



GENERAL FISHERIES COMMISSION FOR  
THE MEDITERRANEAN  
COMMISSION GÉNÉRALE DES PÊCHES  
POUR LA MÉDITERRANÉE



SAC GFCM  
Sub-Committee on Stock Assessment

## SCSA Assessment Forms

> Enter <



Tool designer (GFCM consultant)	<b>Federico De Rossi</b>
FAO backstopping officer for SCSA	<b>Jordi Lleonart</b>
SCSA coordinator	<b>Constantina Karlou-Riga</b>
GFCM Bio-Statistician	<b>Matthew Camilleri</b>
GFCM Deputy Executive Secretary / Adviser fisheries management	<b>Abdellah Srour</b>

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

**PLEASE READ CAREFULLY BEFORE STARTING THE DATA ENTRY**

### Macro - Security settings

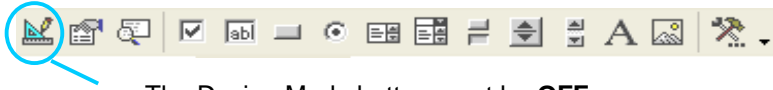
In order to ensure the proper full working of this Data Entry System, **the macros must be allowed to run**.

To change the security settings, please go to: **Tools > Macro > Security** and then select the **Medium** level. Close and re-open the file.

Now you are ready to start by clicking on the Cover button!

### Control toolbox settings

To visualize the **Control toolbox** go to: **View > Toolbars > Control toolbox**



The Design Mode button must be **OFF**.

### WARNINGS



Please do not try to **Delete, Rename, Move** or **Copy** any Excel Worksheets.



Right now it is not possible to **Print** the completed worksheets only.




Once the data entry process is completed, the **file size** will be increased significantly. Before sending it by email, please compress the file by using any zip tool available in your pc.


### Colours and symbols meaning

#### WORKSHEETS

Green ► Not compulsory sheet


Orange ► Compulsory sheet

Red ►  Not completed sheet


Bright green ►  Completed sheet

#### CELLS

Black asterisk ► \* Compulsory sheet/field

Turquoise ►  Compulsory field not yet completed

White ►  Free cell

Light green ►  Cell with the scroll-down menu

Light yellow ►  Auto-complete cell

### Excel shortcuts

**Ctrl + C** Copy  
**Ctrl + V** Paste

**Ctrl + X** Cut  
**Ctrl + Z** Undo  
**Ctrl + P** Print  
**Alt + Enter** Line break within a cell

For more detailed information about Excel shortcut and function keys, please refer to the Microsoft website. > [CLICK HERE](#) <

**SAC GFCM**  
**Sub-Committee on Stock Assessment**

**SCSA Assessment Forms Release 2 (2007) beta version**

Since the SAC, and SCSA, inception (1999) a set of assessment forms were made available to scientists in order to provide a common framework to present assessments.

It has been decided to present a new release of these forms to facilitate their use. We took advantage of these upgrade to modify and amend some aspects. We would like to receive comments and suggestions from the users in order to improve the forms.

The structure of this new release is basically the same. The differences are:

- Migration from Word to Excel
- Some fields (yellow) are filled automatically
- Some sheets have been added
  - o A cover sheet with title, authors, species and GSAs
  - o A new sheet "other" allowing to include assessments based on methodologies other than the usual ones.
  - o An abstract sheet to be included (copy/paste) in the SCSA report
- It is more clear what sheets or fields are compulsory to fill
- The sheets for direct methods have not been yet upgraded

**Excerpts from the presentation of 1<sup>st</sup> version of the assessment forms (1999), however the sheet "other" can be used in such a case**

Each assessment consists of several sheets. Each assessment will take, at least, one sheet of paper numbered "0" (Sheet #0) and will also include no less than one copy of sheets "B", "P1" and "P2a" (now using the current "operational units" terminology). It is not compulsory to fill out any of the other sheets that make up this assessment form, but the person in charge is supposed to fill out some of them: otherwise no assessment is actually made. There may be more than one copy in several cases. Sheets "D" (diagnosis) and "Z" (conclusions and recommendations) should be considered as essential too.

Sheet	Title	Contents	# of sheets	Priority
0	Preliminary basic data on the assessment	Species, person in charge, date and code. All the sheets that belong to the same assessment share this code.	1	Indispensable
B	Biology of the species	Biological parameters used in the analyses (it is assumed that only one set of parameters is used).	1	Indispensable
P1	General information about the fishery	Catches by gear and associated fleet.	1 or more	Indispensable
P2a	Fishery by Operational Unit	Time series for the operational in question, including structure by size (or age).	At least as many as the OU numbers	Indispensable
P2b	Fishery by Operational Unit	Accompanying species and regulations applicable to operational unit.	At least as many as the OU numbers	If available
G	Indirect methods: global model	Description of model, data, parameters and results of each analysis.	As many as used in the analysis	If available
A1	Indirect methods: VPA, LCA	Description of model used and of general results of an analysis.	As many as used in the analysis	If available
A2	Indirect methods: data	Description of data used by gear for the analysis in A1.	As many as used in the analysis by OU	If available, requires A1
A3	Indirect methods: results of VPA	Detailed description of results by gear, structured by size or age.	As many as used in the analysis by OU	If available, requires A1
Y	Indirect methods: Y/R	Description of model, data, parameters and results.	As many as used in the analysis	If available
Other	Other assessment methods	Description of model, data, parameters and results of other assessment methods not included in the previous sheets.	1	If available
D	Diagnosis	Synthesis of results of analyses and diagnosis on the state of resources.	1	Indispensable
Z	Objectives and recommendations	Set the objectives to be attained and recommendations for their attainment.	1	Indispensable

C	Comments	At the option of the person in charge.	Unspecified	If available
---	----------	--	-------------	--------------

# SAC GFCM

## Sub-Committee on Stock Assessment

---

<b>Date*</b>	<b>19</b>	<b>September</b>	<b>2008</b>	<b>Code*</b>	<b>PIL1708San</b>
--------------	-----------	------------------	-------------	--------------	-------------------

**Authors\*** Santojanni A.<sup>1a</sup>, Cingolani N.<sup>1a</sup>, Donato F.<sup>1a</sup>, Colella S.<sup>1a</sup>, Belardinelli A.<sup>1a</sup>, Giannetti G.<sup>1a</sup>, Leonori I.<sup>1b</sup>, Sinovcic G.<sup>2</sup>, Marceta B.<sup>3</sup>

**Affiliation\***  
 1a CNR-ISMAR-SPM, Fish Population Dynamics Unit, Ancona (Italy), a.santojanni@ismar.cnr.it  
 1b CNR-ISMAR-SPM, Marine Acoustics Unit, Ancona (Italy)  
 2 Institute of Oceanography and Fisheries, Split (Croatia)  
 3 Fisheries Research Institute of Slovenia, Ljubljana (Slovenia)

**Species Scientific name\***

**1** Source: GFCM Priority Species

**2** Source: -

**3** Source: -

**Geographical area\*** South boundary: Gargano Promontory

**Geographical Sub-Area (GSA)\*** 17 - Northern Adriatic

Combination of GSAs

1

2

3

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

Assessment form

Sheet #0

Basic data on the assessment

Code: PIL1708San

Date*	19	Sep	2008	Authors*	Santojanni A.1a, Cingolani N.1a, Donato F.1a, Colella S.1a, Belardinelli A.1a, Giannetti G.1a, Leonori I.1b, Sinovic G.2, Marceta B.3
-------	----	-----	------	----------	---

Species Scientific name*	Sardina pilchardus - PIL	Species common name*	Sardine
--------------------------	--------------------------	----------------------	---------

**Data Source**

GSA*	17 - Northern Adriatic	Period of time*	1975-2007
------	------------------------	-----------------	-----------

**Description of the analysis**

Type of data*	Catch at age and abundance index for tuning.	Data source*	Commercial (catch at age) and echo-survey (abundance index).
Method of assessment*	Virtual Population Analysis (VPA) with Laurec-Shepherd tuning.	Software used*	Darby C.D., Flatman S. 1994.

**Sheets filled out**

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

**Comments, bibliography, etc.**

Fishery: mid-water trawlers and purse seiners.  
 Bibliography: see the original abstract "Anchovy and sardine stock assessment in the GSA 17: 1975-2007".

Comments, bibliography, etc.

Sheet #0 (page 2)



A large, empty rectangular box with a thin black border, occupying the majority of the page. This area is typically used for providing detailed responses or evidence during an assessment.

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

Assessment form

Sheet B  
Biology of the species

Code: PIL1708San

**Biology**

Somatic magnitude measured (LH, LC, etc)*				Total length.	Units*	cm
Sex	Fem	Mal	Both	Unsexed		
Maximum size observed	21				Reproduction season	
Size at first maturity					Reproduction areas	
Recruitment size	13-14.5				Nursery areas	

**Parameters used (state units and information sources)**

		Units	Sex			
			female	male	both	unsexed
Growth model	$L_{\infty}$					
	K					
	t0					
	Data source					
Length weight relationship	a					
	b					
M	0,5					x
sex ratio (mal/fem)						

**Comments**

Reference for M = 0.5 (year-1):  
Santojanni A., Cingolani N., Arneri E., Belardinelli A., Giannetti G., Colella S., Donato F. 2006. Use of an exploitation rate threshold in the management of anchovy and sardine stocks in the Adriatic Sea. *Biologia Marina Mediterranea*, 13(3): 98-111.

A large, empty rectangular box with a thin black border, intended for entering comments.

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

Assessment form

Sheet P1

General information about the fishery

Code: PIL1708San

Data source*	ISMAR-CNR-SPM, Ancona, Italy.	Year (s)*	1975-2007
Data aggregation (by year, average figures between years, etc.)*	Catch data are relative to the total fleet (Italy, Croatia, Slovenia).		

**Fleet and catches (please state units)**

	Country	GSA	Fleet Segment	Fishing Gear Class	Group of Target Species	Species
Operational Unit 1*						
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
Total							

Legal minimum size	Italy: 11 cm. Croatia: 10 cm.
--------------------	-------------------------------

**Comments**

*Comments*

**Comments**

A large, empty rectangular box with a black border, intended for entering comments.

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

Assessment form

Sheet P2a  
Fishery by Operational Unit

Code: PIL1708San  
#REF!

Data source*	ISMAR-CNR-SPM, Ancona, Italy.	OpUnit 1*	
--------------	-------------------------------	-----------	--

**Time series**

Year*	1996	1997	1998	1999	2000	2001
Catch	35272	33012	31895	25574	23558	21242
Minimum size						
Average size Lc						
Maximum size						
Fleet						

Year	2002	2003	2004	2005	2006	2007
Catch	20669	22028	21671	19016	13121	20328
Minimum size						
Average size Lc						
Maximum size						
Fleet						

**Selectivity**

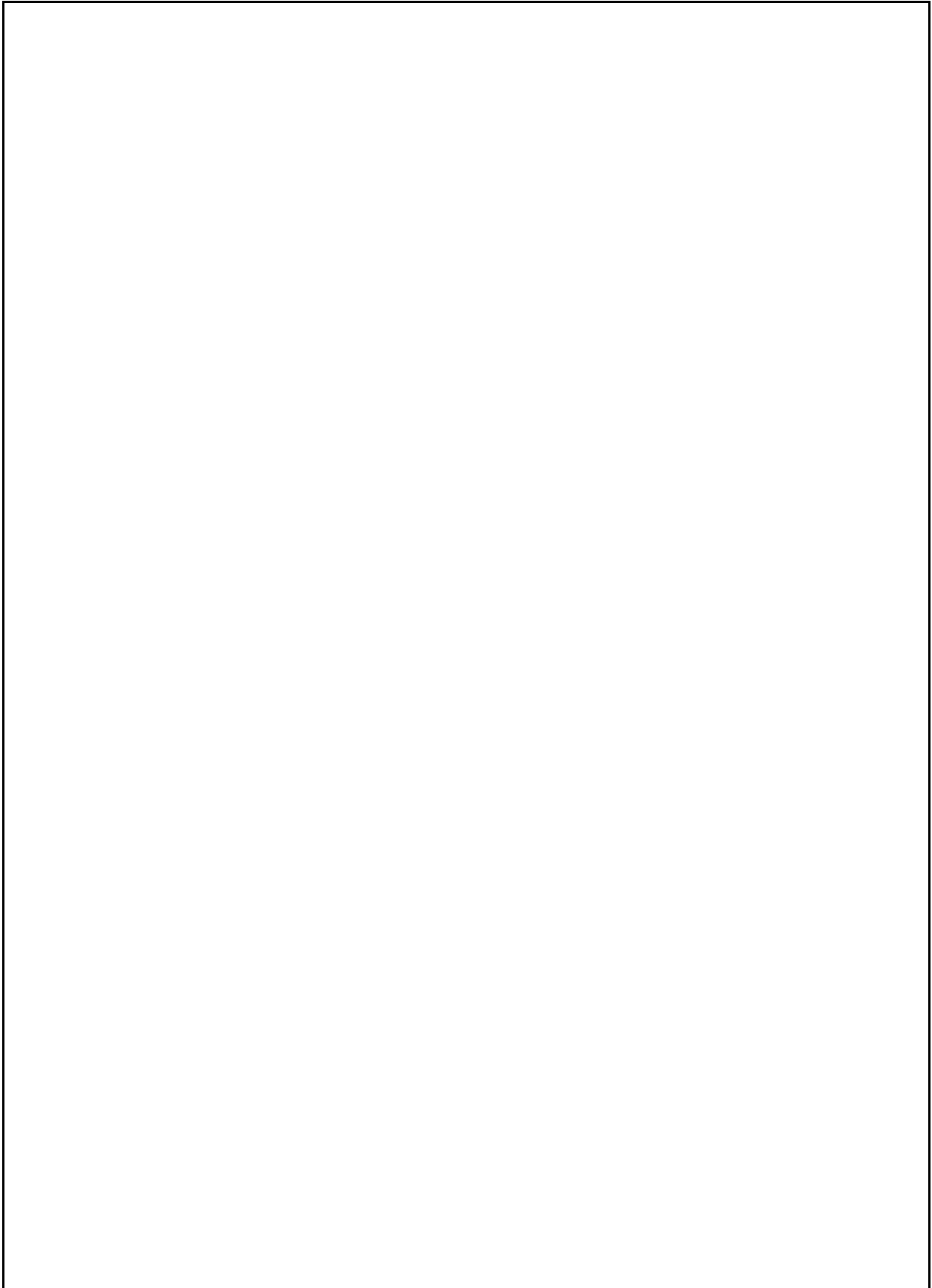
**Remarks**

L25		
L50		
L75		
Selection factor		

**Structure by size or age**

--	--

**Structure by size or age**

A large, empty rectangular box with a thin black border, occupying most of the page. It is positioned below the section header and above the footer. The interior of the box is completely blank, suggesting it is a placeholder for a diagram, chart, or data table related to the section header.

<b>SAC GFCM - Sub-Committee on Stock Assessment (SCSA)</b>	
Assessment form	Sheet A1 Indirect methods: VPA, LCA

Sex*	M+F
------	-----

Code: PIL1708San	#REF!
------------------	-------

Analysis # *	VPA
--------------	-----

**Time series**

Data	Size	Age
(mark with X)		x

Model	Cohorts	Pseudocohorts
(mark with X)	x	

Equation used		Tuning method	Laurec-Shepherd
# of gears		Software	Darby C.D., Flatman S. 1994.
$F_{terminal}$			

**Population results (please state units)**

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

**Average mortality**

	Total	Gear				
$F_1$						
$F_2$						
Z						

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

**Comments**



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

Assessment form

Sheet D  
Diagnosis

Code: PIL1708San

**Indicators and reference points**

Criterion	Current value	Units	Reference Point	Trend	Comments
B	90929	t			Average 2005-2007.
SSB					
F					
Y					
CPUE					
F/Z	0,48	no	0,4		Average 2005-2007; threshold 0.4 suggested by Patterson (1992).

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

<b>Unidimensional</b>	<input type="radio"/>	? - (or blank) Not known or uncertain. Not much information is available to make a judgment;
	<input type="radio"/>	U - Underexploited, undeveloped or new fishery. Believed to have a significant potential for expansion in total production;
	<input type="radio"/>	M - Moderately exploited, exploited with a low level of fishing effort. Believed to have some limited potential for expansion in total production;
	<input type="radio"/>	F - Fully exploited. The fishery is operating at or close to an optimal yield level, with no expected room for further expansion;
	<input checked="" type="radio"/>	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;
	<input type="radio"/>	D - Depleted. Catches are well below historical levels, irrespective of the amount of fishing effort exerted;
	<input type="radio"/>	R - Recovering. Catches are again increasing after having been depleted or a collapse from a previous;

<b>Bidimensional</b>	<b>Exploitation rate</b>		<b>Stock abundance</b>	
	<input type="radio"/>	No or low fishing	<input type="radio"/>	Virgin or high abundance
	<input type="radio"/>	Moderate fishing	<input type="radio"/>	Intermediate abundance
	<input type="radio"/>	High fishing mortality	<input type="radio"/>	Low abundance
	<input type="radio"/>	Uncertain / Not assessed	<input type="radio"/>	Depleted
			<input type="radio"/>	Uncertain / Not assessed

**Comments**

See also the original abstract.

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

Assessment form

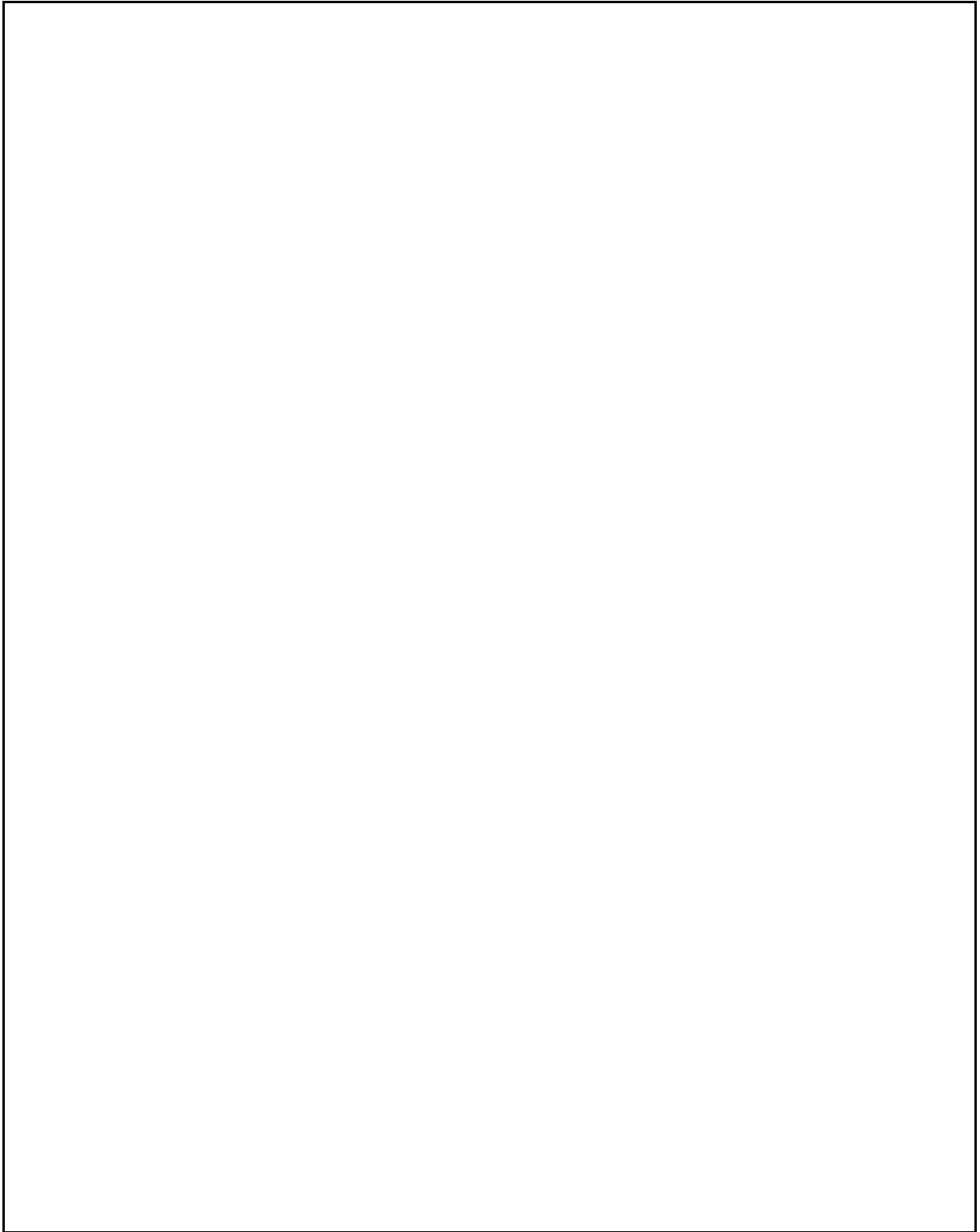
Sheet Z  
Objectives and recommendations

Code: PIL1708San

**Management advice and recommendations\***

It is recommended not to increase the fishing effort.  
See also the original abstract.

**Advice for scientific research\***



## Abstract for SCSA reporting

**Authors**

Santojanni A.1a, Cingolani N.1a, Donato F.1a,  
Colella S.1a, Belardinelli A.1a, Giannetti G.1a,  
Leonori I.1b, Sinovic G.2, Marceta B.3

**Year**

2008

**Species Scientific name**

Sardina pilchardus - PIL

Source: GFCM Priority Species

Source: -

Source: -

**Geographical Sub-Area**

17 - Northern Adriatic

**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**

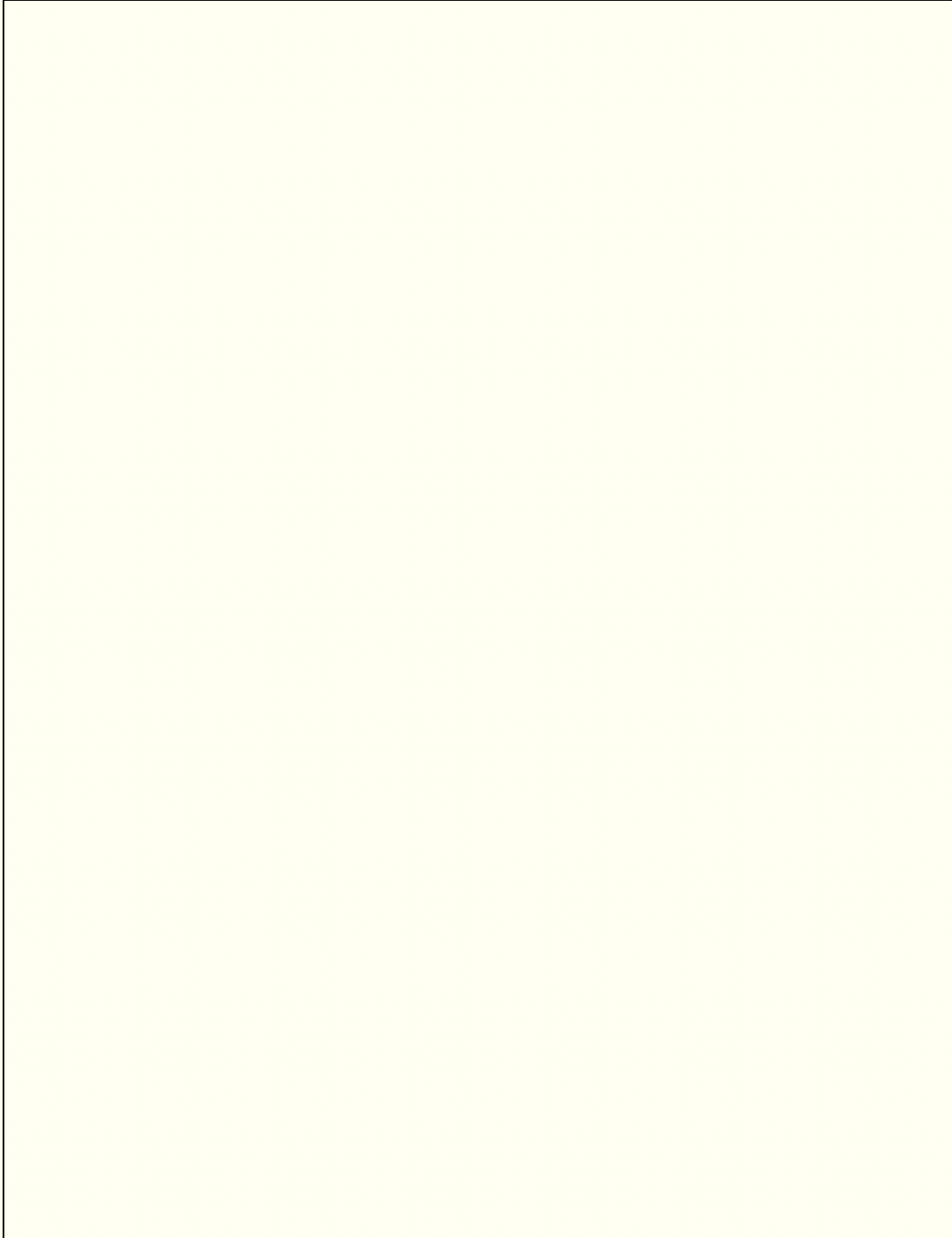
**Comments**

See also the original abstract.

**Management advice and recommendations\***

It is recommended not to increase the fishing effort.  
See also the original abstract.

**Advice for scientific research\***





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

---

Assessment of Sardine (*Sardina pilchardus* - PIL ) from 17 - Northern Adriatic. Santojanni A.1a, Cingolani N.1a, Donato F.1a, Colella S.1a, Belardinelli A.1a, Giannetti G.1a, Leonori I.1b, Sinovic G.2, Marceta B.3

Description of fishery:

Source of management advice:

Exploitation rate:

Stock abundance:

Comments: See also the original abstract.

Management advice and recommendation: It is recommended not to increase the fishing effort.  
See also the original abstract.

Advice for scientific research:

