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**Updating the available information from Spanish Red seabream fishery in the Strait of
Gibraltar**

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Abstract

*This paper presents the available information of the Red seabream (*Pagellus bogaraveo*) Spanish fishery in the Strait of Gibraltar and updates the documents presented in previous years with the information from 2014. This document presents Spanish data about landings, LPUEs, and landings length frequencies.*

1. Introduction and fishery description

Since the early 1980's an Spanish artisanal fishery targeted to the Red seabream (*Pagellus bogaraveo*, namely "voraz") have been developing in the Strait of Gibraltar area (ICES IXa South). This fishery has already been broadly described in previous Working Documents presented to the ICES WGDEEP (Gil *et al.*, 2000; Gil & Sobrino, 2001, 2002 and 2004; Gil *et al.*, 2003, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013 and 2014). Spanish Red seabream fishery in the Strait of Gibraltar is almost a mono-specific fishery with a clear target species which represents the 74% from the total landed species which constitutes a fleet component by itself (Silva *et al.*, 2002).

The Spanish Oceanographic Institute (IEO) began the study and the fishery monitoring following the request from the Fishermen Corporations. In 2006, 2008, 2010 and 2012 different assessment trials were attempted within the ICES WGDEEP (ICES, 2006, 2008, 2010 and 2012). Last year the scientific advice was based on abundance indexes (DLS category 3). Our future goal is to become in DLS 1 (stocks with quantitative assessments) developing a gadget model to analyze and integrate all the available information to be reviewed in 2017 Benchmark Group.

While, the main objective of this paper is to provide an updated summary of the available fishery information of this deep-water species in ICES area IX to the 2015 ICES WGDEEP meeting.

2. Material and methods

Fishery information was gathered for the period 1983-2014 from the sale sheets: monthly landings, monthly number of sales and the number of days in which those sales were carried out. Moreover, from the beginning of the IEO monitoring, June 1997, an *ad hoc* monthly length samplings from the different commercial sizes are carrying out to estimate the landings length distribution (Gil *et al.*, 2000).

A sort of Vessel Monitoring System, called SLSEPA, data from the Strait of Gibraltar “*voracera*” fleet were available for the period 2009 to 2013 (Gil *et al.*, 2014). Boats carry a device, regionally called “green boxes” (to differentiate them from the EU VMS “blue boxes”), that transmit hour and positions (provided by GPS), course and speed to the control centre every three minutes. Data were filtered and analysed to estimate fishing effort, catch rates and the spatial distribution of the Red seabream fishery (Burgos *et al.*, 2013). Unfortunately it cannot be updated this year because we haven’t had time to finish it.

3. Results and discussion

- Landings data: Figure 1 shows a continuous increase of the landings to a maximum in 1994. Since 1994 landings have gone decreasing till 2002, except in 1996 and 1997. Then, from 2003 onwards it shows an increasing trend till reached the highest value of the last years in 2009, followed by a new decrease till 2013, with the lowest value of the recent years. In 2014 landings increase more than the 100% in comparison with the previous year.

- LPUEs: Fishing effort increases too till 2009 (Figure 2). It is important to emphasize that the effort unit chosen (number of sales) cannot be too appropriate as do not consider the missing effort. Thus, in the years when the resource is not so abundant the missing effort increases substantially (fishing vessels with no catches, so no sale sheet were recorded). So, the LPUE trend from the decline of the fishery, 1997, should be interpreted with caution because it

cannot be a real image of the resource abundance. Anyway the decreasing trend since 2010 is quite clear but in 2014 increase again, like landings.

- Length frequencies:

The fishery resource suffers a decrease of the landed mean length (Figure 3) mainly from 1995 to 1998 and from 2009 to 2013. It is necessary to point out that species probably does not have a homogeneous geographic and bathymetric distribution related to their length. This fact could explain the different landed mean length between the main landing ports: Tarifa and Algeciras. So the mean length became lower since 2010 but again (like landings and CPUE) increases in 2014 with a total length median and mean value of 36 and 37.6 cm, respectively.

4. Main conclusions

2014 signals (landings, LPUE and length distribution) shows clear increasing trends. However, there is no evidence about its sustainability so further steps toward the fishery analytical assessment (i.e. gadget model development) should be encouraged.

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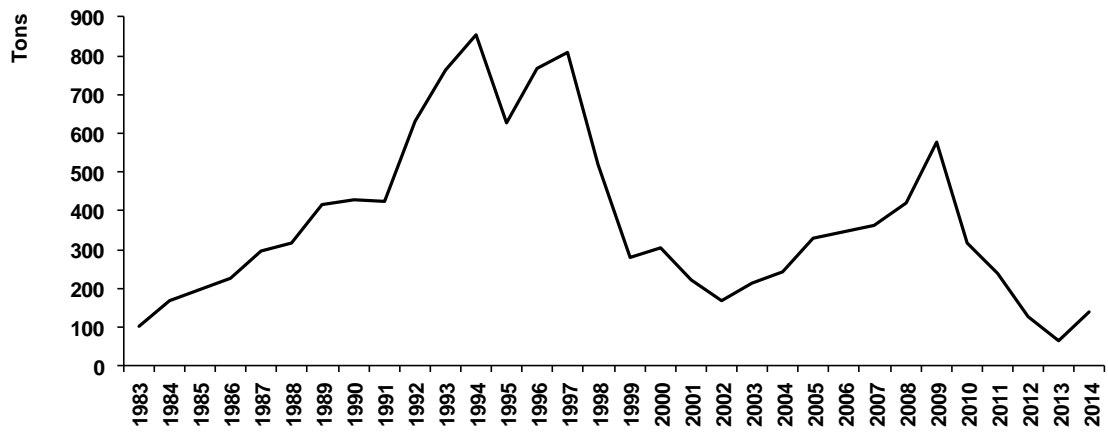


Figure 1. Red seabream Spanish “voracera” fishery of the Strait of Gibraltar: Landings (1983-2014).

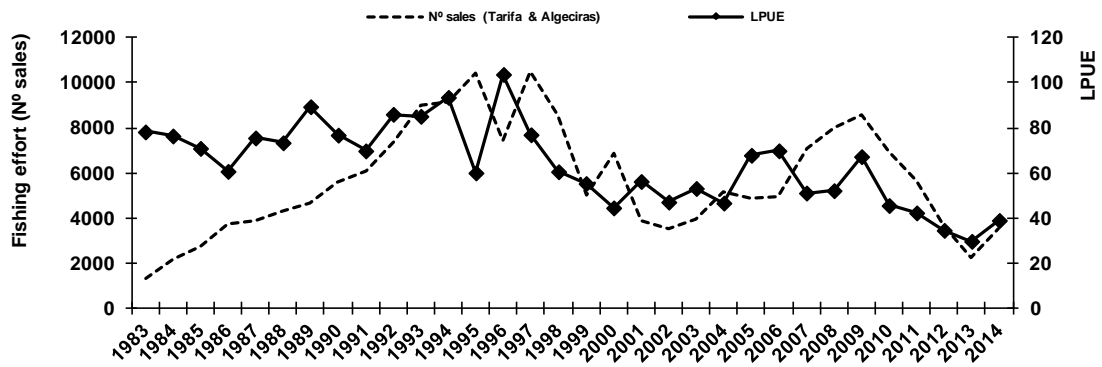


Figure 2. Red seabream Spanish fishery of the Strait of Gibraltar: Evolution of the chosen effort unit (number of sales as a fishing trip proxy) and its estimated LPUE (1983-2014).

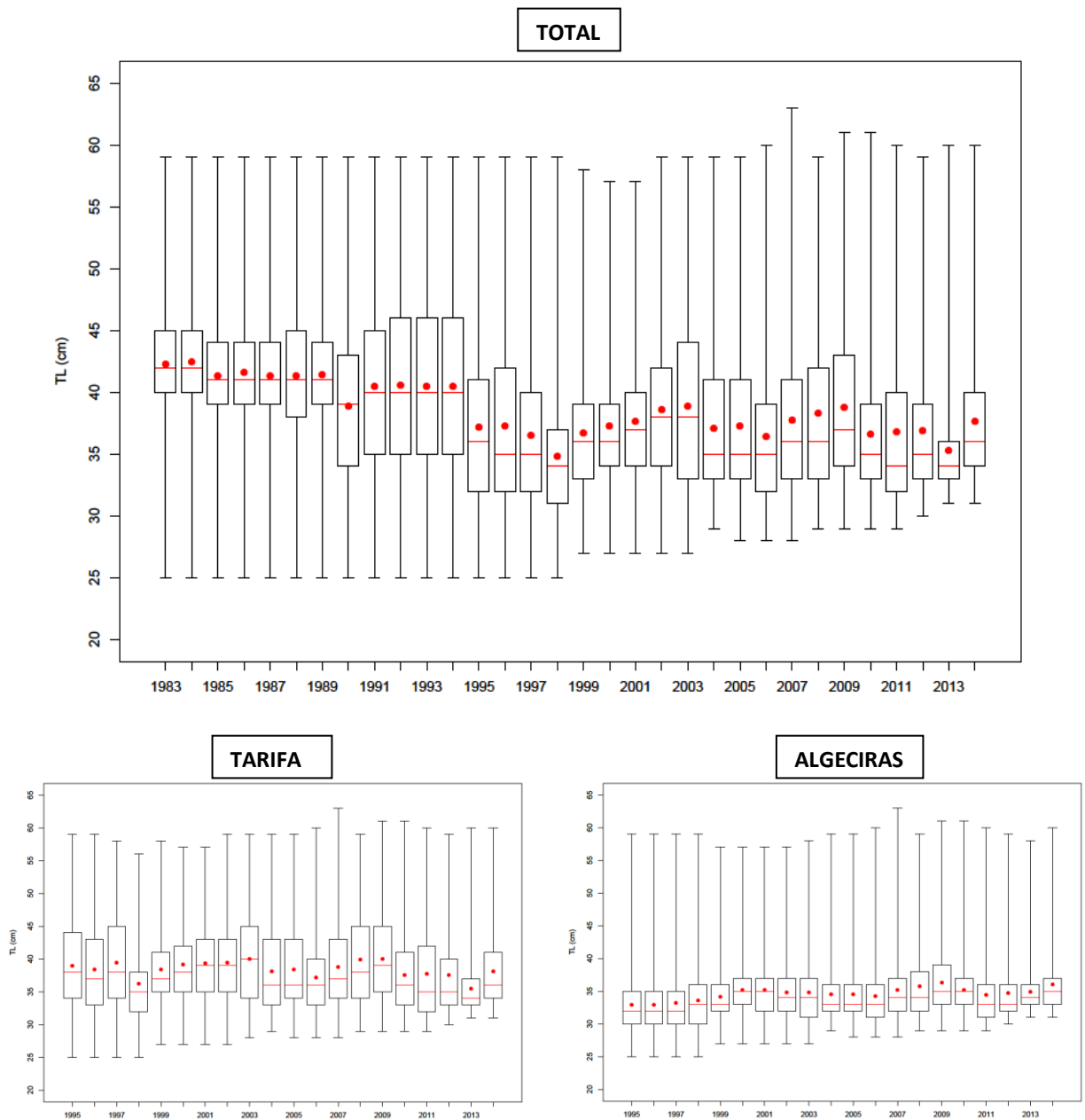


Figure 3. Red seabream Spanish fishery of the Strait of Gibraltar: Evolution of the landings length distribution (total and by landing port) descriptive statistics (red dot: mean value, red line: median value).