

{rokbox title=|The area around the Balearic Islands in the Western Mediterranean where ichthyoplankton surveys were conducted for this study :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-incorporacion-habitat-indices-zona-puesta-atun-rojo-mediterraneo-ingram-et-al-2017-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-incorporacion-habitat-indices-zona-puesta-atun-rojo-mediterraneo-ingram-et-al-2017.jpg{/rokbox}

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[**Incorporation of habitat information in the development of indices of larval bluefin tuna \(*Thunnus thynnus*\) in the Western Mediterranean Sea \(2001–2005 and 2012–2013\).**](#)

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Abstract: Fishery independent indices of bluefin tuna larvae in the Western Mediterranean Sea are presented utilizing ichthyoplankton survey data collected from 2001 through 2005 and 2012 through 2013. Indices were developed using larval catch rates collected using two different types of bongo sampling, by first standardizing catch rates by gear/fishing-style and then employing a delta-lognormal modeling approach. The delta-lognormal models were developed three ways: 1) a basic larval index including the following covariates: time of day, a systematic geographic area variable, month and year; 2) a standard environmental larval index including the following covariates: mean water temperature over the mixed layer depth, mean salinity over the mixed layer depth, geostrophic velocity, time of day, a systematic geographic area variable, month and year; and 3) a habitat-adjusted larval index including the following covariates: a potential habitat variable, time of day, a systematic geographic area variable, month and year. Results indicated that all three model-types had similar precision in index values. However, the habitat-adjusted larval index demonstrated a high correlation with estimates of spawning stock biomass from the previous stock assessment model, and, therefore, is recommended as a tuning index in future stock assessment models.

Keywords: Mathematical models, Fish larvae, Atlantic bluefin tuna