

Consequences of catch-and-release angling for black bream *Spondyliosoma cantharus*, during the parental care period: implications for management

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Black sea bream *Spondyliosoma cantharus* is highly valued for its sporting and eating qualities. Due to its inshore spawning aggregations and male nest guarding behaviours, it is considered vulnerable to over-exploitation via angling. Accordingly, greater uptake of the practice of catch-and-release (C&R) may provide some potential to limit the effects of angling on populations. Thus, the consequences of C&R for 40 *S. cantharus* (mean length 306 ± 10 mm) was assessed. Fish were sampled following their capture from charter boats by recreational anglers with varying levels of skill and experience. Of these fish, 17 % were deeply hooked (e.g., in oesophagus) and considered at high risk of post release mortality (PRM). Blood lactate levels ranged between 0.40 to 2.60 mmol L⁻¹ (mean: 1.25 ± 0.09) and were significantly and positively correlated with fight time. Reflex impairments were observed in 32 % of the catch, also suggesting an elevated probability of PRM. The dominance of males (89 %) across the catches highlighted the potential for additional indirect impacts of angling via the predation of eggs by conspecifics in the vacated nests of captured males. These results are discussed within the context of post-release performance of individual *S. cantharus*, the potential for C&R to limit impact at the population level and a need to consider future regulation of the fishery to ensure future sustainability of stocks.

Keywords: Recreational angling; stock exploitation; spawning; fisheries management; nest guarding; reflex impairment

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