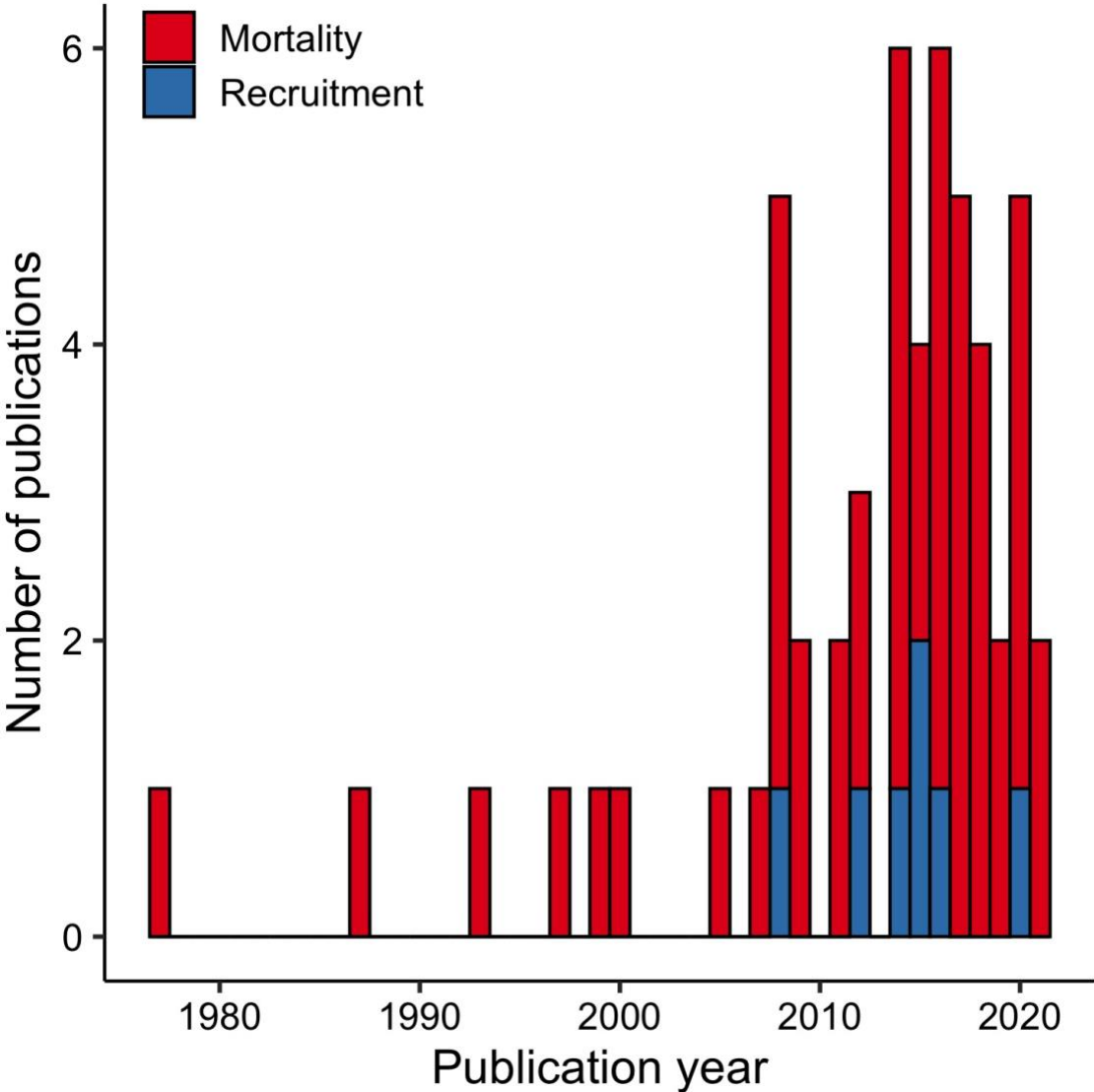
Figure S11. Predators increased oyster mortality regardless of oyster size category (**A**) in enclosure experiments. Oyster mortality varied between field enclosure and lab enclosure experiments, with strong effects in the lab (**B**). Lowercase letters represent results from post-hoc tests and those that do not share a common letter are significantly different ($p \leq 0.05$). Boxplots show median (bold lines) effect sizes and interquartile ranges (boxes) with outliers greater than $1.5 \times IQR$ (whiskers). P-value indicates the respective main effect displayed from mixed-effects models. Pairs of numbers represent the number of published papers (left) and the number of independent experiments (right). The dotted line at zero is the effect size expected if there is no effect of predators and asterisks show where means differ from zero ($p < 0.01$).
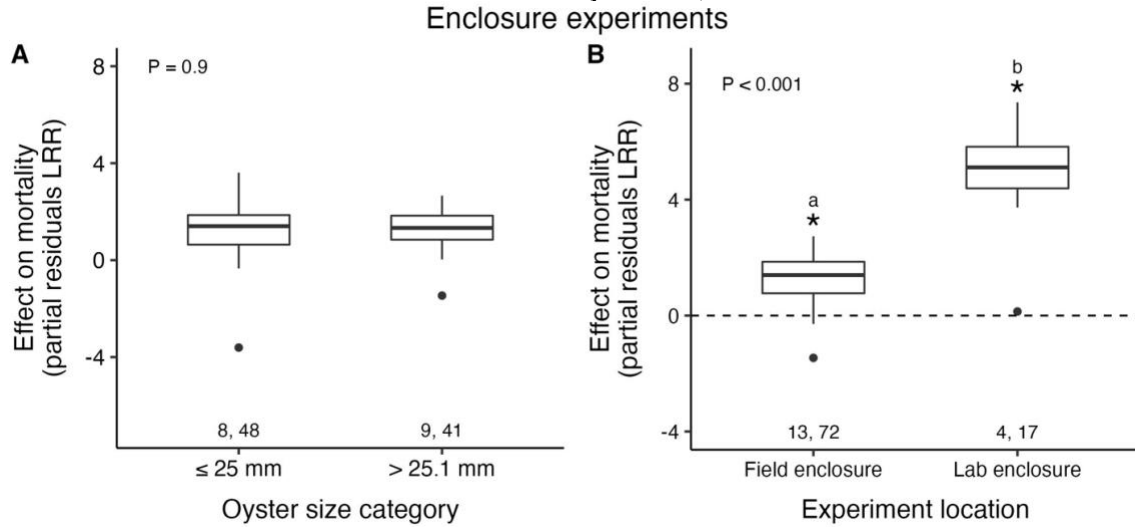
Figure S12. Predators increased oyster mortality regardless of tidal zone (**A**), latitude (**B**), or cage mesh size (**C**) in exclosure experiments. Boxplots, p-value, and pairs of numbers as in Figure S11.
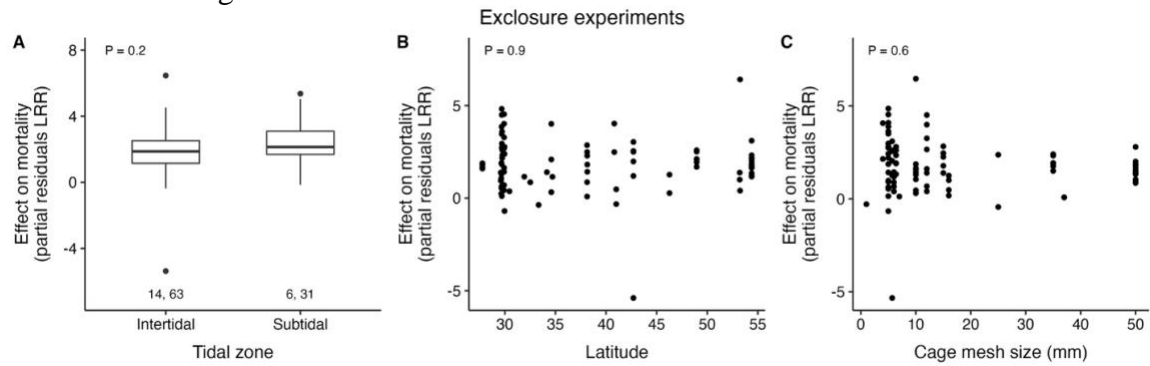
Figure S13. Predators reduced oyster recruitment regardless of mean tidal range (**A**), experiment duration (**B**), or cage mesh size (**D**) in exclosure and enclosure experiments. Predators caused marginal decreases in oyster recruitment across both types of recruitment substrate, but effects were strongest on artificial substrates (**C**). Boxplots, p-value, asterisks, letters, and pairs of numbers as in Figure S11.
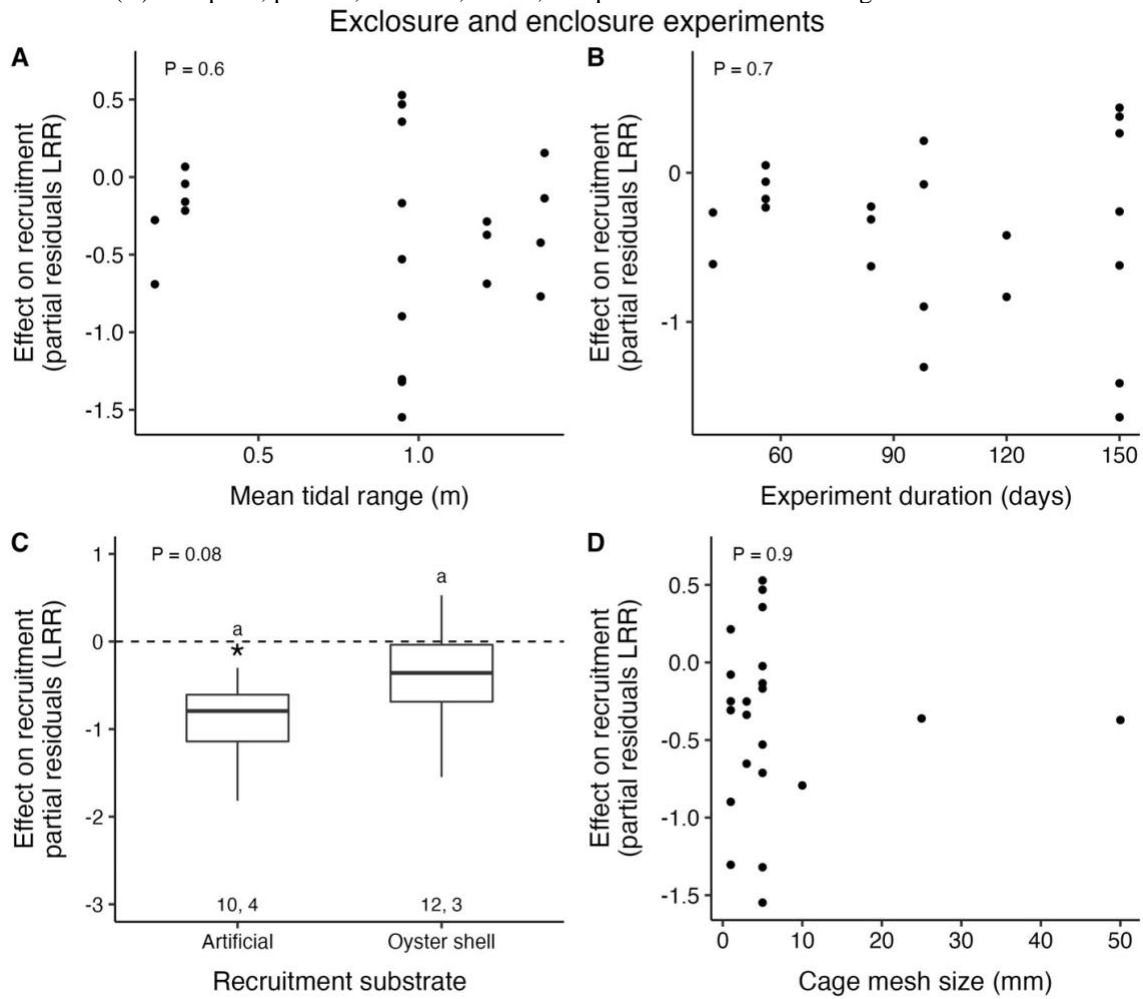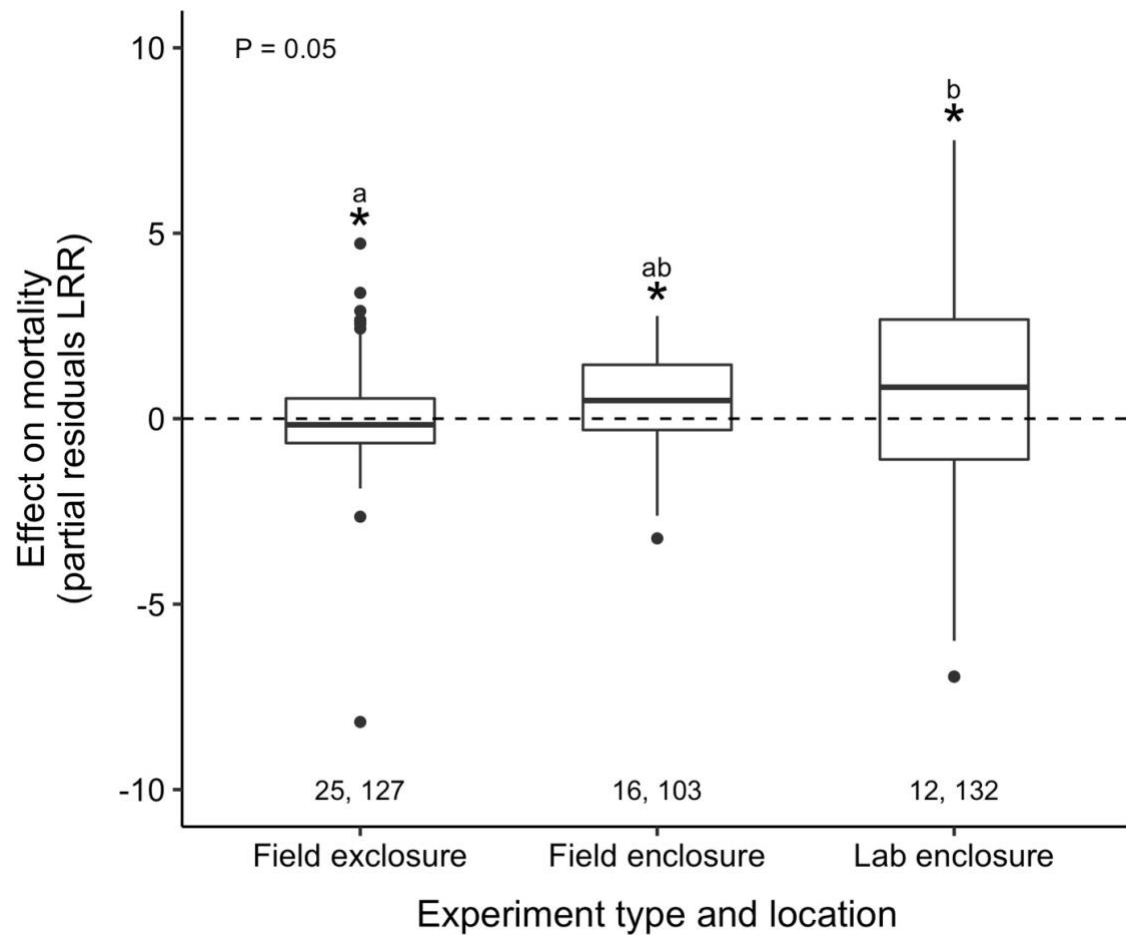
Figure S14. Predators increased oyster mortality across the broader set of exclosure and enclosure experiments (without any other covariates). There were strong differences between field exclosures and lab enclosures. Boxplots, p-value, asterisks, letters, and pairs of numbers as in Figure S11.

2   Supporting Information References

Moher, D., Liberati, A., Tetzlaff, J., and Altman, D. G. (2010). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. Annals of Internal Medicine 8:336341. doi: 10.7326/0003-4819-151-4-200908180-00135