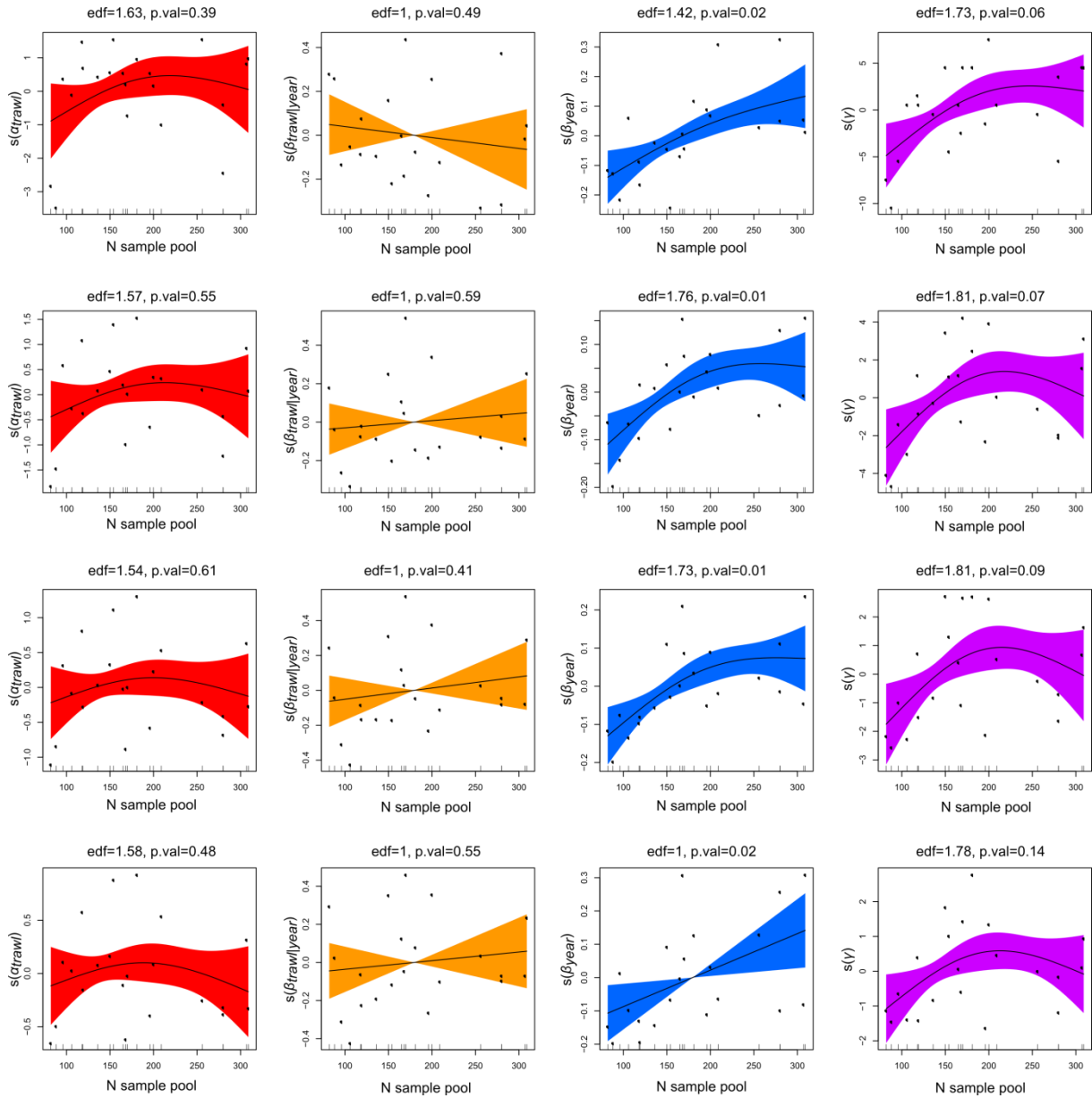


Appendix S5: Effect of sampling intensity in the bootstrap-based diversity estimates

In order to test the extent to which effect of sampling intensity remained in our bootstrap-based diversity estimates, Generalized Additive Models were performed between diversity estimates and sample-size, the latter being the explanatory variable expressed as the total number of sample trawls per polygons taken over the 10 years. The figure below displays the results obtained in the case of the demersal trawl at $q=0, 0.5, 1$ and 2 :



and shows that some effect has been detected in the case of β_{year} diversity measures. Naturally, the relationships propagates to the γ -diversity level, although weakly, as γ -diversity is the product of α - and β -diversity. However, such increase is only observed in the case of β_{year} and not for either α_{year} or $\beta_{trawl/year}$. It is however difficult to firmly attribute it to a sampling bias that one would expect to observe systematically. Other unidentified confounding factors might as well be driving this relationship, such as polygon area, or

particular environmental conditions. Nonetheless, this effect has to be kept in mind when interpreting the results, and may be the focus of further investigations as new data will be collected.

For the pelagic dataset, no significant effects (i.e. no significant increase in diversity estimates with sampling intensity) could be noted (see fig below).

