

## The ocean has depth: two- versus three-dimensional space use estimators in a demersal reef fish

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### Optimum number of random sampling iterations

The minimum and maximum 3D 95% KUD was calculated for 100, 250, 500, 750, 1000, 1500, 2000, 5000, 7500 and 10000 iterations. The percentage increase from the minimum to the maximum 95% KUD for each fish was calculated and plotted. The optimum number of iterations was the value at which the percentage increase plateaued. For this data, the median, interquartile range and 95% confidence intervals of percentage increase plateaued at 750 iterations (Fig S1 a), however the outliers plateaued at 1000 iterations (Fig S1 b). Therefore, 1000 iterations were used for all the analyses.

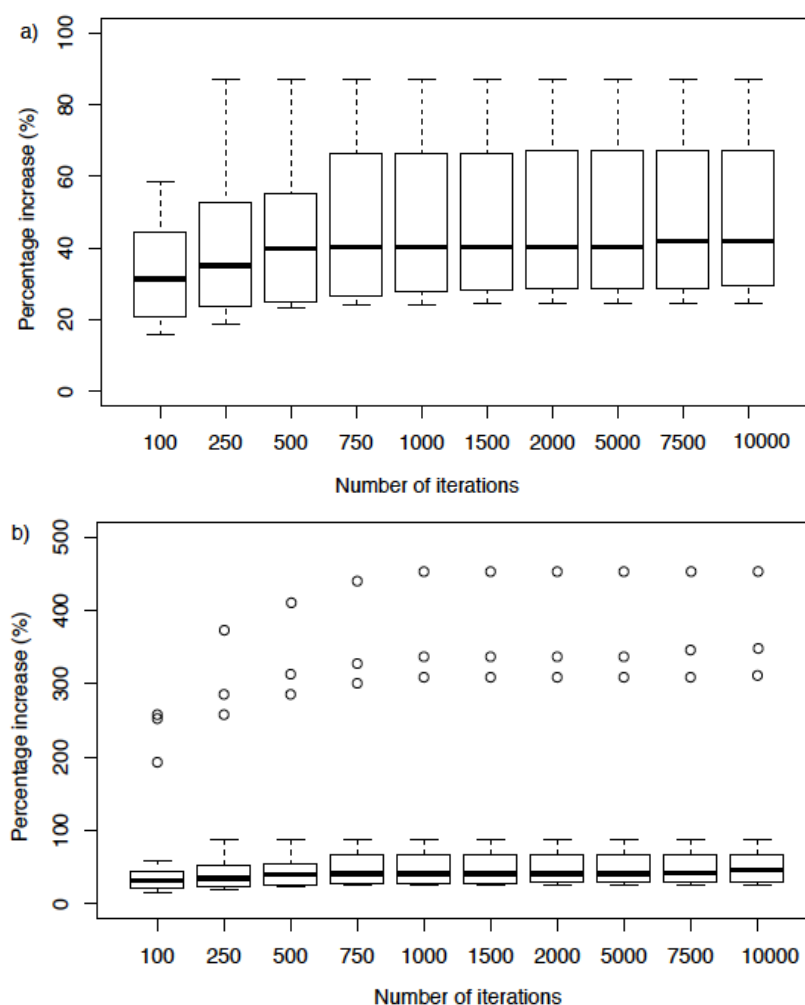


Figure S1: A boxplot of percentage increase from the minimum to maximum 3D 95% KUD against the number of iterations used showing the a) median, interquartile range and 95% confidence intervals and b) also including the outlying data points.