

Integral assessment of trawling effects in a Mediterranean fishing ground: changes in benthic functional components and consequences for target species

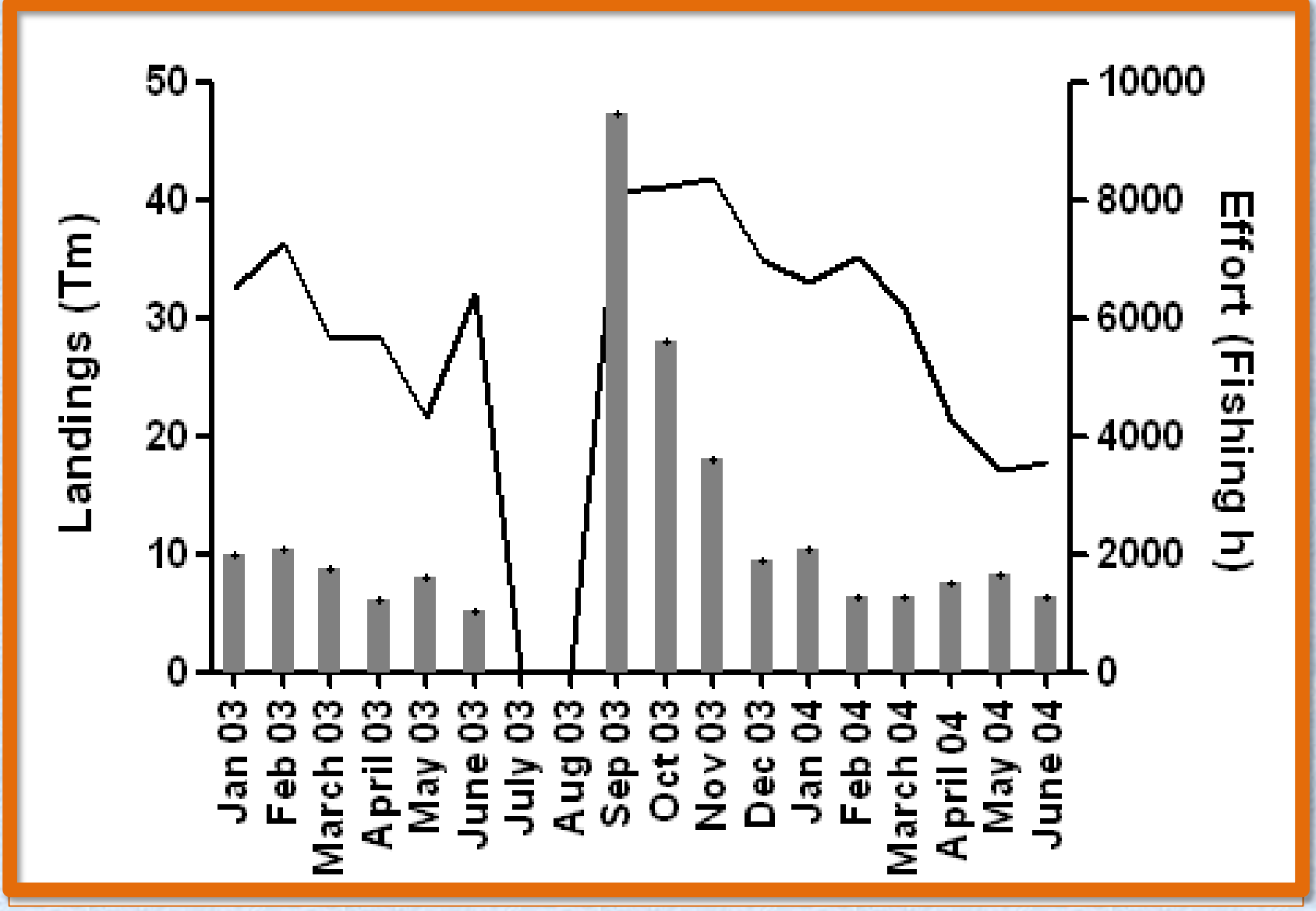
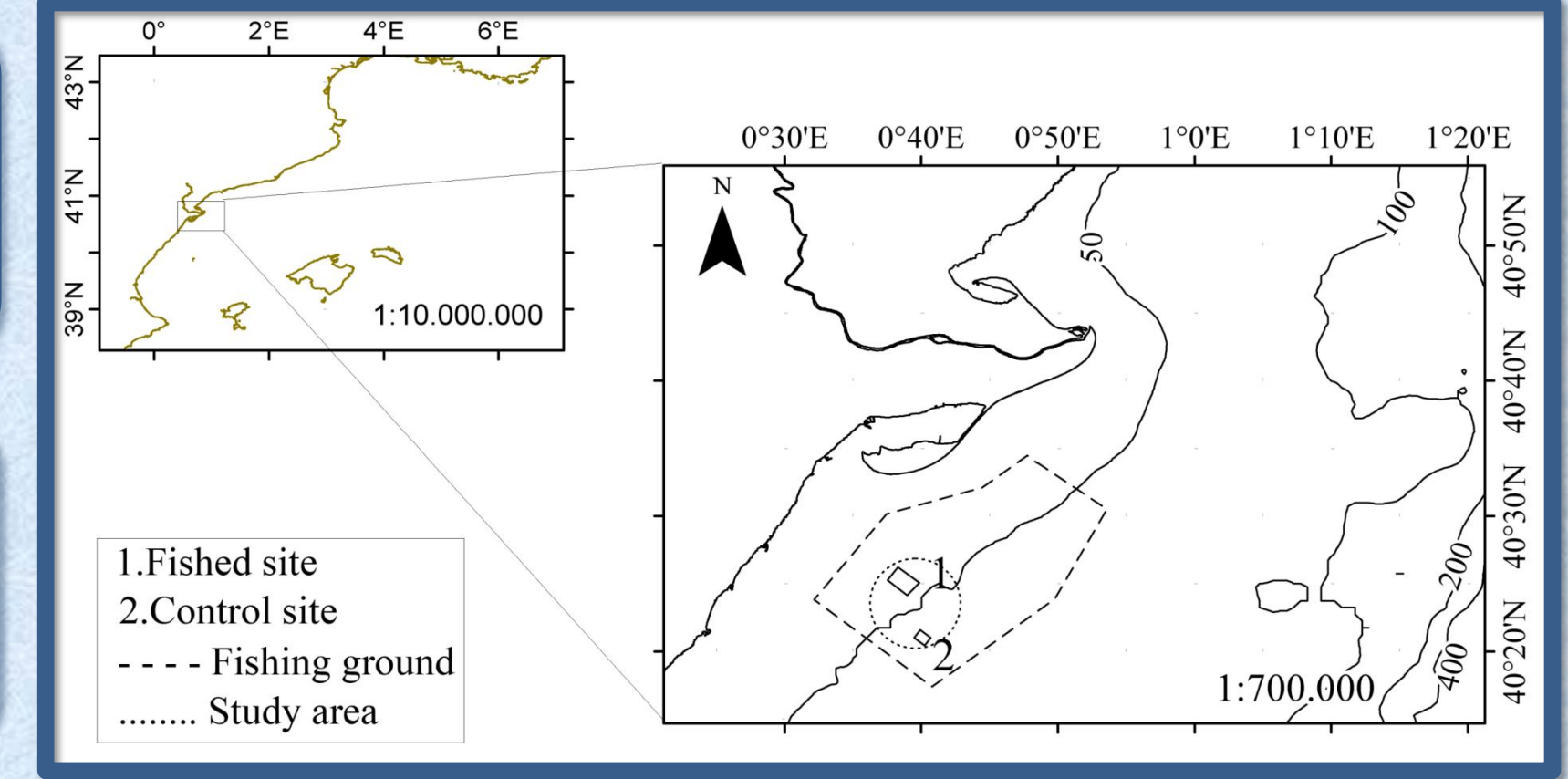
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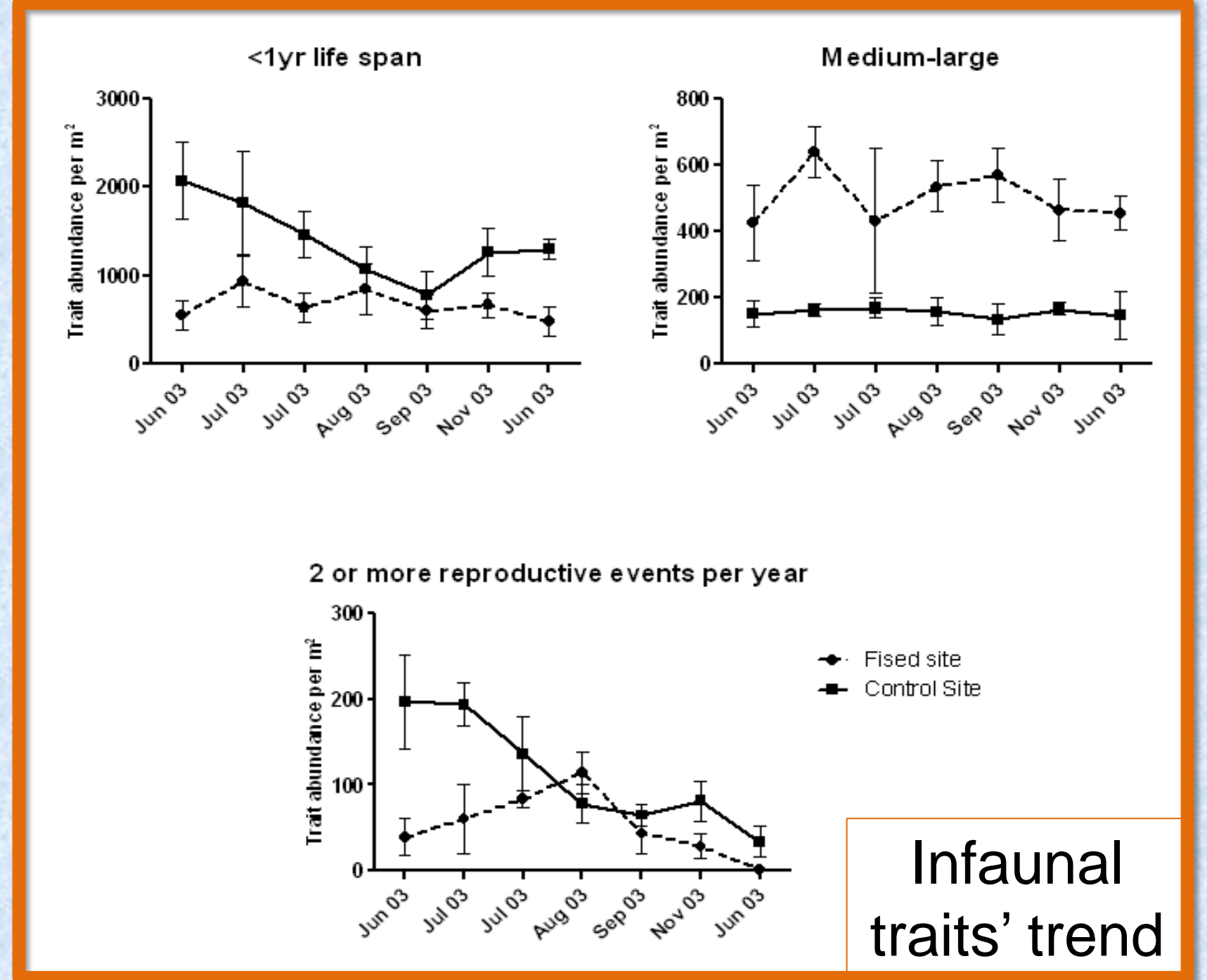
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Integral assessment that considers the link between impacts of fishing on habitats, benthic communities and demersal target species is needed to advance **towards an ecosystem-based management**

Fishing ground in the study area is regulated by two month closure in summer. **Infaunal** samples were obtained before (**low effort**), during (**no effort**) and after (**high effort**) the closed season



Infaunal community analysis showed significant site effect (fishing vs control), and significant temporal variability (different fishing regimes) (Permanova, $p < 0.01$). The community composition before closed season was different from those during and after closed season (pair-wise test, $p < 0.01$ and $p < 0.05$ respectively). SIMPER (Diss/SD index > 1.5) highlighted traits whose temporal trends are shown in the graphics below.



Conclusions

1. Changes on the traits' categories less than 1 year of life span and 2 or more reproductive events per year, might affect infauna productivity, leading to changes in food availability.
2. Small short living organisms at control site might contribute to higher food production in this site
3. ***M. barbatus* population, specially young recruits, might benefit from production increase in conclusions 2 and 3¹.**

Landings of red mullet, *Mullus barbatus*, and fishing effort over the study period followed its life cycle¹, both being highest during the recruitment season.

References

[1] Lloret, J, Leonard, J. 2002. *Sea. Sci. Mar.*, 66(1): 77-82
[2] Aguirre, H, Sánchez, P. 2005. *Cienc.Mar.*, 31(2): 429-439