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Ben Stobart, Diego Alvarez-Barastegui, Raquel Goñi, (2012). [Effect of habitat patchiness on the catch rates of a Mediterranean coastal bottom long-line fishery](#)

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Abstract: Use of catch per unit effort (CPUE) as an index of abundance relies on a range of assumptions that are often not met. Variation in habitat is likely to affect catch rates of species and consequently should be taken into account when estimating abundance from CPUE data, yet this is not generally possible due to a lack of spatially detailed habitat information. Mediterranean artisanal fisheries often operate in coastal areas where habitat is patchy, and consequently catches may not be related to effort if a portion of the gear has been set over unsuitable habitats for the target species. We investigate the effect of habitat patchiness on CPUE using bottom long-line by including detailed habitat and bathymetric information in the calculation of CPUE for eight commonly caught species. Comparison of CPUE estimated with and without taking into account habitat information showed exclusion of hooks in “unfavourable” habitats generally increases CPUE estimates for species of restricted mobility and strict habitat associations, while estimates for more mobile species, or those with lower habitat specificity, differ less. We also compare two methods for calculating habitat fished by each hook, one that used the habitat at the hook location, and another that included habitats within a 200 m radius. The former method had the highest effect on CPUE. Results demonstrate habitat information can be usefully incorporated into CPUE estimates, while the effect on CPUE will vary depending on how specific species–habitat preferences are.

Keywords: Catch per unit effort, Artisanal fishery, Long-line, Habitat patchiness