{rokbox title=|Jaulas para atunes :: Foto: Fernando de la Gándara (COMu-IEO)| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-offshore-cages-tuna-reglero-et-al-scientia-marina-2013-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-offshore-cages-tuna-reglero-et-al-scientia-marina-2013.jpg{/rokbox}

Patricia Reglero, **Rosa Balbín**, Aurelio Ortega, Diego Alvarez-Berastegui, Ana Gordoa, **Asvin P. Torres**
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, Ananda Pascual, Fernando De la Gándara and
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First attempt to assess the viability of bluefin tuna spawning events in offshore cages located in an a priori favourable larval habitat
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Abstract: Most of the Atlantic bluefin tuna caught by the purse-seine fleet in the Mediterranean Sea are transferred alive into transport cages and towed to coastal facilities where they are fattened. This major fishery is targeting aggregations of reproductive bluefin tuna that continue spawning within the transport cages. Our study is the first attempt to assess the viability of the spawning events within transport cages placed offshore in a priori favourable locations for larval survival. The study was conducted in June 2010 in the Balearic Sea, a main spawning area for bluefin tuna in the Mediterranean. The location of two transport cages, one with wild and one with captive tuna, coincide with the situation of the chlorophyll front using satellite imagery as a proxy for the salinity front between resident surface waters and those of recent Atlantic origin. The results showed that bluefin tuna eggs were spawned almost every day within the two cages but few or no larvae were found. The expected larval densities estimated after applying mortality curves to the daily egg densities observed in the cages were higher than the sampled larval densities. The trajectories of the eggs after hatching estimated from a particle tracking model based on observed geostrophic currents and a drifter deployed adjacent to the cage suggest that larvae were likely to be caught close to the cages within the sampling dates. Spawning events in captive tuna in transport cages may hatch into larvae though they may experience higher mortality rates than expected in natural populations. The causes of the larval mortality are further discussed in the text. Such studies should be repeated in other spawning areas in the Mediterranean if spawning in cages located offshore in areas favourable a priori for larval survival is likely to be considered a management measurement to minimize the impact of purse-seine fishing on tuna.

Keywords: bluefin tuna, larvae, geostrophic currents, transport cage, Mediterranean.