SAC GFCM
Sub-Committee on Stock Assessment

Date*	**20**	**October**	**2010**	**Code***	**BOG2610Sah**

Authors* Sahar Fahmy Mehanna

Affiliation* National Institute of Oceanography and Fisheries

Species Scientific name*

1 *Boops boops - BOG*
Source: GFCM Priority Species

2
Source: -

3
Source: -

Geographical area* Mediterranean, Egypt

Geographical Sub-Area (GSA)* 26 - South Levant

Combination of GSAs
1
2
3

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

Assessment form

Sheet #0
Basic data on the assessment

Code: BOG2610Sah

Date*	20	Oct	2010	Authors*	Sahar Fahmy Mehanna

Species Scientific name*	Boops boops - BOG	Species common name*	Bogue, Mouza

Data Source

GSA*	26 - South Levant	Period of time*	2007-2008

Description of the analysis

Type of data*	Length frequency data	Data source*	Commercial catch
Method of assessment*	LCA and Y/R	Software used*	VIT

Sheets filled out

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

Comments, bibliography, etc.

Comments, bibliography, etc.

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

Code: BOG2610Sah

Biology

Somatic magnitude measured (LH, LC, etc)*					Units*	
Sex	Fem	Mal	Both	Unsexed		
Maximum size observed			23		Reproduction season	
Size at first maturity			14.9		Reproduction areas	
Recruitment size					Nursery areas	

Parameters used (state units and information sources)

			Sex			
		Units	female	male	both	unsexed
Growth model	L∞	cm			27.24	
	K				0.54	
	t0	year			-0.33	
	Data source	otolith readings				
Length weight relationship	a				0.0061	
	b				3.1529	
	M				0.6	
	sex ratio (mal/fem)					

Comments

Growth parameters based on otolith's readings
M is estimated as the geometric mean of two methods.

Comments

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Assessment form

Sheet P1
General information about the fishery

Code: BOG2610Sah

Data source*	Biological samples from commercial landing	Year (s)*	2007-2008

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

Fleet and catches (please state units)

	Country	GSA	Fleet Segment	Fishing Gear Class	Group of Target Species	Species
Operational Unit 1*	EGY	26	E - Trawl (12-24 metres)	03 - Trawls	33 - Demersal shelf species	BOG
Operational Unit 2						
Operational Unit 3						
Operational Unit 4						
Operational Unit 5						

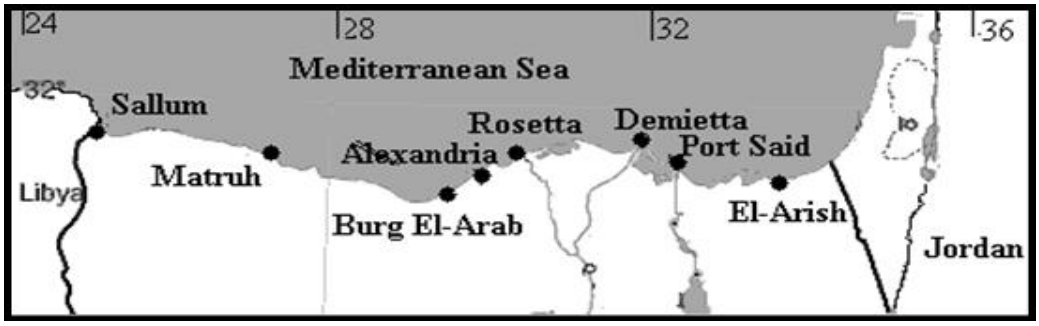
Operational Units*	Fleet (n° of boats)*	Kilos or Tons	Catch (species assessed)	Other species caught	Discards (species assessed)	Discards (other species caught)	Effort units
EGY 26 E 03 33 - BOG	1190	Tons	3637	30000		2000	vessel No.
Total	1190		3637	30000		2000	

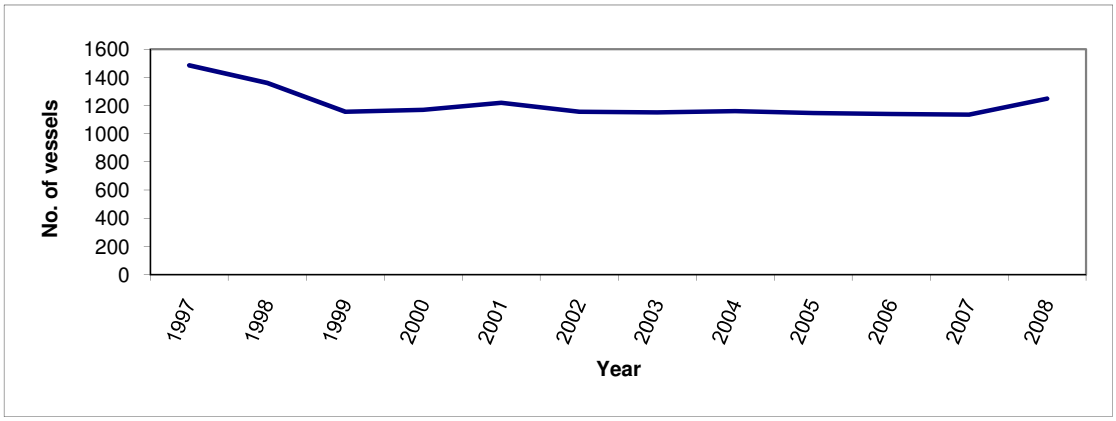
Legal minimum size	

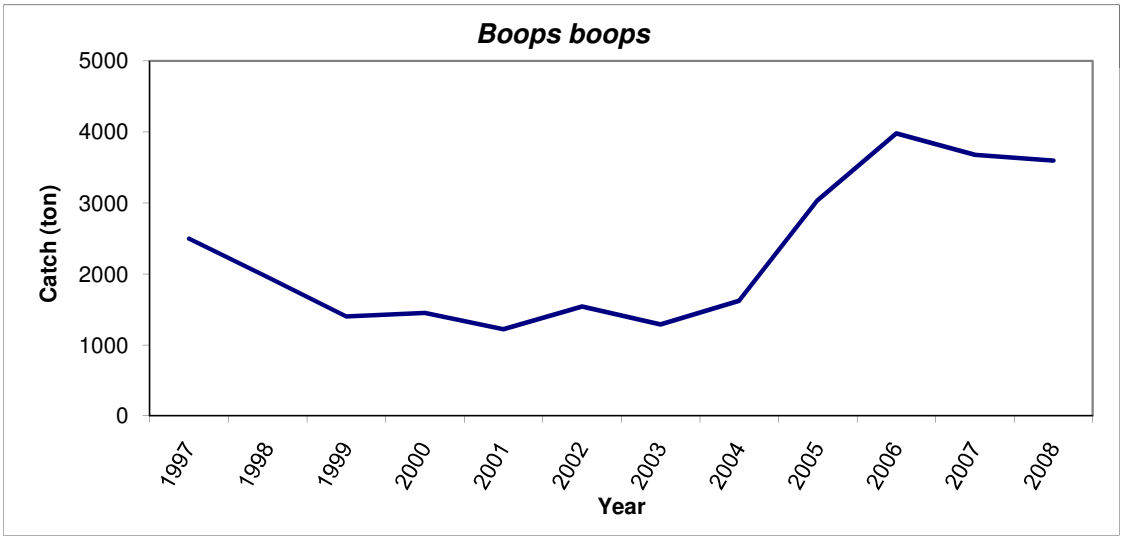
Comments

The given values are the mean values of two years (2007-2008)
The samples were collected from three landing sites (Alexandria, Rosetta & Demietta)
The discard means the undersized species, species of lesser commercial important, unidentified species and species which rarely appeard.

Comments


24
28
32
36
Mediterranean Sea
32°
Sallum
Rosetta
Demietta
Alexandria
Port Said
Matruh
Libya
Burg El-Arab
El-Arish
Jordan


No. of vessels
1600
1400
1200
1000
800
600
400
200
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year


Boops boops
Catch (ton)
5000
4000
3000
2000
1000
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
Year

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

Assessment form

Sheet P2a
Fishery by Operational Unit

Code: BOG2610Sah

Data source*	Commercial catch	OpUnit 1*	EGY 26 E 03 33 - BOG

Time series

Year*	1997	1998	1999	2000	2001	2002
Catch	2499	1956	1403	1450	1222	1541
Minimum size						
Average size Lc						
Maximum size						
Fleet	1485	1360	1157	1171	1170	1157

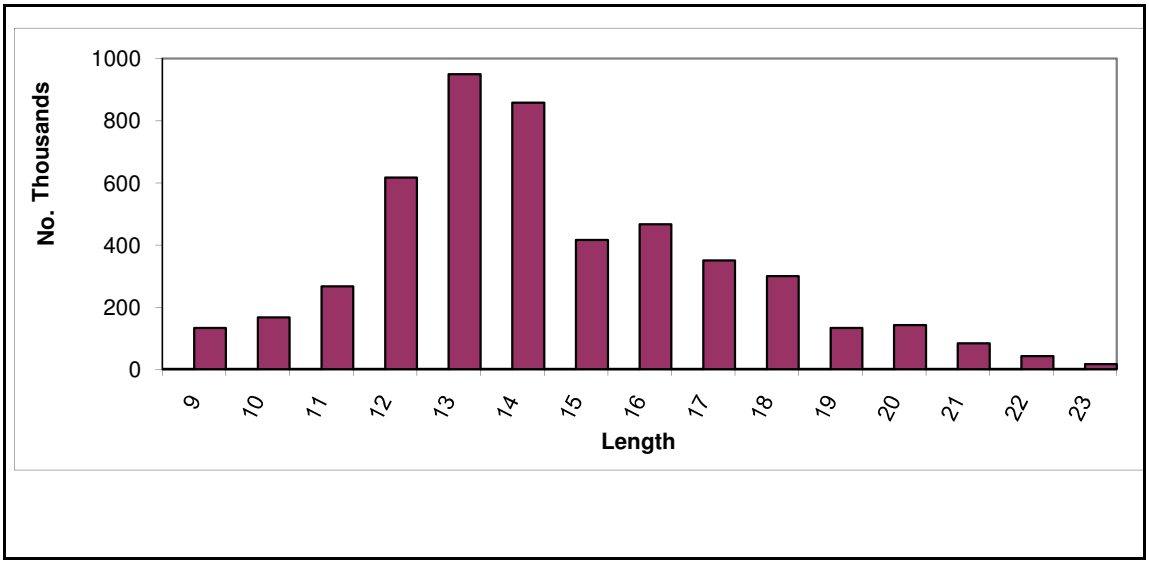
Year	2003	2004	2005	2006	2007	2008
Catch	1288	1622	3039	3980	3677	3597
Minimum size					10	9
Average size Lc					14.4	14.1
Maximum size					30	30
Fleet	1152	1161	1147	1141	1135	1251

Selectivity

L25	
L50	11.87
L75	
Selection factor	

Remarks

Structure by size or age

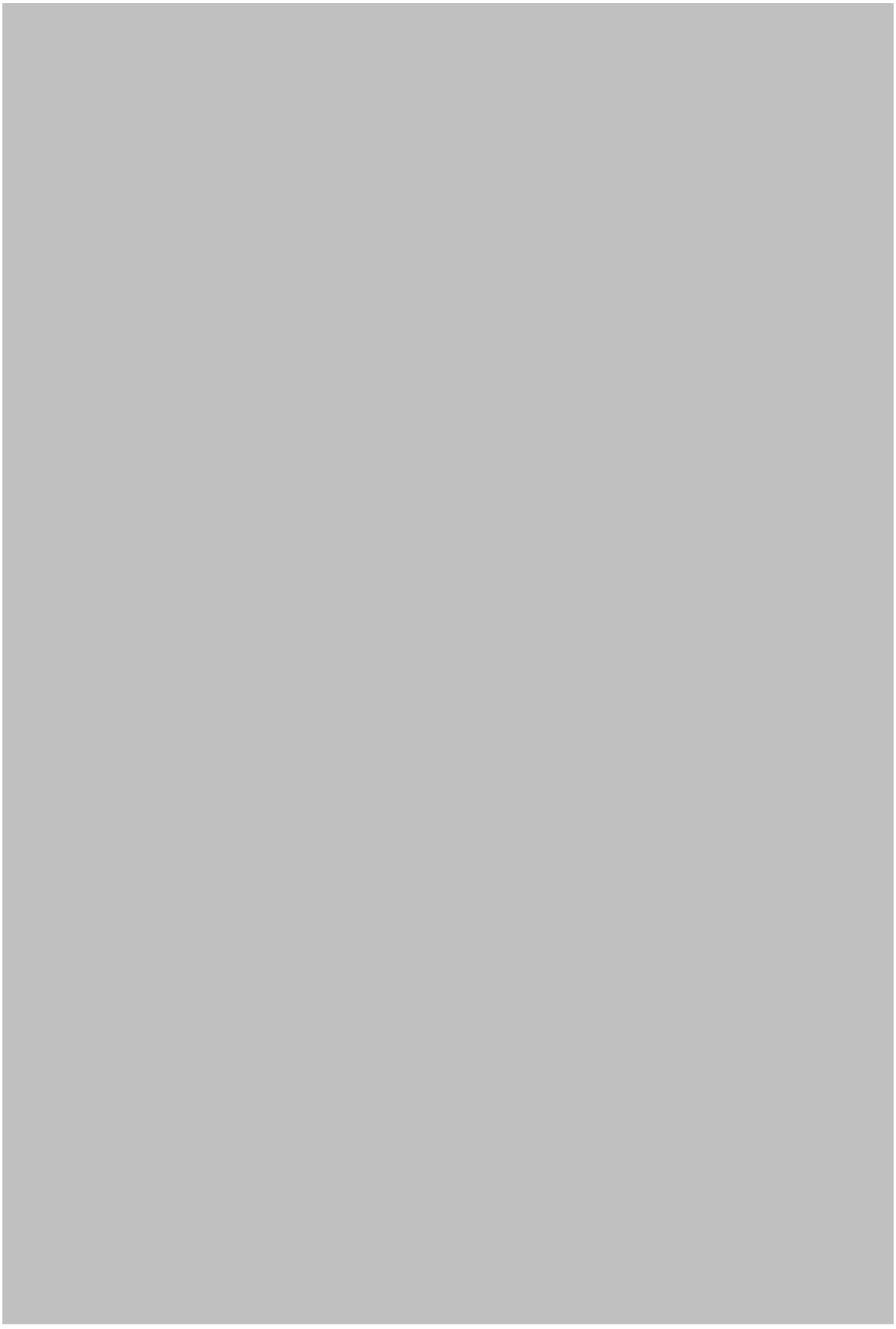


Structure by size or age

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

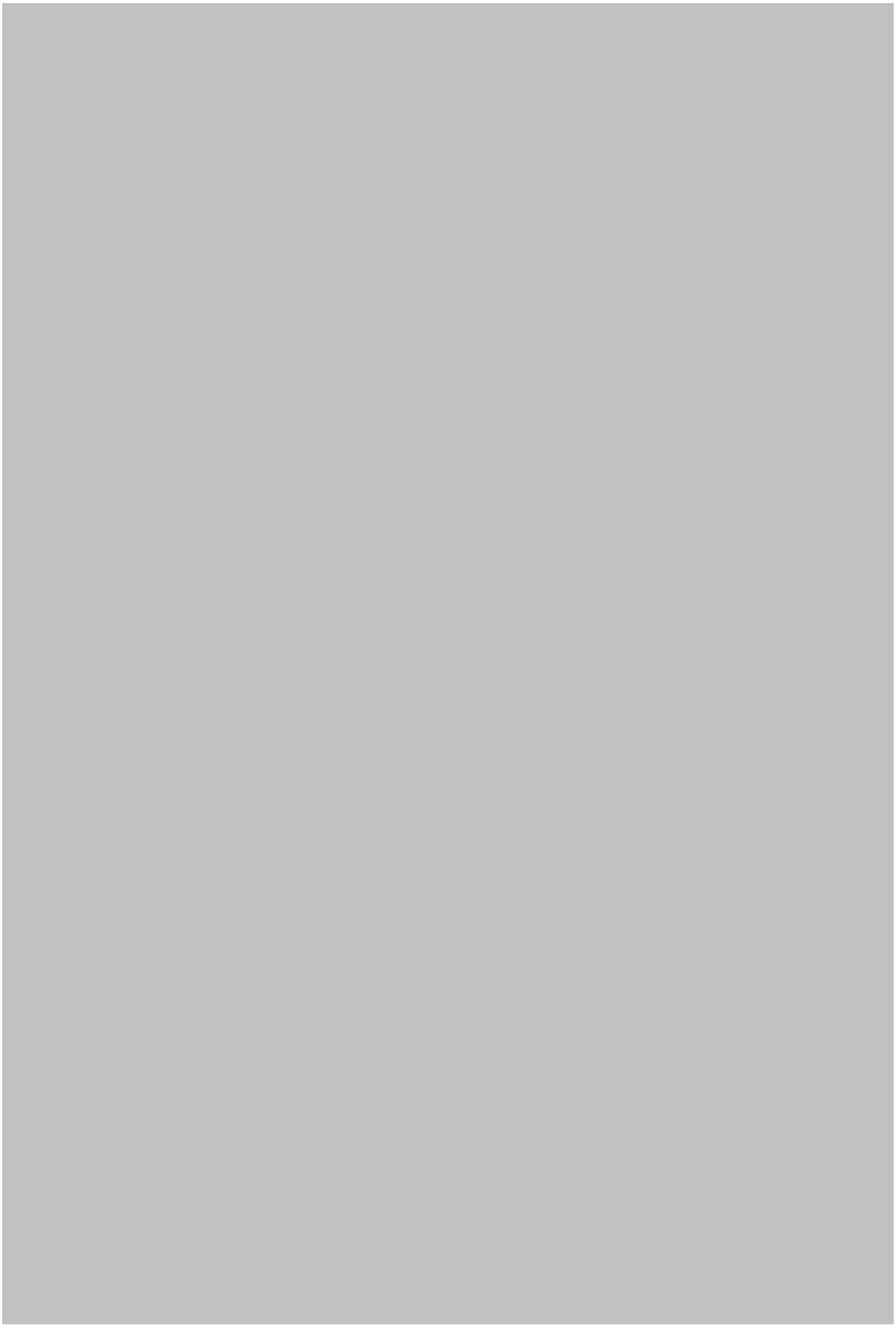
Code: BOG2610Sah



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

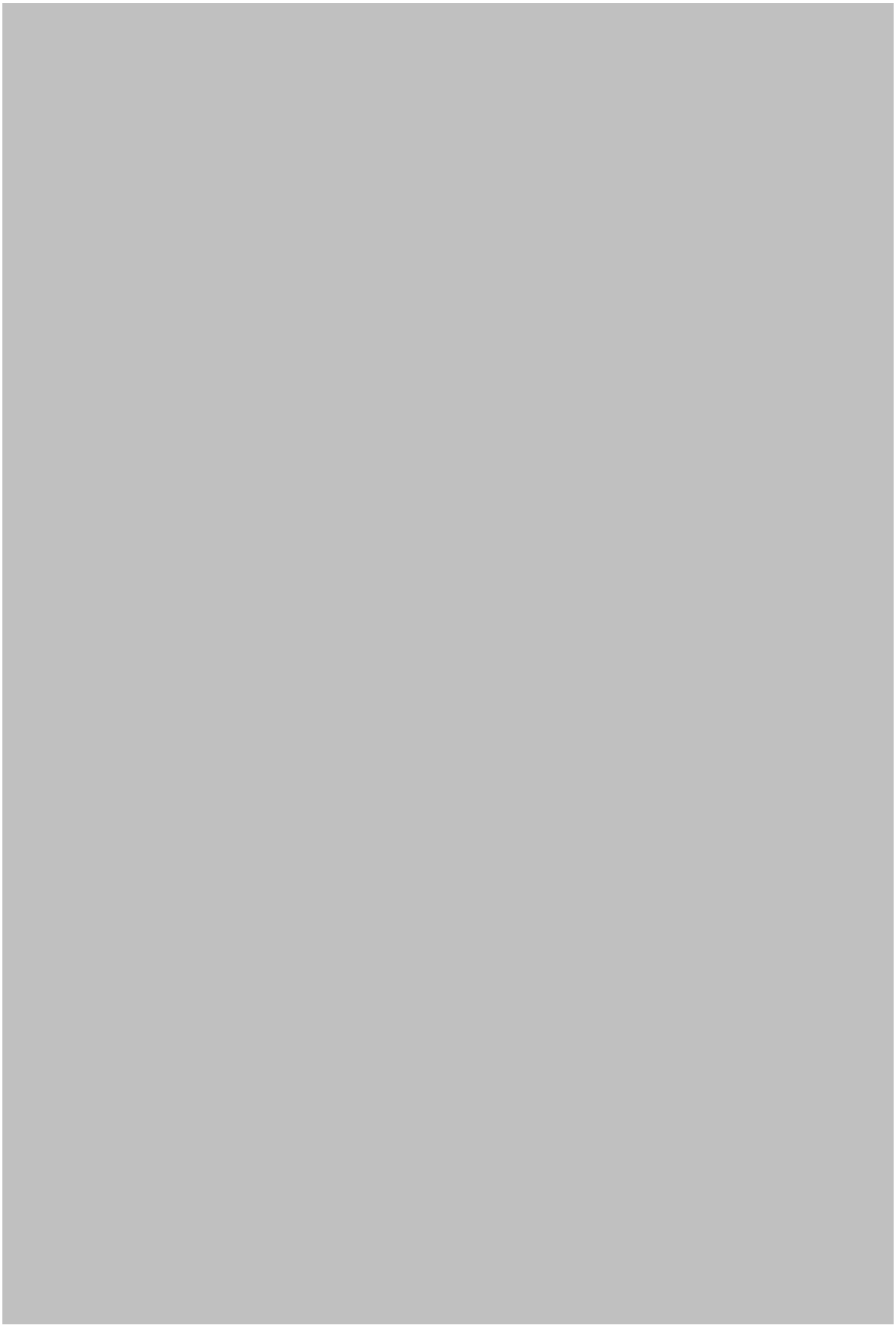
Code: BOG2610Sah



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

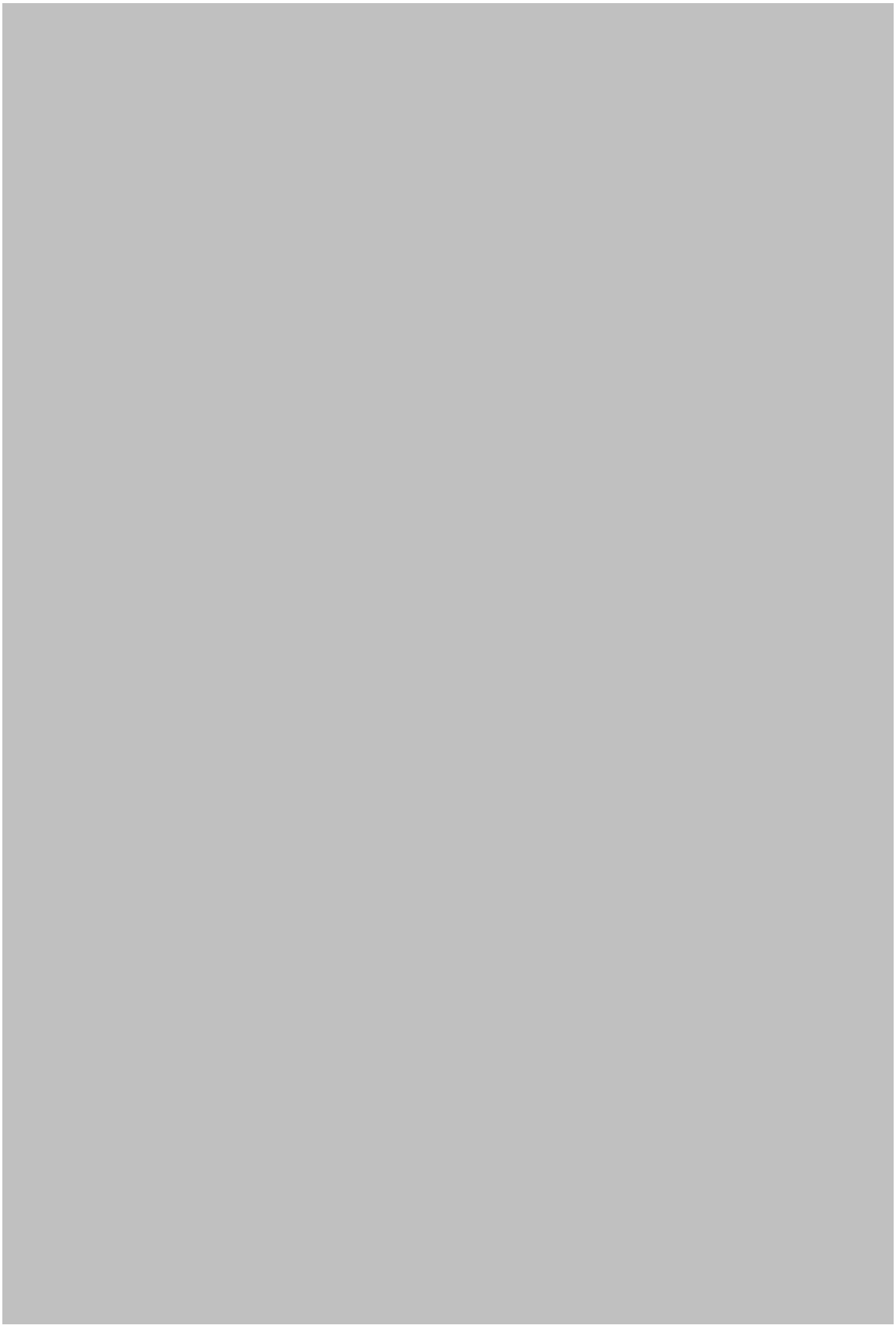
Code: BOG2610Sah



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: BOG2610Sah



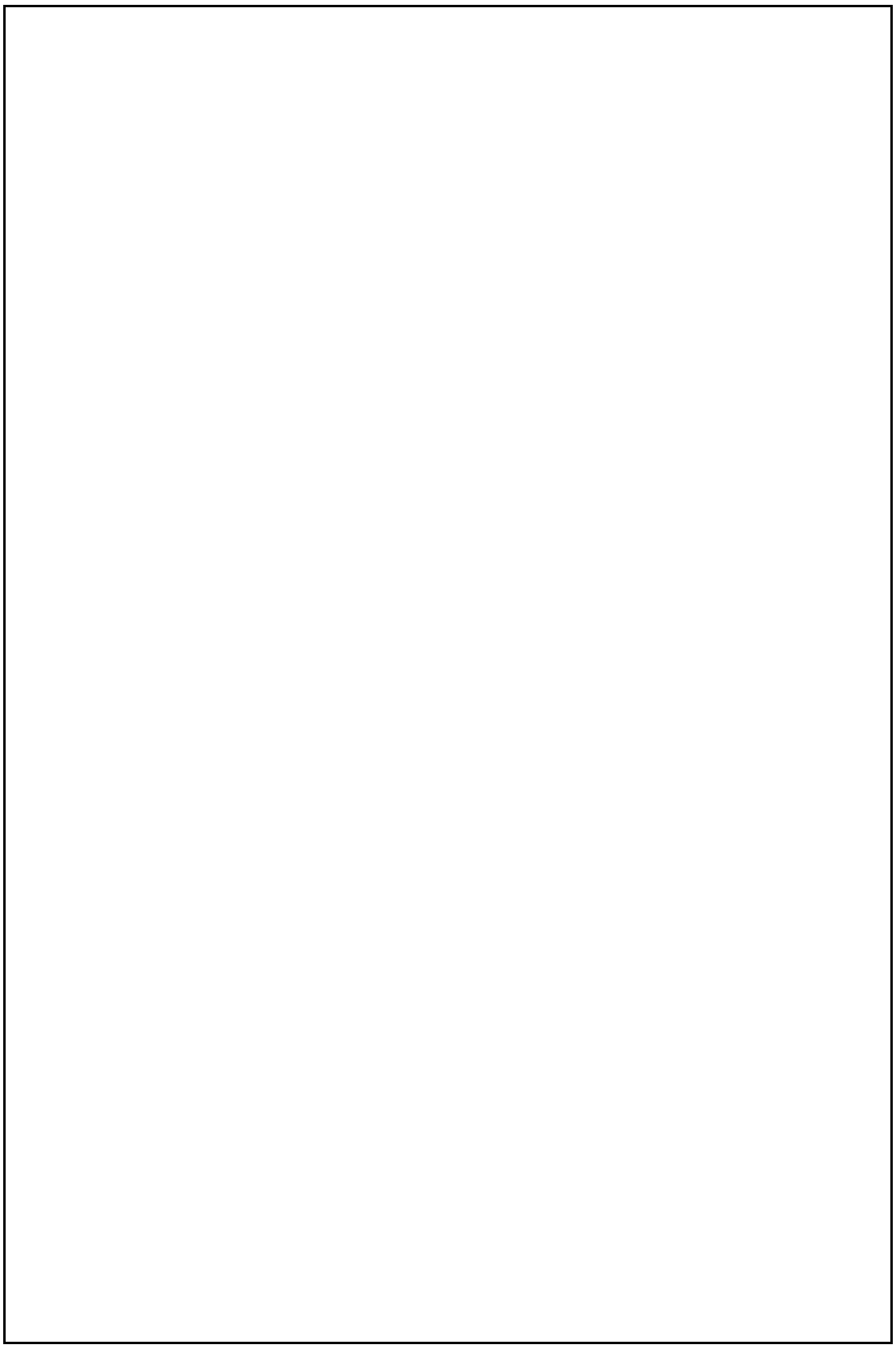
Data source*	commercial catch	OpUnit 1*	EGY 26 E 03 33 - BOG

Regulations in force and degree of observance of regulations

Closed season for 45 days (from 1st May- mid of June) since 2006 (not fully observed)
No new licenses are given since 1996 (not fully observed)
prevention any improvements on fishing vessels like increasing hp (not fully observed)
Mesh size regulation (not fully observed)

Accompanying species

Mullus barbatus, M. surmmuletus, Pagellus erythrinus, P. acarne, Sparus aurata, Sepia officinalis, Solea aegyptiaca, S. solea



SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet P2b** **Fishery by Operational Unit**

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

Code: BOG2610Sah

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet P2b** **Fishery by Operational Unit**

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

Code: BOG2610Sah

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet P2b** **Fishery by Operational Unit**

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

Code: BOG2610Sah

SAC GFCM - Sub-Committee on Stock Assessment (SCSA)	
Assessment form	**Sheet P2b** **Fishery by Operational Unit**

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

Code: BOG2610Sah

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

Assessment form

Sheet A1
Indirect methods: VPA, LCA

Code: BOG2610Sah

Sex*	both

Analysis # *	VPA

Time series

Data	Size	Age
(mark with X)	X	

Model	Cohorts	Pseudocohorts
(mark with X)		X

Equation used	Standard VPA	Tunig method	
# of gears	1	Software	VIT
$F_{terminal}$	0.6		

Population results (please state units)

	Sizes	Ages		Amount	Biomass
Minimum	9		Recruitment		
Average	14.3		Average population		
Maximum	30		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

Code: BOG2610Sah

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: BOG2610Sah

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: BOG2610Sah

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

Code: BOG2610Sah

Sex*	both	Gear*	trawl	Analysis # *	**Y/R**

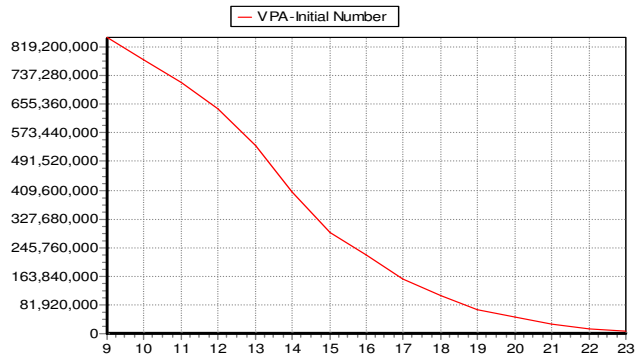
Data source	Length frequency

Data

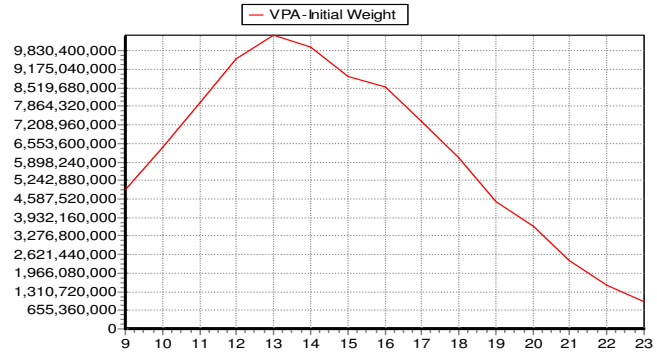
Based on monthly fish samples collected from landing sites and local market, the stock assessment of *Boops boops* in GSA 26 was done.

Sex*	both	Gear*	trawl	Analysis #*	VPA

Population in figures

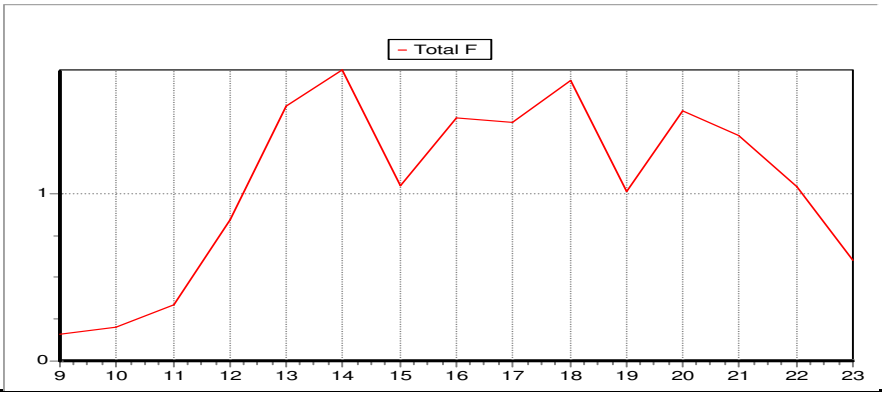


Population in biomass



Fishing mortality rates

The Fluctuation here may be due to the fluctuation in length composition data



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: BOG2610Sah

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: BOG2610Sah

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

Code: BOG2610Sah

Sex	both	Analysis #	Y/R

# of gears	1	Software	VIT

Parameters used

Vector F	
Vector M	
Vector N	

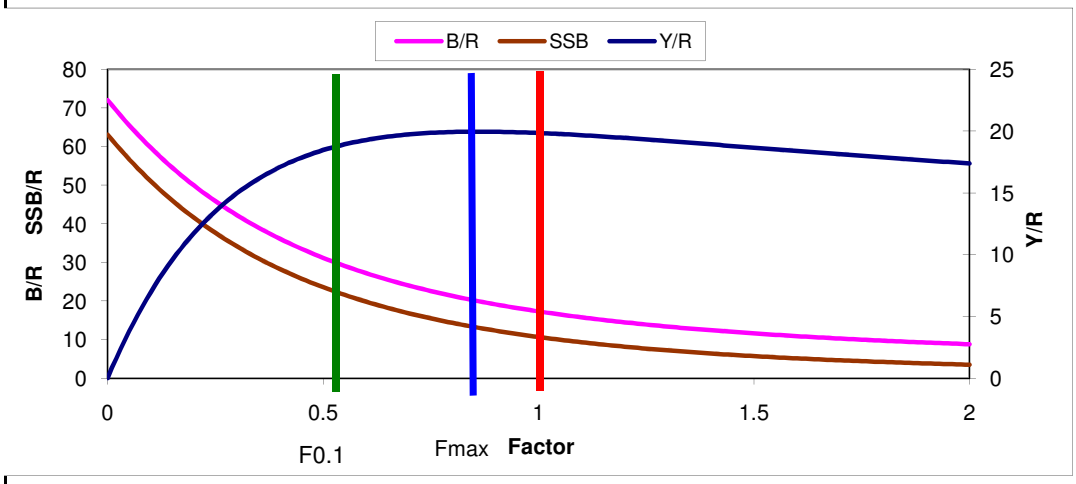
Model characteristics

Results

	Total	Gear			
Current YR	19.845				
Maximum Y/R	19.955				
Y/R 0.1	18.93				
F_{max}	0.94				
$F_{0.1}$	0.59				
Current B/R	17.3				
Maximum B/R	72				
B/R 0.1	29.08				

Comments

Comments


B/R
SSB
Y/R
80
70
60
50
40
30
20
10
0
B/R SSB/R
25
20
15
10
5
0
Y/R
0
0.5
1
1.5
2
F0.1
Fmax
Factor

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

Code: BOG2610Sah

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: BOG2610Sah

Management advice and recommendations*

To reduce fishing mortality by about 40-60%.
To regulate mesh sizes and improve the trawl selectivity.
To identify and protect nursery grounds.

Advice for scientific research*

To standardize the stock assessmrent methods for Mediterranean stocks.
To provide a common management information system for Mediterranean countries.
To improve the system of data collection and make an accurate data base about the fishery involving a good records for catch and effort statistics.

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

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

Abstract for SCSA reporting

Authors Sahar Fahmy Mehanna

Year 2010

Species Scientific name Boops boops - BOG

Source: GFCM Priority Species

Source: -

Source: -

Geographical Sub-Area 26 - South Levant

Fisheries (brief description of the fishery)*

In the Egyptian Mediterranean(GFCM-GSA26), bogue (Boops boops) is exploited by bottom trawlers. About 1200 fishing boats are operated in this fishery. The catch of bogue fluctuated between 1222 and 3980 ton for the period 1997-2008 with a mean value of 2000 tons. The trawl fishery in GSA 26 is a multi-specific fishery targeting a number of commerial important species like red mullet, breams, soles, triglids, shrimp, crab and cephalopods.

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

High fishing mortality

Stock abundance

Comments

Management advice and recommendations*

To reduce fishing mortality by about 40-60%.
To regulate mesh sizes and improve the trawl selectivity.
To identify and protect nursery grounds.

Advice for scientific research*

To standardize the stock assessmrent methods for Mediterranean stocks.
To provide a common management information system for Mediterranean countries.
To improve the system of data collection and make an accurate data base about the fishery involving a good records for catch and effort statistics.