Habitat and seascape patterns drive spatial variability in temperate fish assemblages: implications for marine protected areas

Matthew J. Rees*, Nathan A. Knott, Andrew R. Davis

*Corresponding author: mj.rees@aims.gov.au

Marine Ecology Progress Series 607: 171–186 (2018)

Additional table and figure summarising results used to determine the best spatial scale to examine the relationship between fish observed on rocky reef habitat and surrounding seagrass area.

Table S1. Summary results of simple linear regressions and Generalised Linear models used to determine the most appropriate spatial scale to examine the relationship between fish observed on rocky reef habitat and surrounding seagrass area. Only models within $\Delta AICc < 6$ are presented.

| Model | Intercept | K | logLik | AICc | ΔAICc | wAICc |
|--------------------------------|-----------|---|--------|-------|-------|-------|
| Demersal cumulative diversity | | | | | | |
| Seagrass 500m | 17.82 | 3 | -23.22 | 58.44 | 0 | 0.48 |
| Seagrass 200m | 19.12 | 3 | -23.75 | 59.49 | 1.05 | 0.28 |
| Seagrass 1000m | 17.9 | 3 | -24.37 | 60.73 | 2.29 | 0.15 |
| Seagrass 1500m | 19.92 | 3 | -24.89 | 61.78 | 3.33 | 0.09 |
| Mid-water cumulative diversity | | | | | | |
| Seagrass 1500m | -0.25 | 3 | -11.28 | 34.57 | 0 | 0.54 |
| Seagrass 1000m | -0.26 | 3 | -11.53 | 35.05 | 0.48 | 0.43 |
| Seagrass 500m | 1.27 | 3 | -14.28 | 40.57 | 6 | 0.03 |
| Demersal abundance | | | | | | |
| Seagrass 500m | 39.8 | 3 | -37.89 | 87.78 | 0 | 0.6 |
| Seagrass 1000m | 14.03 | 3 | -38.39 | 88.77 | 1 | 0.37 |
| Mid-water abundance | | | | | | |
| Seagrass 1000m | -1.97 | 3 | -25.77 | 63.55 | 0 | 0.84 |
| Seagrass 1500m | -1.79 | 3 | -27.62 | 67.24 | 3.7 | 0.13 |
| Sparid abundance | | | | | | |
| Seagrass 1500m | -0.18 | 3 | -21.58 | 55.16 | 0 | 0.73 |
| Seagrass 1000m | 1.97 | 3 | -23.34 | 58.69 | 3.53 | 0.13 |
| Seagrass 500m | 4.18 | 3 | -23.68 | 59.36 | 4.2 | 0.09 |
| Seagrass 200m | 5.6 | 3 | -24.18 | 60.36 | 5.2 | 0.05 |

1

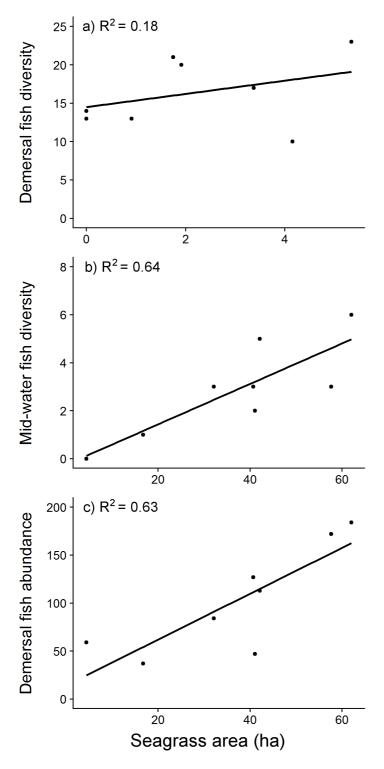


Figure S1. Alternative best fitting models as determined by an Akaike information criterion approach examining the relationship between a) demersal fish cumulative diversity and area of seagrass within 200 m, b) mid-water fish cumulative diversity and area of seagrass within 1000 m and c) demersal fish abundance and area of seagrass within 1000 m of each rocky reef site.