SAC GFCM
Sub-Committee on Stock Assessment

Date* | 17 | October | 2010   **Code*** | HKE0310Sad

Authors*

Sadia BELCAID

Affiliation*

Institut National de Recherche Halieutique

Species Scientific name*

1 *Merluccius merluccius - HKE*
Source: GFCM Priority Species

2
Source: -

3
Source: -

Geographical area*

Morocco

Geographical Sub-Area (GSA)*

03 - Southern Alboran Sea

Combination of GSAs

1
2
3

Code: HKE0310Sad

Date*	17	Oct	2010	Authors*	Sadia BELCAID

Species Scientific name*	Merluccius merluccius - HKE	Species common name*	Merlu commun
			Europeen Hake

Data Source

GSA*	03 - Southern Alboran Sea	Period of time*	2000-2009

Description of the analysis

Type of data*	Catch - effort - CPUE trawl coastal fishery	Data source*	Officiel data (ONP) - INRH
Method of assessment*	Dynamic production Schaefer model	Software used*	Dynamic CECAF Schaefer model

Sheets filled out

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

Comments, bibliography, etc.

FAO, CECAFE Shaeffer production model, 2007.

Comments, bibliography, etc.

Code: HKE0310Sad

Biology

Somatic magnitude measured (LH, LC, etc)*					Units*	

Sex	Fem	Mal	Both	Unsexed		
Maximum size observed					Reproduction season	
Size at first maturity					Reproduction areas	
Recruitment size					Nursery areas	

Parameters used (state units and information sources)

		Units	Sex			
			female	male	both	unsexed
Growth model	L∞					
	K					
	t0					
	Data source					
Length weight relationship	a					
	b					

M	

sex ratio (mal/fem)	

Comments

Comments

Code: HKE0310Sad

Data source*	Institut National de Recherche Halieutique, Office National des Pêches et Délèguation des Pêches Maritime	Year (s)*	2000 - 2009
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*	MAR	03	E - Trawl (12-24 metres)	03 - Trawls	33 - Demersal shelf species	HKE
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
MAR 03 E 03 33 - HKE	121	Tons	248				fishing trip
Total	121		248				

Legal minimum size	25 cm (LT)

Comments

L'activité de la pêche démersale au niveau de la Méditerranée marocaine revêt un intérêt socio-économique important. Les débarquements des produits de cette activité s'effectuent au niveau de 7 ports et 86 sites de pêche artisanale.

La flotte de pêche au niveau de cette région est composite. Elle est constituée de chalutiers, de palangriers et de barques artisanales. Le nombre de chalutiers opérant en Méditerranée marocaine s'élève à 121, possédant une puissance motrice moyenne de 325 CV et un TJB moyen de 50 Tx. La flottille artisanale est composée de 2600 barques ayant une puissance motrice moyenne de 15 CV et un TJB moyen de 1.6 Tx. La production annuelle de cette pêcherie est en moyenne de 17011 tonnes (2009) pour une valeur moyenne de 117 millions de dirhams. Les principales espèces cibles par ces pêcheries sont le pageot acarné, le rouget de vase, la crevette rose, le merlu, la bogue, le poulpe, le chinchard, la seiche, le pageot commun et le merlan bleu. Ces espèces représentent environ 84 % du volume des captures des démersaux.
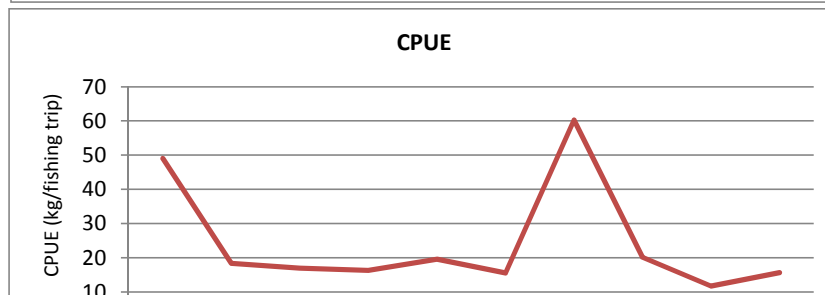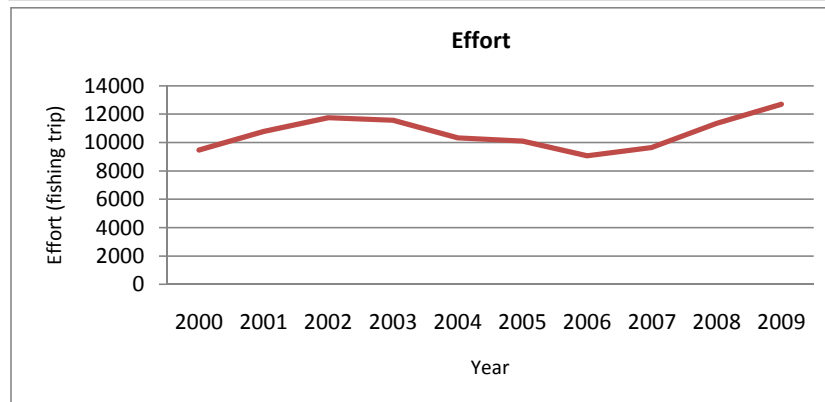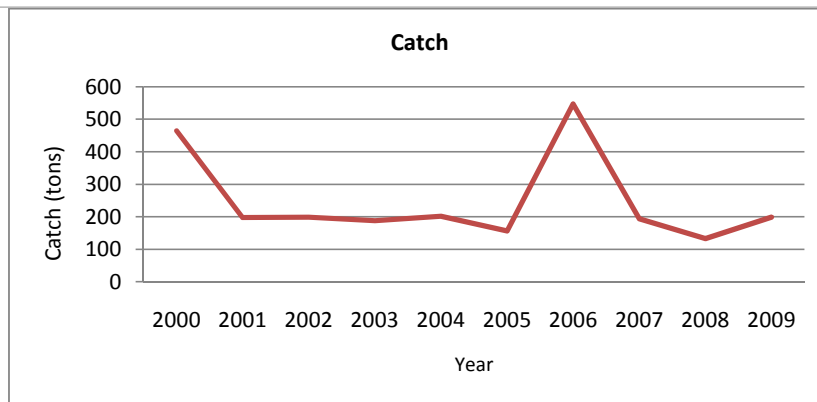
Les données de capture et d'effort utilisées sont les données officielles collectées entre 2000 et 2009. Notant que, l'Office National des Pêches (ONP) a instauré depuis 2003 le système MAIA qui est un système de collecte plus performant.

Dans les dix dernières années, la production annuelle moyenne en M. merluccius est de 248 tonnes, par ailleurs, elle présente deux pics en 2000 et 2006 avec les productions successives de 464 et 547 tonnes. En 2009, la production en Merlu représente 1,2% (soit 198 tonnes) de la production total de la pêcherie démersale. Toutefois, elle contribue de 5 millions dirhams environ en point de vue valeur.

L'allure de l'évolution de l'effort de pêche montre une tendance à une augmentation de l'effort de pêche entre 2000 et 2002, suivi d'une légère diminution entre 2003 et 2006, puis il a repris à nouveau pour attendre 12705 Marée en 2009.

La tendance d'indice d'abondance au cours de la période de 2000 à 2009 montre une stabilisation à l'excepte de deux pics en 2000 et 2006 (soit des indices d'abondance de 49 et 60 kg/marée), qui peut être expliqué par un fort recrutement.

Pareillement, l'indice d'abondance moyen enregistré par les campagnes de prospection fluctue entre 1

Code: HKE0310Sad
Page 1 / 1

Data source*	Officiel national des pêches et l'Institut National de Recherche Halieutique	OpUnit 1*	MAR 03 E 03 33 - HKE

Time series

Year*	2000	2001	2002	2003	2004	2005
Catch	464	198	198	188	202	157
Minimum size						
Average size Lc						
Maximum size						
Fleet						

Year	2006	2007	2008	2009		
Catch	547	194	132	198		
Minimum size						
Average size Lc						
Maximum size						
Fleet			114	121		
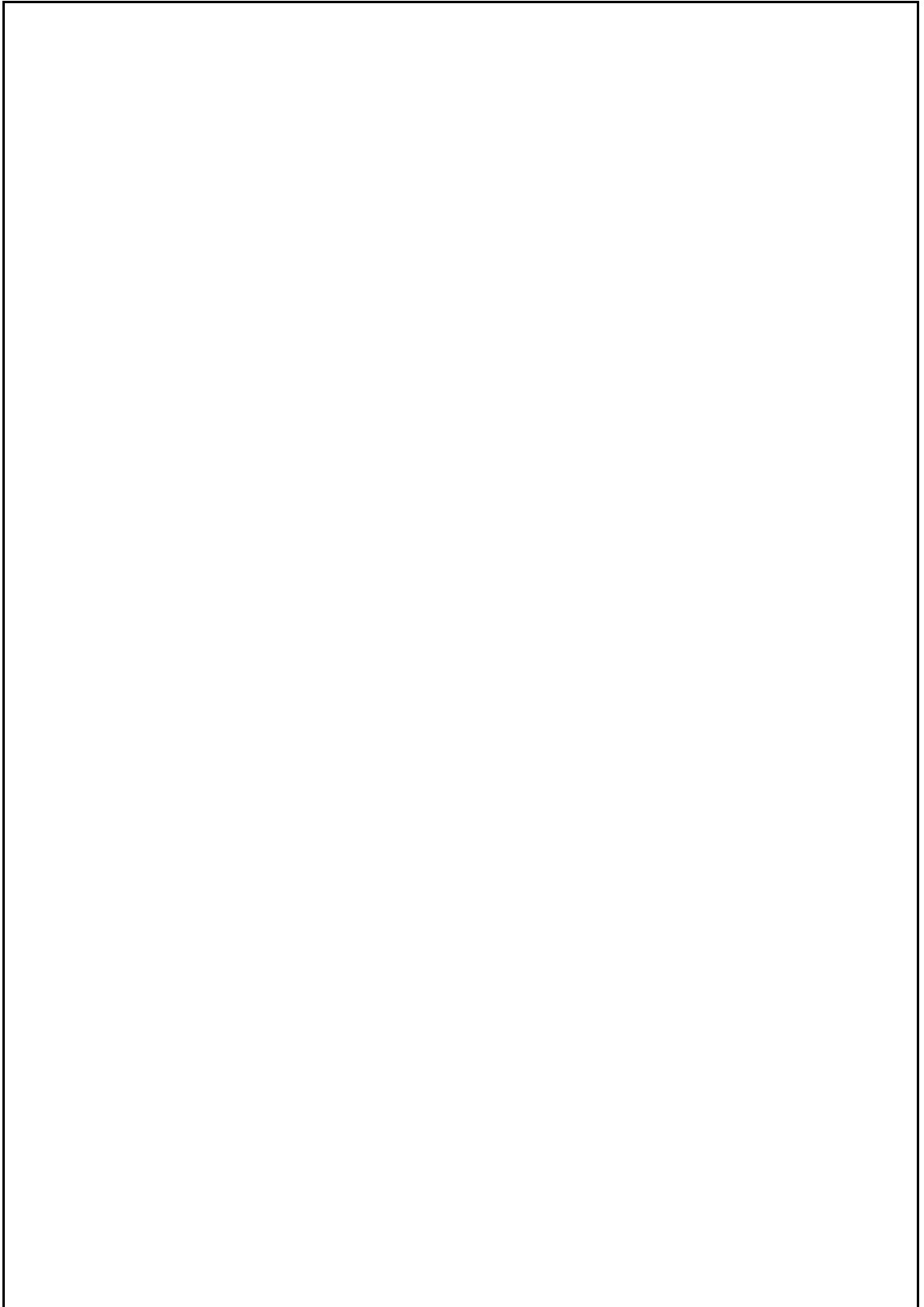
Selectivity   **Remarks**

L25	
L50	
L75	
Selection factor	

Structure by size or age

Structure by size or age

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

Code: HKE0310Sad

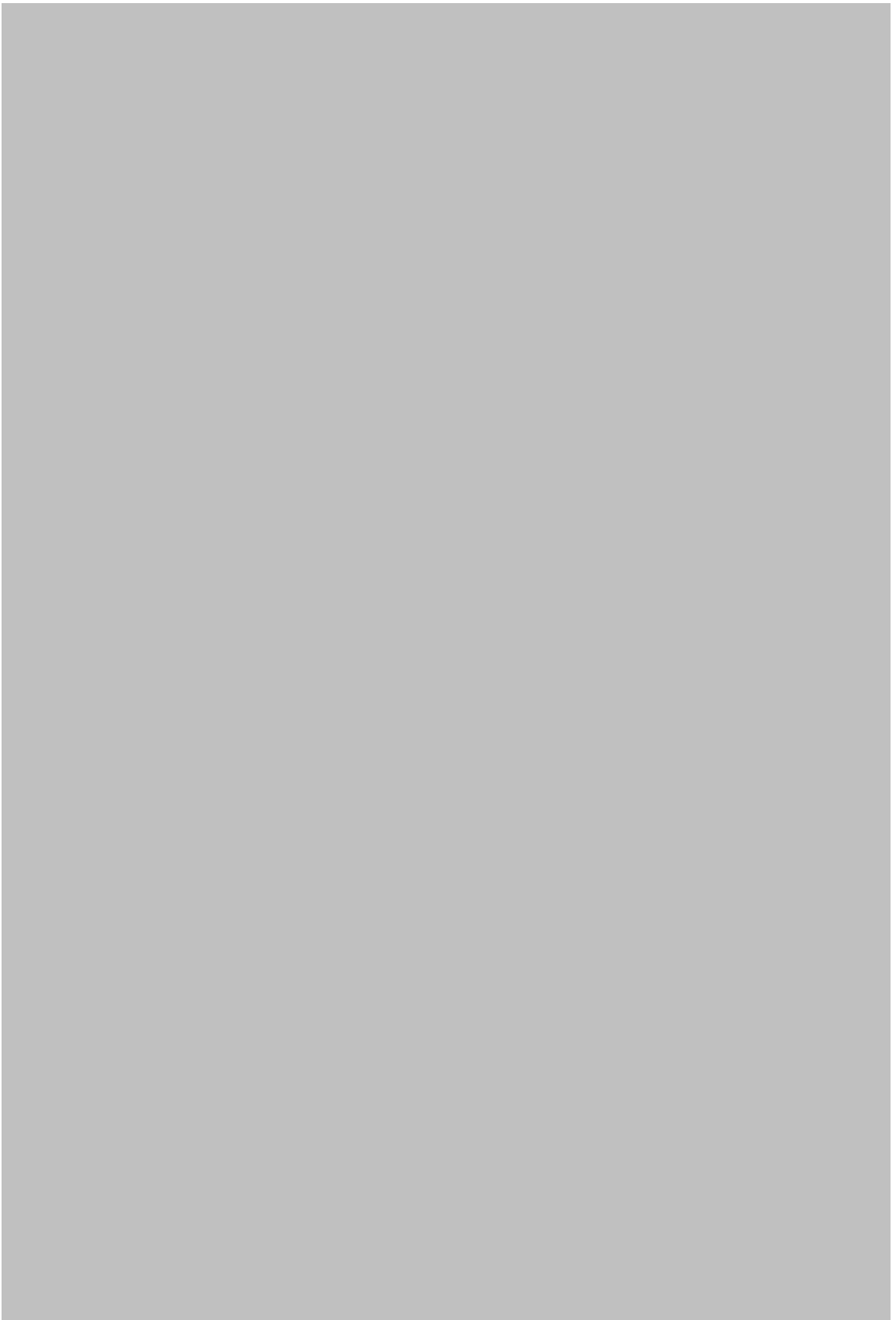**This sheet will be activated once the Operational Unit information (P1 section) will be successfully filled in**

Code: HKE0310Sad

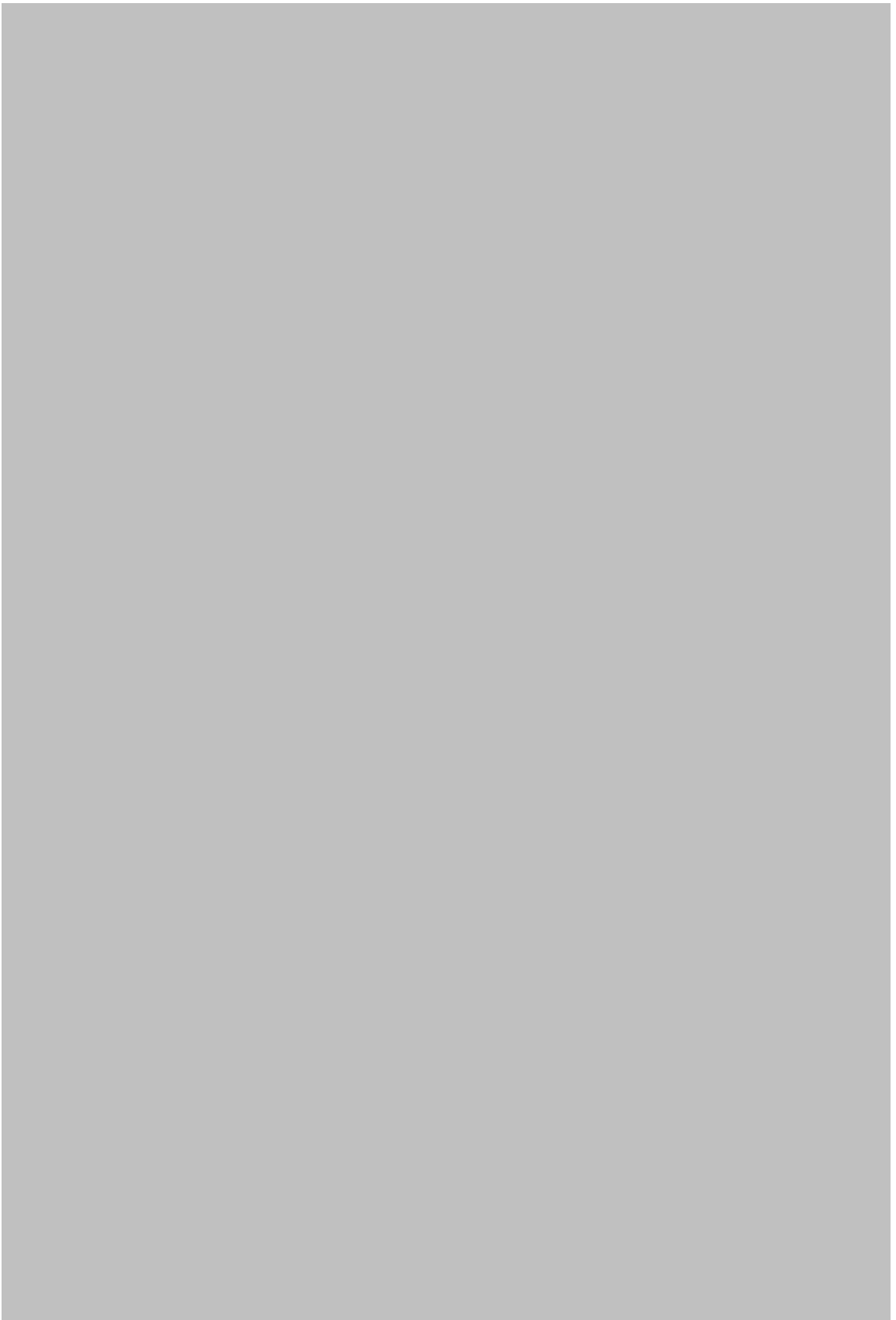**This sheet will be activated once the Operational Unit information (P1 section) will be successfully filled in**

Code: HKE0310Sad

This sheet will be activated once the Operational Unit information (P1 section) will be successfully filled in
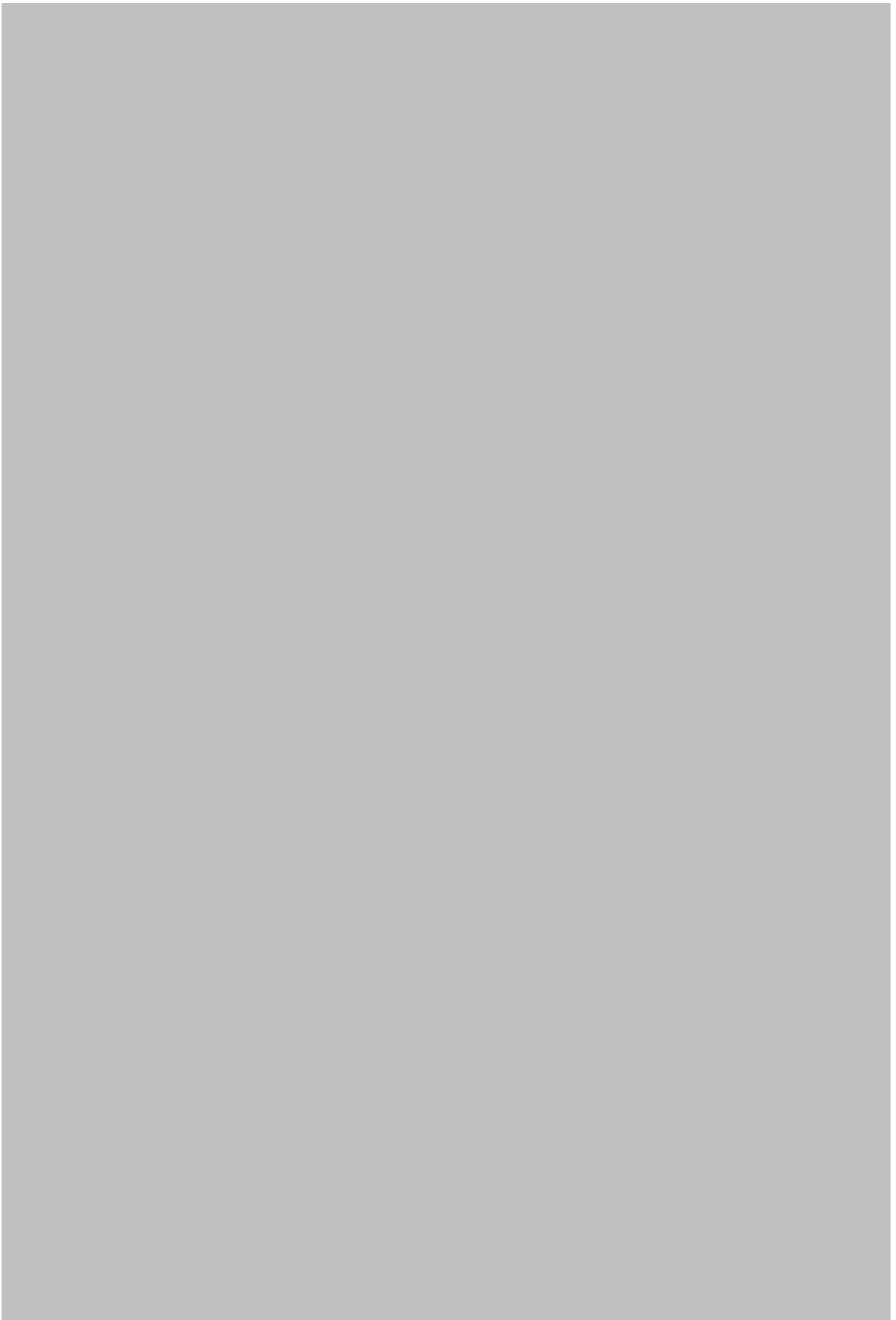
Code: HKE0310Sad

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

Assessment form

Sheet P2b
Fishery by Operational Unit
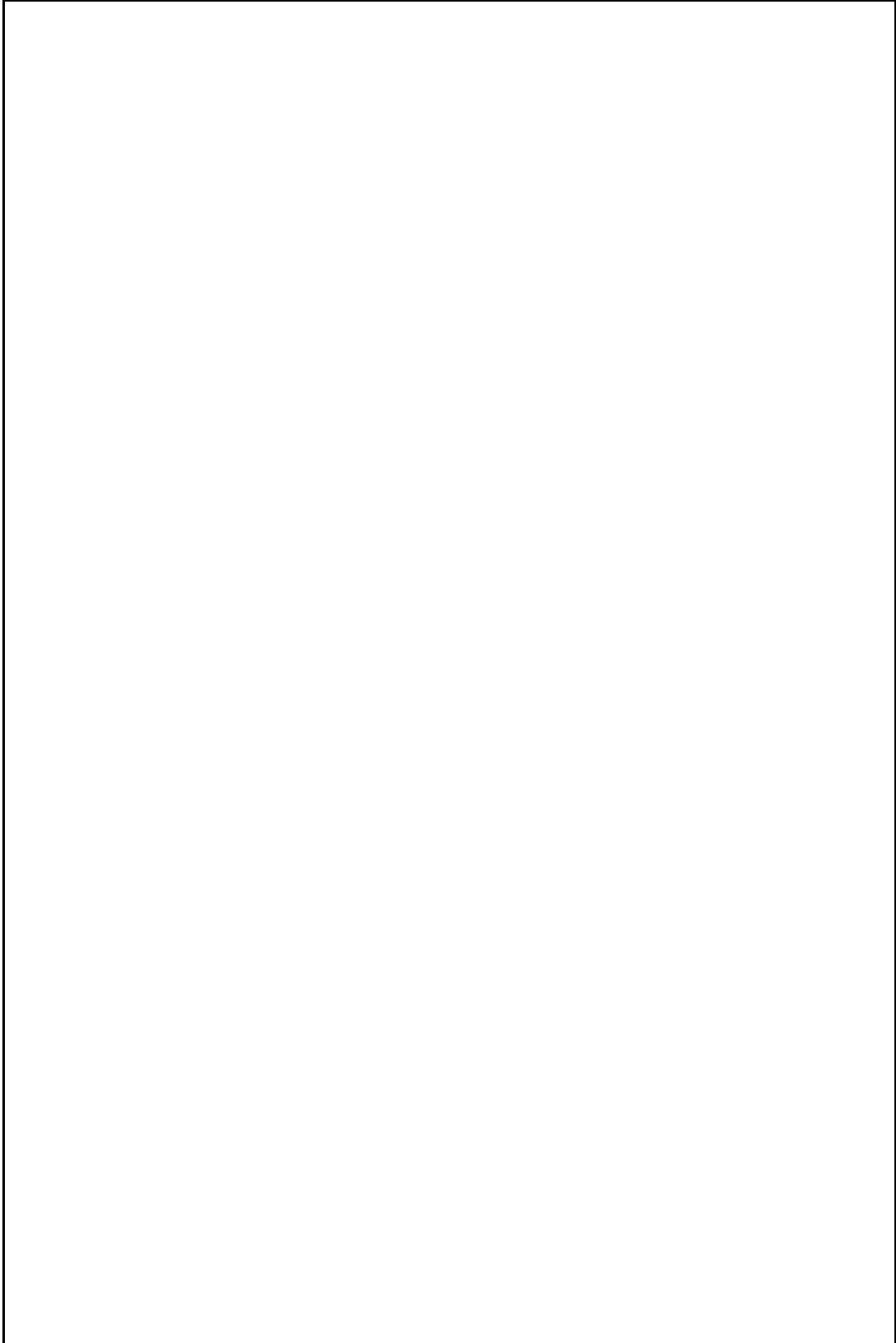
Code: HKE0310Sad
Page 1 / 1

Data source*	Ministère d'Agriculture et de la pêche	OpUnit 1*	MAR 03 E 03 33 - HKE

Regulations in force and degree of observance of regulations

Fishing licence: Fully observed
Trawl mesh size : ≥50 mm (mesh streched)
Minimum landing size = 20 cm
Interdiction of fishing under 80 m deep in the aerea between Tangier and Al Hoceima,
Interdiction of fishing under 3 miles in the area between Al Hoceima and Saidia.

Accompanying species

Parapenaeus longirostris, pagellus acarne, Mullus spp, , Boops boops, Gadus poutassou,
Octopus vulgaris et Sepia spp.

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

Code: HKE0310Sad

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

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

Code: HKE0310Sad

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

Code: HKE0310Sad

Code: HKE0310Sad

Sex			Analysis #	

# of gears		Software	

Parameters used

Vector F	
Vector M	
Vector N	
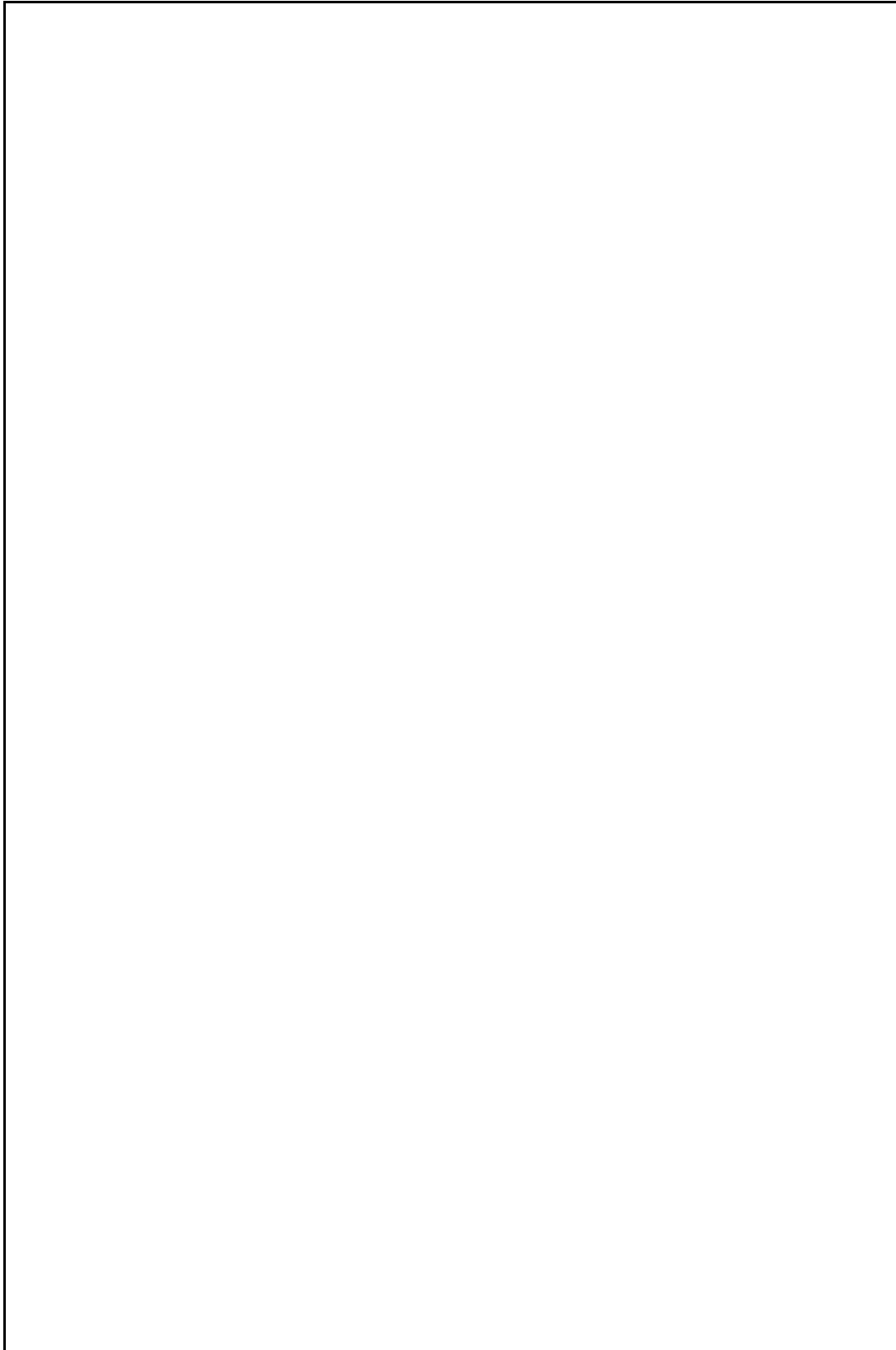
Model characteristics

Results

	Total	Gear			
Current YR					
Maximum Y/R					
Y/R 0.1					
F_{max}					
$F_{0.1}$					
Current B/R					
Maximum B/R					
B/R 0.1					

Comments

Comments

Indicators and reference points

Criterion	Current value	Units	Reference Point	Trend	Comments
B		Tons	B0.1	37.7	
SSB					
F					
Y					
CPUE					
B/B0.1	43%				
Fcur/F0.1	108%				
Fcur/FSY	64%				

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		Stock abundance		
☐ No or low fishing		☐ Virgin or high abundance		☐ Depleted
☐ Moderate fishing		☐ Intermediate abundance		☐ Uncertain / Not assessed
☐ High fishing mortality		☐ Low abundance		
☐ Uncertain / Not assessed				

Comments

The current biomass represent only 43% of the target Biomass. The current fishing mortality
is under the sustenable fishing mortality by 36% and exced the target fishing mortality by
108%. also de Abundance indice is stable except in 2006, when we have a big abundance indice, may
be because it were a strong recrutement in 2006.
This result shows that the stock of Merlucius merluccius is fully exploited.

Code: HKE0310Sad

Management advice and recommendations*

As the results show,the current biomass represent 43% of the target Biomass. The current fishing mortality is high and exced the sustenable fishing mortality by 108% and it is under the target fishing mortality by 36%, it is recommanded to maintien the fishing effort at current level.

Advice for scientific research*

- Undertake the surveys regularely in the same period,
- Use the surveys abundance indexes (2000-2008) in the Dynamic Shaeffer production model and compare the results with those obtained with the coastal tarwlers CPUE,
- Use the surveys data in order to run the SURBA,
- Undertake a regularly coastal fishery landings sampling in the main ports in morocco and undertake Biological studies and studies on the effect of environmental factors on this species.

Comments*

The results shows that the model does'nt fit well with the abundance indexes (CPUE of the coastal fishery) choosen, so in 2006 recorded a peak of the index of abundance, it can be due to a strong recruitment in this year, therefore studies on the environment are appropriate.
The result of the Schaeffer Analysis chow that the stock is fully exploited and the stock may be the Shared stok, so, it is necessary to do a joint assessment between the différent partners.
A management plan should be prepared for this fishery including all this aspects.

Comments*

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

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

Abstract for SCSA reporting

Authors   Sadia BELCAID   **Year**   2010

Species Scientific name   Merluccius merluccius - HKE
Source: GFCM Priority Species

Source: -

Source: -

Geographical Sub-Area   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*

Exploitation rate

Stock abundance

Comments

The current biomass represent only 43% of the target Biomass. The current fishing mortality
is under the sustenable fishing mortality by 36% and exced the target fishing mortality by
108%. also de Abundance indice is stable except in 2006, when we have a big abundance indice, may be
because it were a strong recrutement in 2006.
This result shows that the stock of Merlucius merluccius is fully exploited.

Management advice and recommendations*

As the results show, the current biomass represent 43% of the target Biomass. The current fishing mortality is high and exced the sustenable fishing mortality by 108% and it is under the target fishing mortality by 36%, it is recommanded to maintien the fishing effort at current level.

Advice for scientific research*

- Undertake the surveys regularely in the same period,
- Use the surveys abundance indexes (2000-2008) in the Dynamic Shaeffer production model and compare the results with those obtained with the coastal tarwlers CPUE,
- Use the surveys data in order to run the SURBA,
- Undertake a regularly coastal fishery landings sampling in the main ports in morocco and undertake Biological studies and studies on the effect of environmental factors on this species.