European anchovy (*Engraulis encrasicolus*) is one of the most important commercial species in the Bay of Biscay. The economy of the Spanish purse seine fleets (principally from the Basque Country, Cantabria and Galicia) and the French fleet relies greatly on this resource. Anchovy is a short living species, and its biomass evaluation has to be conducted annually by direct methods. The Daily Egg Production Method (DEPM) has been applied since 1987 to monitor the biomass of this resource from the ratio of egg production concentration to the average fecundity of adults. The traditional method of sampling is to use vertical plankton tows (CalVET). However, the use of other plankton sampling devices like the Underway Continuous Fish Egg Sampler (CUFES), in combination with the vertical tows, has a potential to improve the estimation of egg abundance. So far, CUFES has been used primarily to map the spawning areas of pelagic fish or to detect presence of eggs in order to haul down the vertical plankton net. The major limitation it has is that it samples at a fixed depth of three meters. To solve this problem a model of vertical egg distribution developed by Boyra et al. (2003), was combined with the CUFES data to obtain the total egg abundance in the water column. The model uses the CTD casts, the wind induced turbulence and the expected value of egg density and egg chorion permeability to estimate vertical egg distribution profiles, which allows inferring integrated egg abundances for the entire water column. These results of CUFES sampler are compared with those obtained with Pairovet (type of CalVET net) for the 2011 DEPM survey through different statistical and geostatistics analysis. The moderately strong correlation of both samplers, unbiasness of the residuals and similarity in their corresponding variograms support the reliability of the CUFES as an estimator of egg abundance. This, along with the advantages of continuous sampling (increased survey speed and sampling volume), show the potentiality of CUFES for combining with vertical samplers to obtain faster and/or more precise estimates of egg abundance.