SAC GFCM
Sub-Committee on Stock Assessment

Date*	**23**	**September**	**2010**	**Code***	**SBR9910Sad**

Authors*: Sadia BELCAID, Juan GIL HERRERA, Jorge BARO, Jose Luis PEREZ GIL and Omar KADA

Affiliation*: IEO and INRH

Species Scientific name*

1 *Pagellus bogaraveo - SBR*
Source: GFCM Priority Species

2
Source: -

3
Source: -

Geographical area*: Strait of Gibraltar

Geographical Sub-Area (GSA)*		99 - Combination of GSAs
Combination of GSAs	1	01 - Northern Alboran Sea
	2	03 - Southern Alboran Sea
	3	

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)

Assessment form

Sheet #0
Basic data on the assessment

Code: SBR9910Sad

Date*	23	Sep	2010	Authors*	Sadia BELCAID, Juan GIL HERRERA, Jorge BARO, Jose Luis PEREZ GIL and Omar KADA

Species Scientific name*	Pagellus bogaraveo - SBR	Species common name*	Dorade rose Voraz

Data Source

GSA*	01 - Northern Alboran Sea, 03 - Southern Alboran Sea	Period of time*	2005-2007

Description of the analysis

Type of data*	Lenght frequency	Data source*	Commercial sampling
Method of assessment*	LCA	Software used*	VIT(Lleonart and Salat, 1992)

Sheets filled out

B	P1	P2a	P2b	G	A1	A2	A3	Y	Other	D	Z	C
---	1	2	---	---	1	1	1	1	---	1	1	1

Comments, bibliography, etc.

the morrocan data and spanish data were compiled,
the fork lenght (for Moroccan data) was transformed in to total lenght using the relation proposed by I. CZERWINSKI et al (2008): FL = -0,731 + 0,910 TL
The biological parametres used in the assessment come from Spanish information; Ref: CopeMed Document; Spanish information about the red seabream (P. bogaraveo) fishery in the Strait of Gibraltar (2010)

Comments, bibliography, etc.

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet B** **Biology of the species**

Code: SBR9910Sad

Biology

Somatic magnitude measured (LH, LC, etc)*					Units*	
Sex	Fem	Mal	Both	Unsexed		
Maximum size observed			58		Reproduction season	Jan-Apr
Size at first maturity	35.73	30.15			Reproduction areas	Strait of Gibraltar
Recruitment size			26		Nursery areas	Coastal area of

Parameters used (state units and information sources)

			Sex			
		Units	female	male	both	unsexed
Growth model	L∞	cm			62	
	K				0.169	
	t0				(-1.23)	
	Data source	Juan GIL HERRERA, 2010 (Copemed Doc)				
Length weight relationship	a				0.014	
	b				3.014	
	M				0.2	
	sex ratio (mal/fem)					

Comments

Comments

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Assessment form

Sheet P1
General information about the fishery

Code: SBR9910Sad

Data source*	Lenght frequency	Year (s)*	2010

Data aggregation (by year, average figures between years, etc.)*	average between 2005 to 2007

Fleet and catches (please state units)

	Country	GSA	Fleet Segment	Fishing Gear Class	Group of Target Species	Species
Operational Unit 1*	ESP	99	C - Minor gear with engine (6-12 metres)	09 - Hooks and Lines	34 - Demersal slope species	SBR
Operational Unit 2	MAR	99	C - Minor gear with engine (6-12 metres)	09 - Hooks and Lines	34 - Demersal slope species	SBR
Operational Unit 3						
Operational Unit 4						
Operational Unit 5						

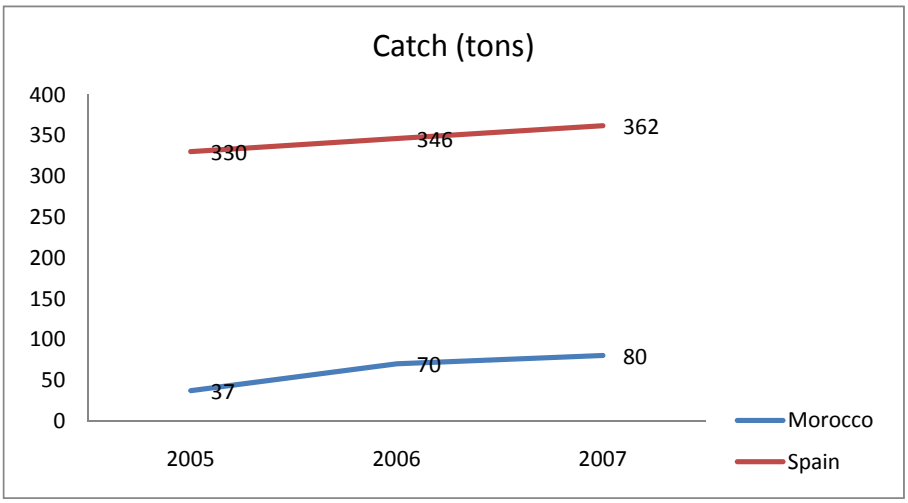
Operational Units*	Fleet (n° of boats)*	Kilos or Tons	Catch (species assessed)	Other species caught	Discards (species assessed)	Discards (other species caught)	Effort units
ESP 99 C 09 34 - SBR	90	Tons	330				Fishing day
MAR 99 C 09 34 - SBR	114	Tons	71				Fishing day
Total	204		401				

Legal minimum size	33

Comments

The legal minimum size is adopted for Spanish fishery

Comments



the catch evolution shows the increase between 2005 - 2007 for both coutry .

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Assessment form

Sheet P2a
Fishery by Operational Unit

Code: SBR9910Sad

Data source*	Lenght frequency	OpUnit 1*	ESP 99 C 09 34 - SBR

Time series

Year*	2005	2006	2007			
Catch	330	346	362			
Minimum size	27	27	27			
Average size Lc						
Maximum size	58	58	58			
Fleet	90	90	90			

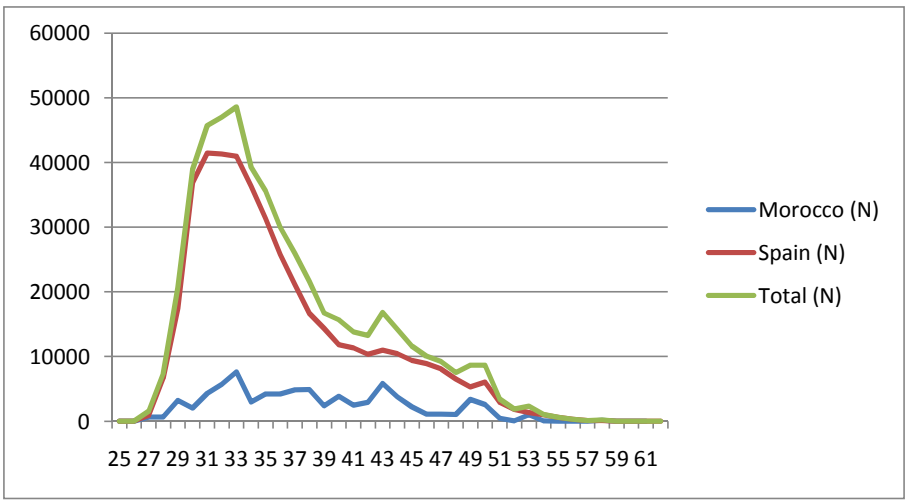
Year						
Catch						
Minimum size						
Average size Lc						
Maximum size						
Fleet						

Selectivity

L25	
L50	
L75	
Selection factor	

Remarks

Structure by size or age



Structure by size or age

Morocco samples are measured till the fork length (FL) while Spain samples are measured till the total length (TL). Thus, fork length from Moroccan data were transformed into total length. Transformation is possible by means of the relationship proposed by Czerwinski *et al*. (2008): FL=-0.731 + 0.910*TL. the sampling does'nt incorporate the small size because the longliners operate in the deep waters, forever the juveniles usualy located at the coast .

Data source*	lenght frequency (	OpUnit 2*	MAR 99 C 09 34 - SBR

Time series

Year*	2005	2006	2007			
Catch	37	70	80			
Minimum size	23	29	24			
Average size Lc	33.32	38.87	32.33			
Maximum size	51	53	46			
Fleet	108	99	114			

Year						
Catch						
Minimum size						
Average size Lc						
Maximum size						
Fleet						

Selectivity **Remarks**

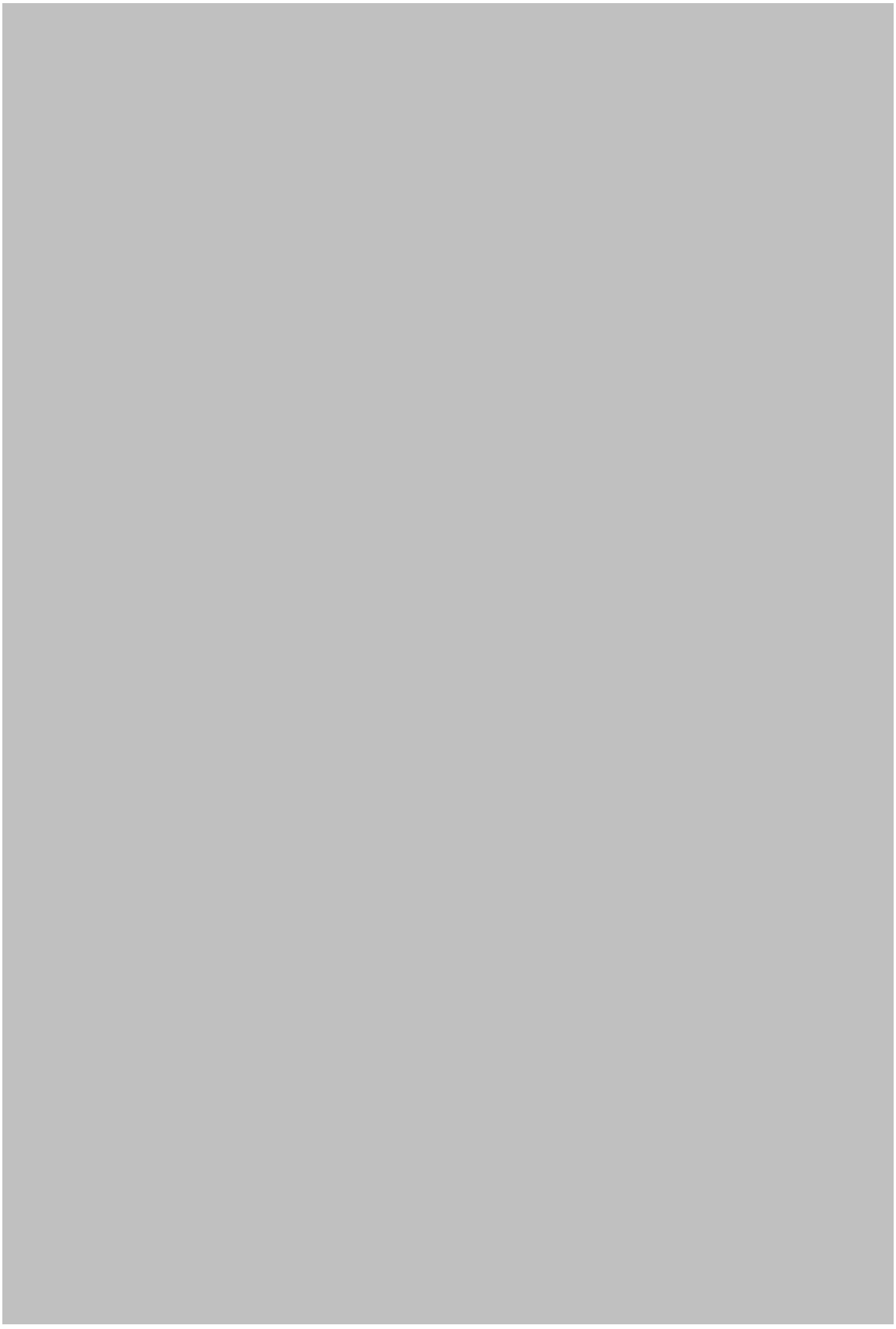
L25		
L50		
L75		
Selection factor		

Structure by size or age

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet P2a** **Fishery by Operational Unit**

This sheet will be activated once the Operational Unit information (P1 section) will be successfully filled in

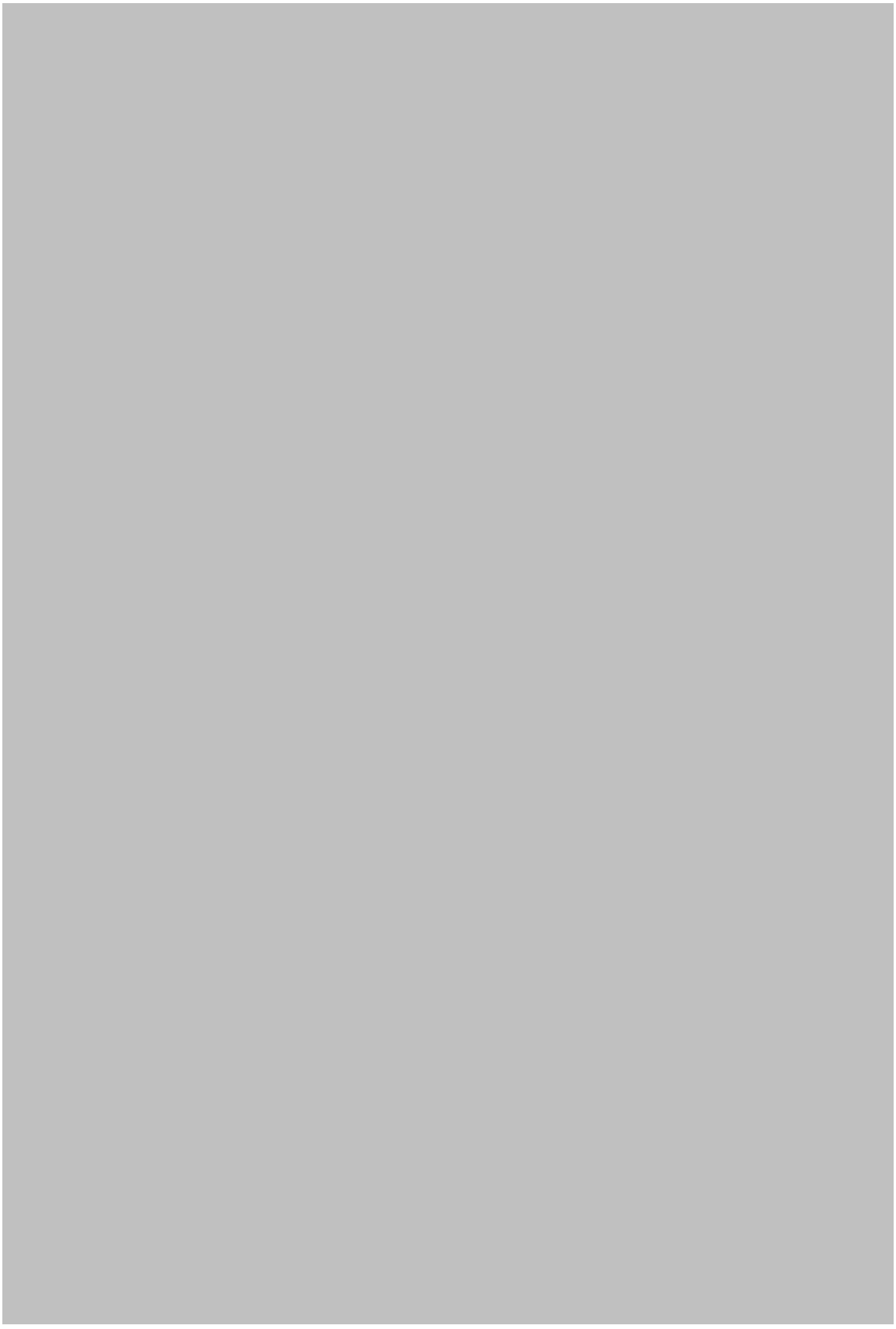
Code: SBR9910Sad



SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet P2a** **Fishery by Operational Unit**

This sheet will be activated once the Operational Unit information (P1 section) will be successfully filled in

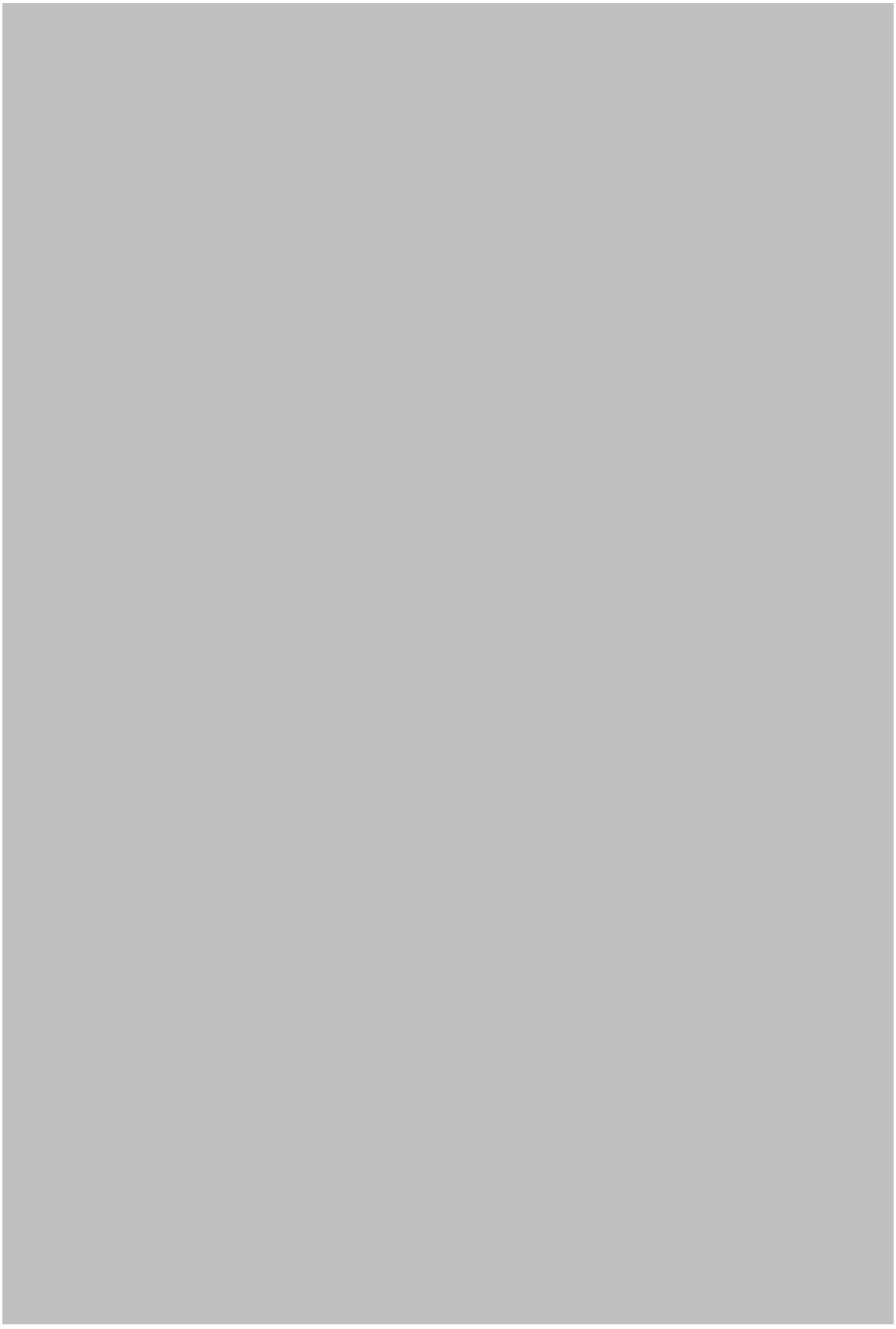
Code: SBR9910Sad



SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet P2a** **Fishery by Operational Unit**

This sheet will be activated once the Operational Unit information (P1 section) will be successfully filled in

Code: SBR9910Sad



Data source*		OpUnit 1*	ESP 99 C 09 34 - SBR

Regulations in force and degree of observance of regulations

Spanish regulation:

EU regulation (ICES IX)

Since 2003, a regime of TAC and Quotas has been applied also to the *P. bogaraveo* fishery in Subarea IX. The TAC For 2009 and 2010 (918 and 780 t) established for whole Subarea IX is stills higher than the total landings of the Subarea and does not seem to constrain catches (see the Table).

Local (Strait of Gibraltar) regulation

Closure of the fishing season during two and half months (1st January–15th March),
- Minimum size of fish retained or landed (33 cm total length, or in weight 350 g),
- Authorised vessels list updated since 1997 (updated by the "Secretaría General del Mar"),
- A more restrictive TAC (270 tons) than that set by the current EU regulation.
- Maximum days at sea (140),
- Hook size (Length ≥ 3.95 cm and Groin ≥ 1.65 cm)
- Maximum hooks per fishing day (2400),
- Maximum number of lines per boat (30),
- Maximum number of automatic machines for hauling per boat (3),
- Restricted ports for landing the red seabream catches (only Tarifa and Algeciras),
- Spatial closures in several grounds as the following:

"Mar Nueva" (36° 07,50' N / 005° 27,71' W) in depths less than 80 fathoms.
"Cuatro Millas" (35° 58,26' N / 005° 40.38' W) in depths less than 160 fathoms.
"Vapor" (35° 57.48' N / 005° 44.14' W) in depths less than 120 fathoms.

Moroccan regulation:

-Minimum size of fish retained or landed (25 cm total length);
-Interdiction of fishing under 80 m deep in the aerea between Tangier and Al Hoceima,

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Assessment form

Sheet A1
Indirect methods: VPA, LCA

Code: SBR9910Sad

Sex*	both

Analysis # *	VPA

Time series

Data	Size	Age
(mark with X)		X

Model	Cohorts	Pseudocohorts
(mark with X)		X

Equation used	Catch	Tunig method	
# of gears	1	Software	VIT
$F_{terminal}$	0.5		

Population results (please state units)

	Sizes	Ages		Amount	Biomass
Minimum	26	1	Recruitment		113
Average	37	4.2	Average population		1370
Maximum	58	16	Virgin population		4976
Critical	31	2.8	Turnover		

Average mortality

		Gear					
	Total		F0,1	Fmax			
F_1	0.397	F1 = Mean F	0.17	0.35			
F_2	0.275	F2 = Global F	0.09	0.17			
Z	0.571						

(F1 and F2 represent different possible calculations. Please state them)

Comments

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Assessment form

Sheet A1
Indirect methods: VPA, LCA

Code: SBR9910Sad

Sex*	

Analysis # *	

Time series

Data	Size	Age
(mark with X)		

Model	Cohorts	Pseudocohorts
(mark with X)		

Equation used		Tunig method	
# of gears		Software	
$F_{terminal}$			

Population results (please state units)

	Sizes	Ages		Amount	Biomass
Minimum			Recruitment		
Average			Average population		
Maximum			Virgin population		
Critical			Turnover		

Average mortality

		Gear					
	Total						
F_1							
F_2							
Z							

(F1 and F2 represent different possible calculations. Please state them)

Comments

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)

Assessment form

Sheet A1
Indirect methods: VPA, LCA

This sheet will be activated once the previous page will be successfully completed

Code: SBR9910Sad

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)

Assessment form

Sheet A1
Indirect methods: VPA, LCA

This sheet will be activated once the previous page will be successfully completed

Code: SBR9910Sad

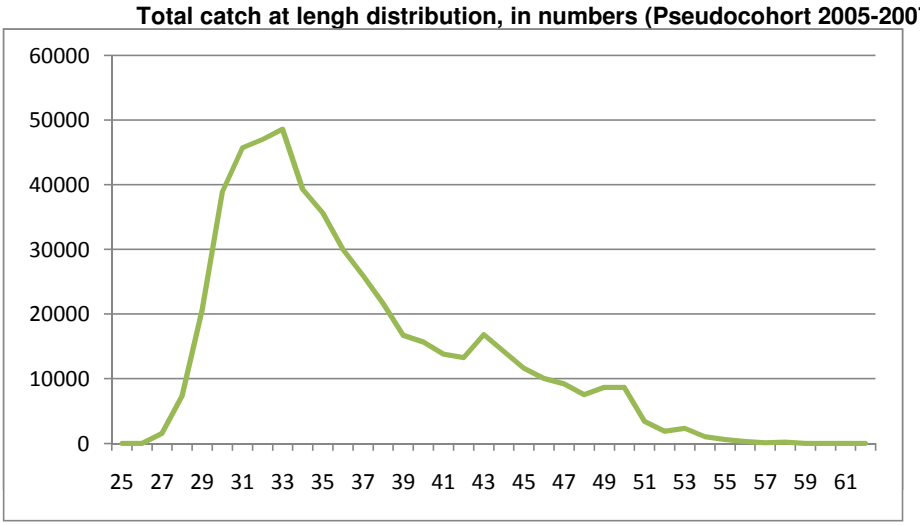
SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet A2** **Indirect methods: data**

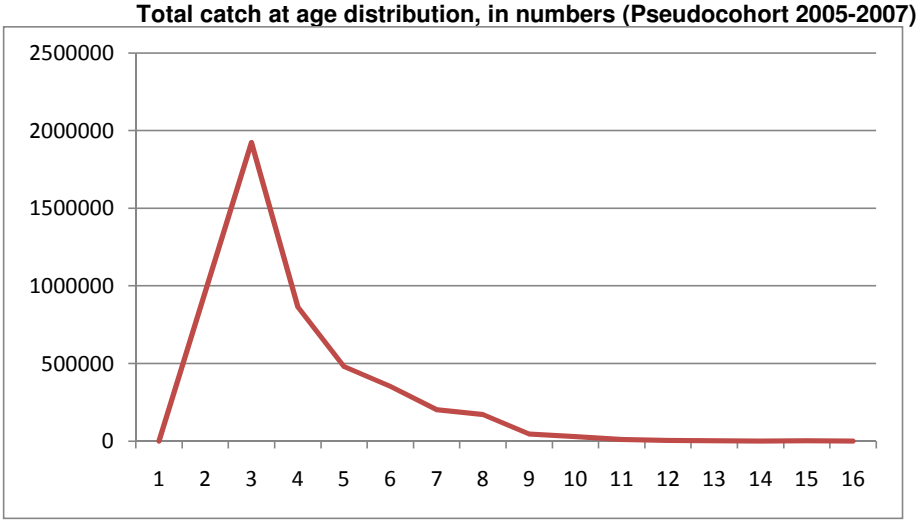
Code: SBR9910Sad

Sex*	Both	Gear*	Hooks and lines	Analysis # *	VPA

Data source	lenght frequency

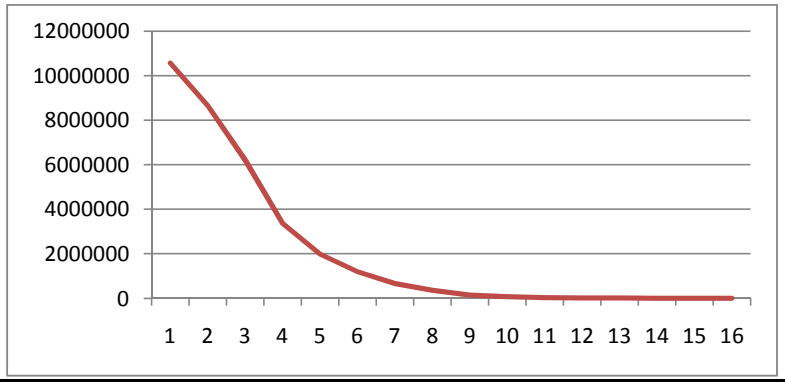
Data



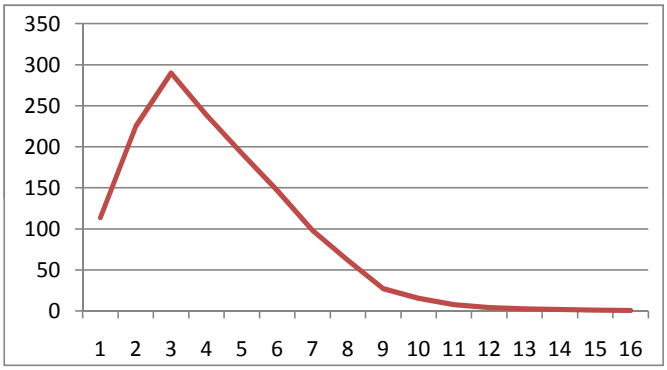


Sex*	Both	Gear*	Hooks and lines	Analysis #*	VPA

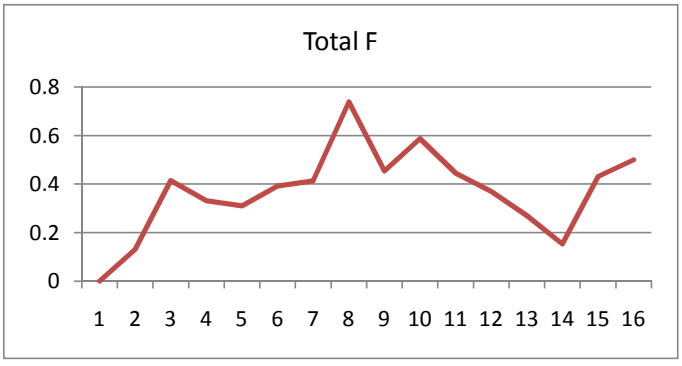
Population in figures



Population in biomass



Fishing mortality rates



Sex*		Gear*		Analysis #*	

Population in figures

Population in biomass

Fishing mortality rates

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet A3** **Indirect methods: VPA results**

This sheet will be activated once the previous page will be successfully completed

Code: SBR9910Sad

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet A3** **Indirect methods: VPA results**

This sheet will be activated once the previous page will be successfully completed

Code: SBR9910Sad

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet Y** **Indirect methods: Y/R**

Code: SBR9910Sad

Sex	Both	Analysis #	VPA

# of gears	Hooks and lines	Software	VIT (Lleonart and Salat, 1997)

Parameters used

Vector F	From pseudocohort analysis
Vector M	0.2 (constant for all ages)
Vector N	From pseudocohort analysis

Model characteristics

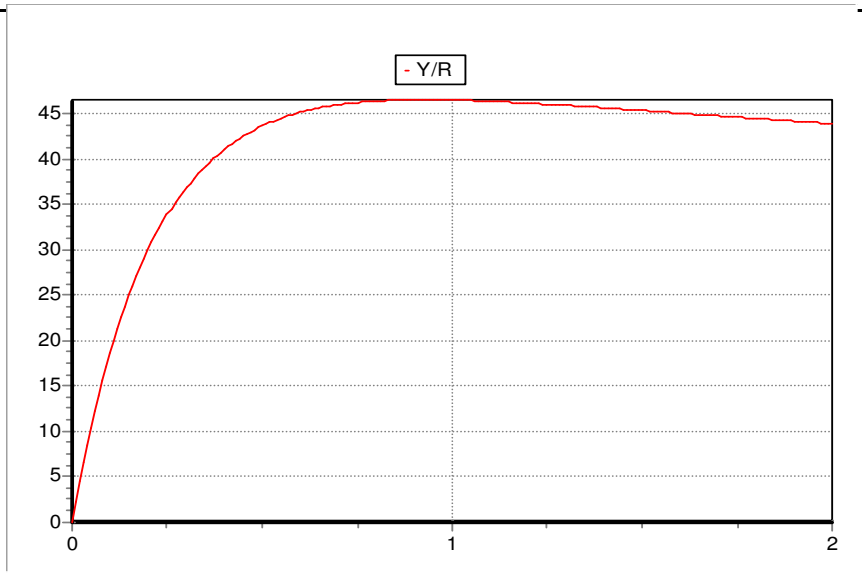
Results

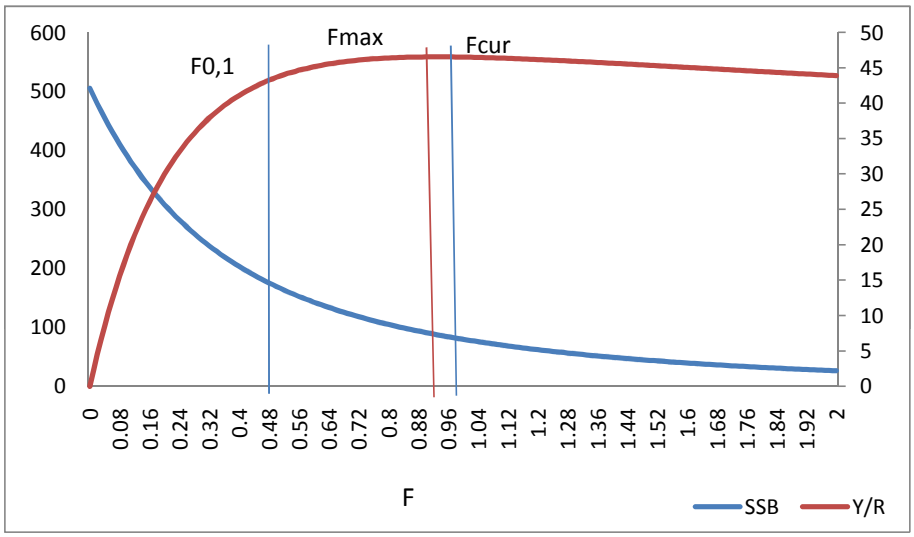
	Total	Gear			
Current YR	46.496				
Maximum Y/R	46.529				
Y/R 0.1	42.999				
F_{max}	0.35				
$F_{0.1}$	0.18				
Current B/R	139.069				
Maximum B/R	147.541				
B/R 0.1	243.649				

Comments

If referent to Fmax (0, 37) , the yield per recruit model shows a fully exploitation of the stock status. But if referent to F0,1 (0,18) the Y/R model shows that the stok is overexploited. he main problem of the flat top curves is the F_{max} value that is not currently considered precautionary because if the fishing effort increases the Y/R curve do not shows any increase while the SSB/R curve shows a decrease.
As an alternative value $F_{0.1}$ is usually adopted.
So, in conclusion the stock is overexploited.

Comments


- Y/R
45
40
35
30
25
20
15
10
5
0
0
1
2


600
500
400
300
200
100
0
50
45
40
35
30
25
20
15
10
5
0
F0,1
Fmax
Fcur
0
0.08
0.16
0.24
0.32
0.4
0.48
0.56
0.64
0.72
0.8
0.88
0.96
1.04
1.12
1.2
1.28
1.36
1.44
1.52
1.6
1.68
1.76
1.84
1.92
2
F
SSB
Y/R

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet D Diagnosis**

Code: SBR9910Sad

Indicators and reference points

Criterion	Current value	Units	Reference Point	Trend	Comments
B					
SSB					
F					
Y					
CPUE					

Stock Status* Use one (or both) of the following two systems for the stock assessment status description

Unidimensional

☐	? - (or blank) **Not known or uncertain**. Not much information is available to make a judgment;
☐	U - **Underexploited, undeveloped or new fishery**. Believed to have a significant potential for expansion in total production;
☐	M - **Moderately exploited**, exploited with a low level of fishing effort. Believed to have some limited potential for expansion in total production;
☐	F - **Fully exploited**. The fishery is operating at or close to an optimal yield level, with no expected room for further expansion;
☉	O - **Overexploited**. The fishery is being exploited at above a level which is believed to be sustainable in the long term, with no potential room for further expansion and a higher risk of stock depletion/collapse;
☐	D - **Depleted**. Catches are well below historical levels, irrespective of the amount of fishing effort exerted;
☐	R - **Recovering**. Catches are again increasing after having been depleted or a collapse from a previous;

Bidimensional

Exploitation rate

☐	No or low fishing
☐	Moderate fishing
☐	High fishing mortality
☐	Uncertain / Not assessed

Stock abundance

☐	Virgin or high abundance
☐	Intermediate abundance
☉	Low abundance

☐	Depleted
☐	Uncertain / Not assessed

Comments

Code: SBR9910Sad

Management advice and recommendations*

Decrease the fishing effort (Number of vessels).
To have the same management measurement in both GSA .

Advice for scientific research*

It necessary standardizes the sampling methods, between Morocco and Spain.
Maintain the joint assessment.

Comments*

Strengthen the biological sampling of this species in order to cover all categories of sizes landed at landing sites.

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet C** **Comments**

Comments*

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet C** **Comments**

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SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet C** **Comments**

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Abstract for SCSA reporting

Authors Sadia BELCAID, Juan GIL HERRERA, Jorge BARO, Jose Luis PEREZ GIL and Omar KADA

Year 2010

Species Scientific name Pagellus bogaraveo - SBR

Source: GFCM Priority Species

Source: -

Source: -

Geographical Sub-Area 01 - Northern Alboran Sea, 03 - Southern Alboran Sea

Fisheries (brief description of the fishery)*

Source of management advice*

(brief description of material -data- and methods used for the assessment)

Stock Status*

O - Overexploited. The fishery is being exploited at above a level which is believed to be sustainable in the long term, with no potential room for further expansion and a higher risk of stock depletion/collapse;

Exploitation rate

Stock abundance

Low abundance

Comments

Management advice and recommendations*

Decrease the fishing effort (Number of vessels).
To have the same management measurement in both GSA .

Advice for scientific research*

It necessary standardizes the sampling methods, between Morocco and Spain.
Maintain the joint assessment.