

{rokbox title=|Hembra ovada de langosta roja (*Palinurus elephas*) en la que se puede observar una marca roja de hace más de 10 años :: Foto: David Díaz, COB-IEO|
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David Díaz, Sandra Mallol, Ana M. Parma, Raquel Goñi, (2011). [Decadal trend in lobster reproductive output from a temperate marine protected area.](#)

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Abstract: Increased recruitment from eggs and larvae exported from marine protected areas (MPAs) is anticipated to produce much greater benefits for exploited populations than spillover of adults. However, resolving the link between local egg production and regional recruitment is beyond current research capabilities, and quantifying the contribution of the MPA to regional reproductive output is the first step towards evaluating such potential. In this study, we assessed the egg production of spiny lobsters *Palinurus elephas* in the Columbretes MPA (western Mediterranean, Spain) and its contribution to regional reproductive output over the decade corresponding to years 10 to 19 of protection. We show that: (1) Mean female fecundity in the MPA increased by 41% over the 10 yr of study and in recent years was more than twice the fecundity in the nearby fished areas. (2) At the end of the study, mature females were on average 20 times more abundant, and egg production per unit area was 30 times greater in the MPA than in nearby fished areas. (3) At that time, the MPA, occupying 18% of the regional lobster habitats, was responsible for over 80% of the regional egg production. Overall, we estimate that after nearly 2 decades of protection, regional egg production was 6 times greater than would have been without the MPA. When compared to a net benefit through biomass spillover from the MPA to the regional lobster fishery of +11% of the annual catch, a 6-fold increase in egg production suggests that egg and larval export have far greater potential than spillover to benefit exploited populations.

Keywords: Marine reserve · Mean fecundity · Reproductive contribution · Spiny lobster · *Palinurus elephas*