

# South Africa Stocks

## v4.25 (Dec-14-2017)

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## Anchovy South Africa [ANCHOSA]

Metadata	
<b>Scientific Name</b>	Engraulis encrasicolus
<b>Current Assess ID</b>	MARAM-ANCHOSA-1949-2015-deMoor
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2015, 2011

Reference Points			
Type	ID	Asmt Year	Value
TBmsy	-	-	-
SSBmsy	-	-	-
Fmsy	-	-	-
ERmsy	-	-	-
TBmgt	-	-	-
SSBmgt	-	-	-
Fmgt	-	-	-
ERmgt	-	-	-
TB0	TB0-MT	2015	5,261,270
SSB0	-	-	-
MSY	-	-	-
M	M-1/yr	2015	1.2
TBlim	TBlim-MT	2015	204,441
SSBlim	-	-	-
Flim	-	-	-
ERlim	-	-	-

Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
TB	TB-MT	2015	3,340,000	Both	0+
SSB	SSB-MT	2015	2,020,000	Both	0+
TN	TN-E00	2015	$9.94 \times 10^{11}$	Both	0+
R	R-E00	2015	$6.41 \times 10^{11}$	Both	-
F	-	-	-	-	-
ER	ER-ratio	2015	0	Both	0+
TC	TC-MT	2015	238,000		
TL	TL-MT	2015	238,000		
TB/TBmsy	-	-	-		
SSB/SSBmsy	-	-	-		
F/Fmsy	-	-	-		
ER/ERmsy	-	-	-		
TB/TBmgt	-	-	-		
SSB/SSBmgt	-	-	-		
F/Fmgt	-	-	-		
ER/ERmgt	-	-	-		

Anchovy South Africa [ANCHOSA]

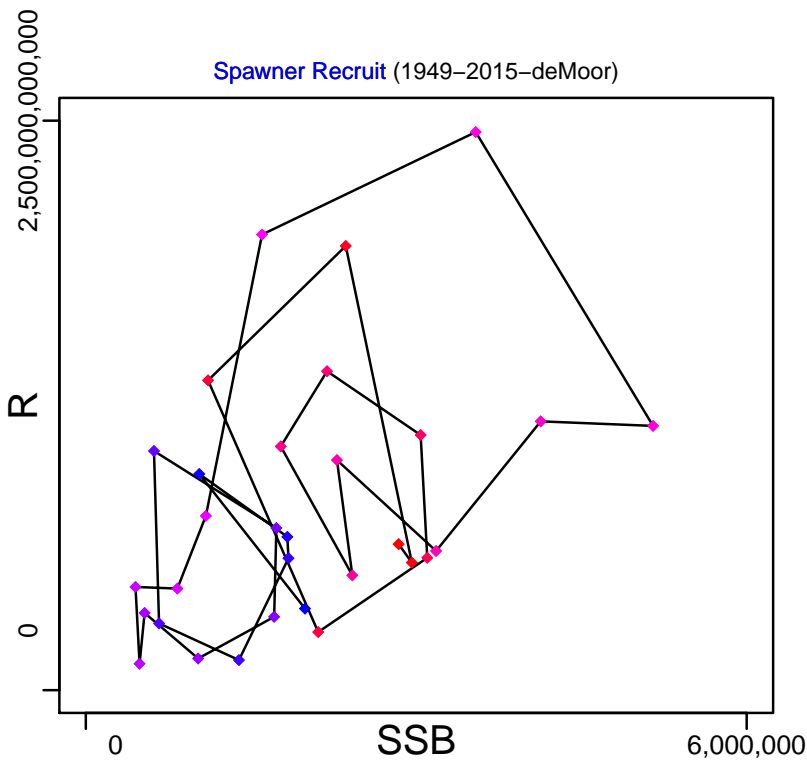
Kobe MSY\*



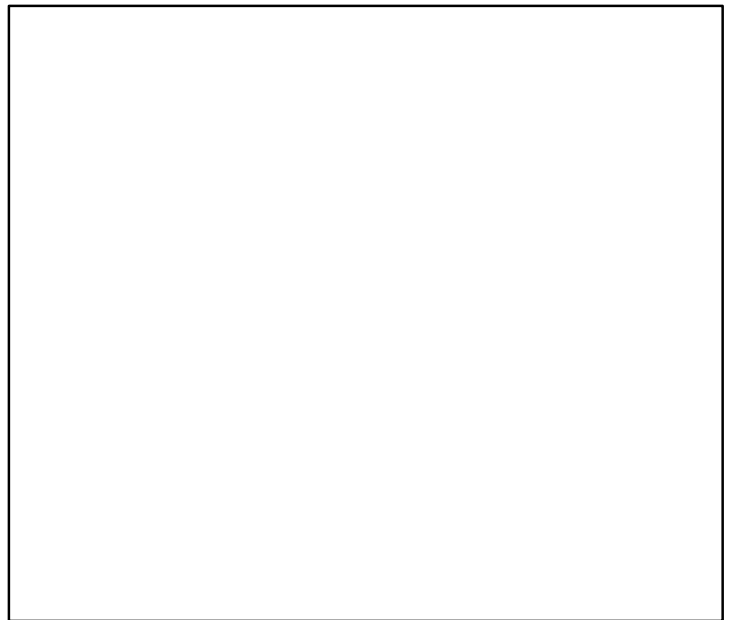
Kobe MGT\*



Spawner Recruit (1949–2015–deMoor)

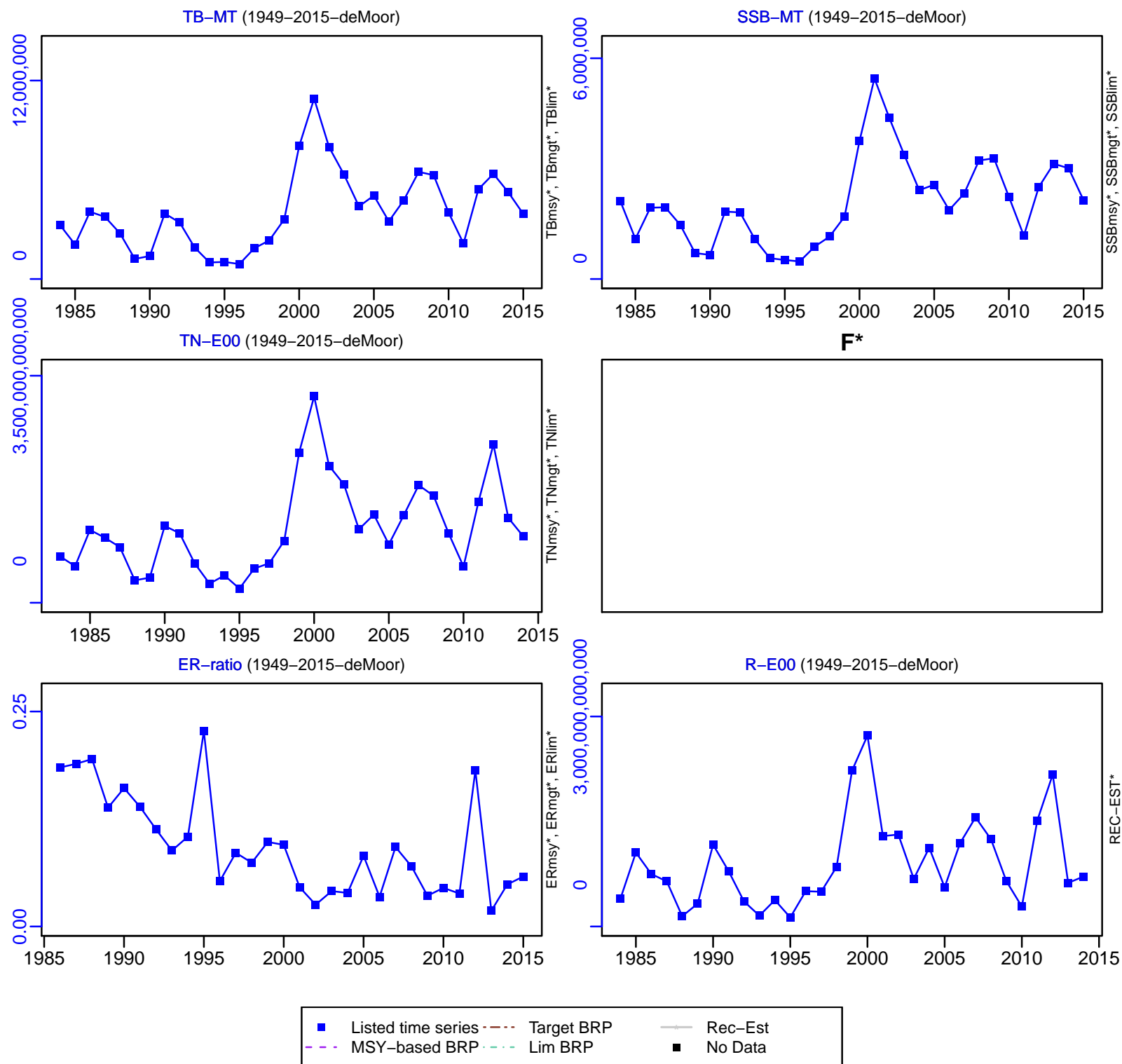


Production\*



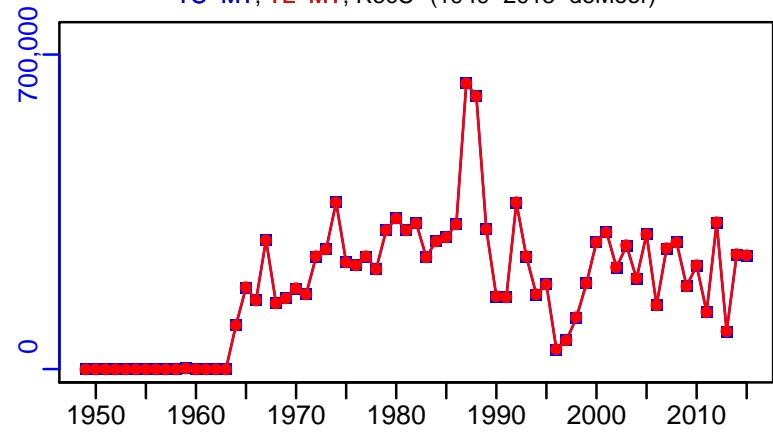
◆ Start Year ◆ End Year \* No Data

# Anchovy South Africa [ANCHOSA]

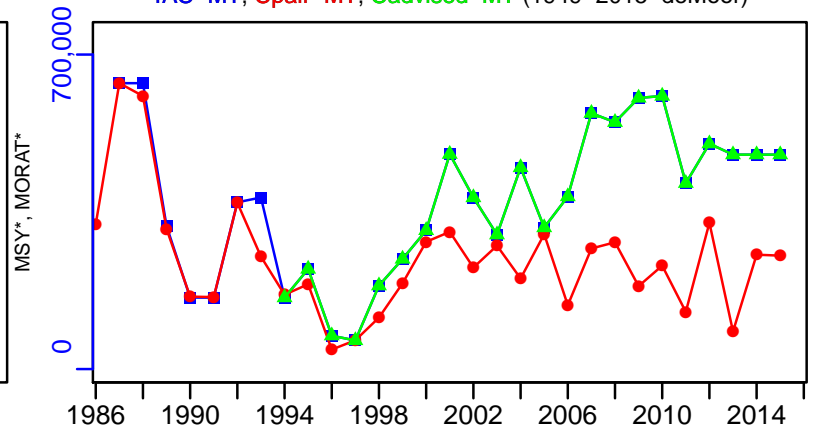


# Anchovy South Africa [ANCHOSA]

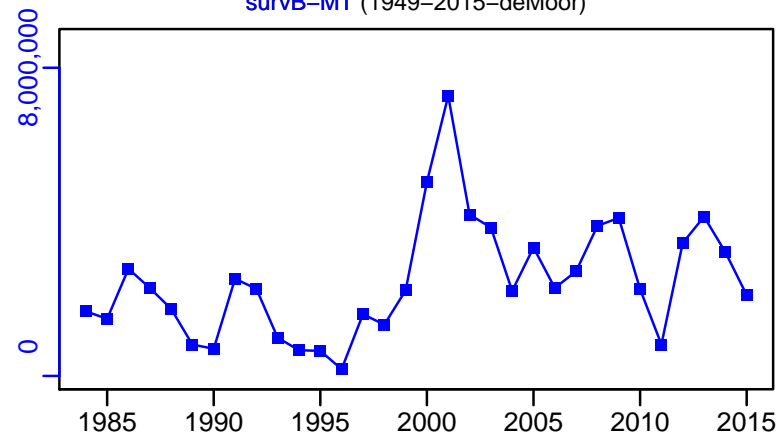
TC-MT, TL-MT, RecC\* (1949-2015-deMoor)



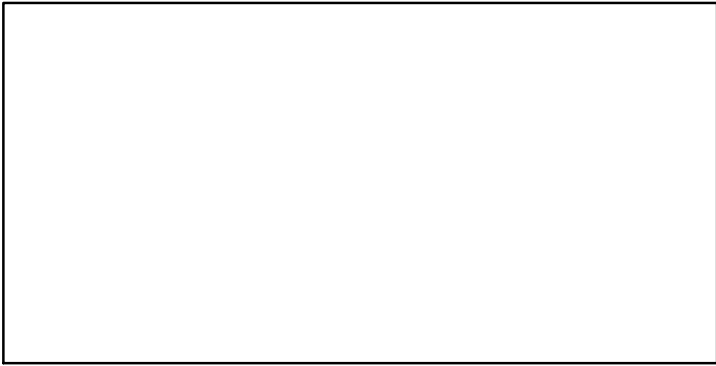
TAC-MT, Cpair-MT, Cadvised-MT (1949-2015-deMoor)



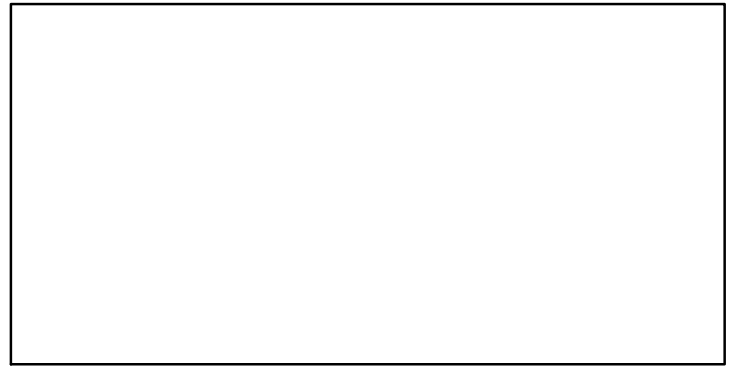
survB-MT (1949-2015-deMoor)



EFFORT\*



CPUE\*



■ 1st listed time series    ▲ 3rd listed time series    — MORAT  
● 2nd listed time series    - - - MSY    \* No Data

## Shallow-water cape hake South Africa [CHAKESA]

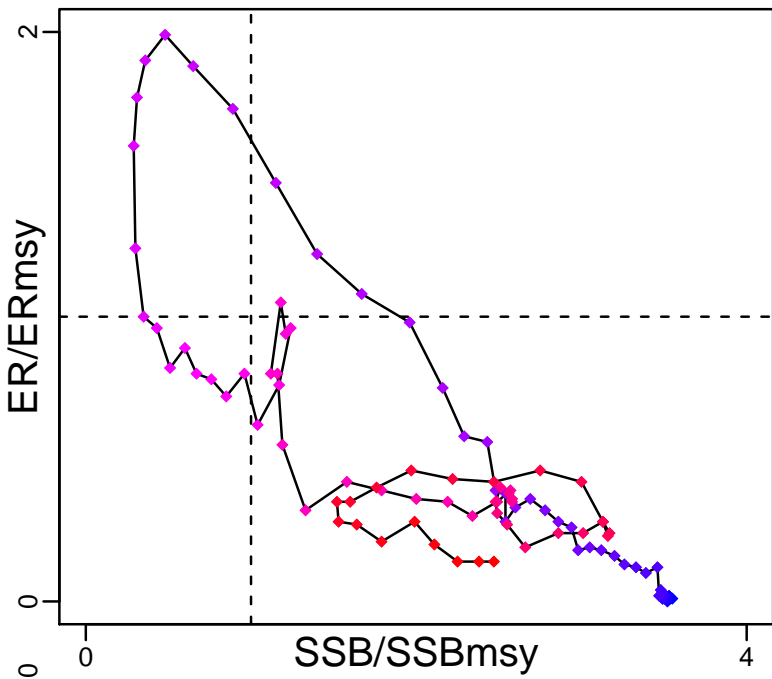
Metadata	
<b>Scientific Name</b>	Merluccius capensis
<b>Current Assess ID</b>	MARAM-CHAKESA-1917-2015-Rademeyer
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2013, 2015

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2015	63,100
<b>Fmsy</b>	Fmsy-1/yr	2013	0.32
<b>ERmsy</b>	ERmsy-ratio	2015	0.35
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2015	63,100
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2015	635,500
<b>SSB0</b>	SSB0-MT	2015	223,800
<b>MSY</b>	MSY-MT	2015	62,800
<b>M</b>	M-1/yr	2015	0.72
<b>TBlim</b>	TBlim-MT	2013	43,000
<b>SSBlim</b>	SSBlim-MT	2015	18,500
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

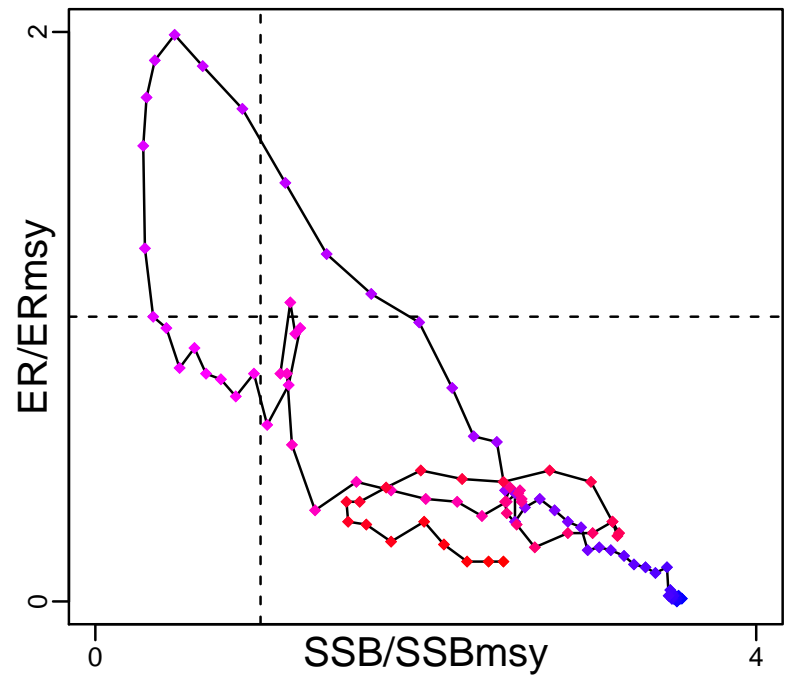
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2015	510,000	-	0+
<b>SSB</b>	SSB-MT	2015	156,000	Females	5
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2015	$1.33 \times 10^9$	-	0
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2015	0	-	-
<b>TC</b>	TC-MT	2015	14,400		
<b>TL</b>	TL-MT	2015	14,400		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSBdivSSBmsy-dimensionless	2015	2.47		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ERdivERmsy-dimensionless	2015	0.14		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Shallow-water cape hake South Africa [CHAKESA]

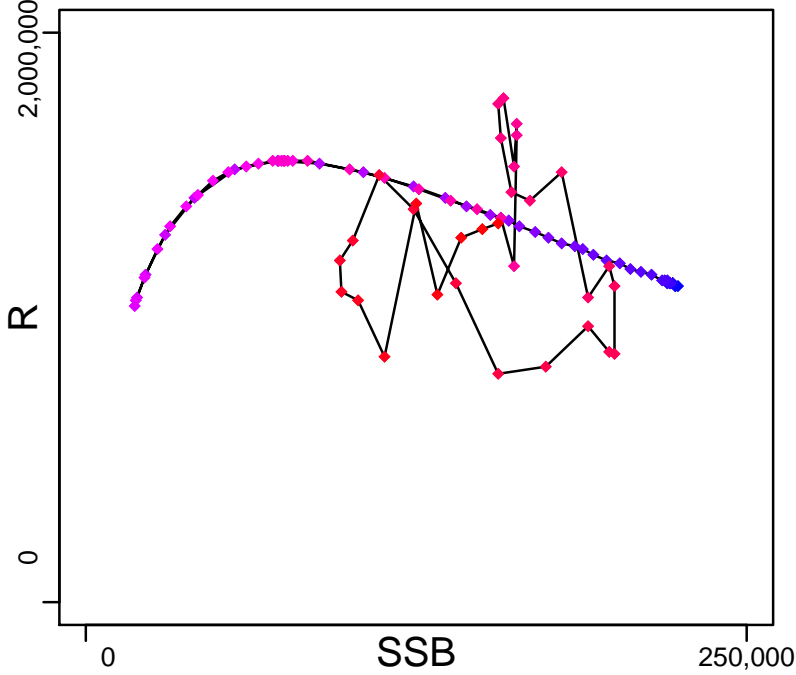
Kobe MSYpref (1917–2015–Rademeyer)



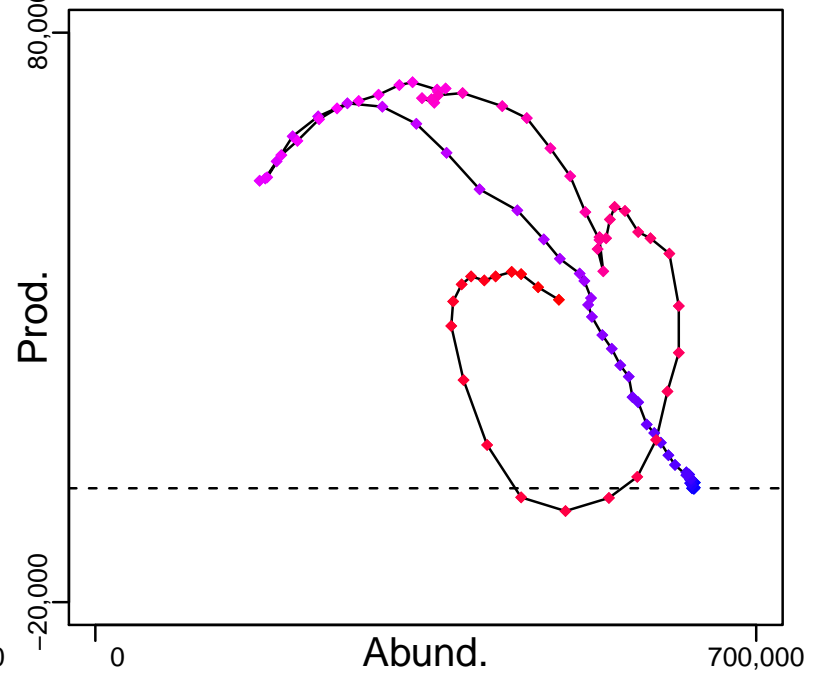
Kobe MGTpref (1917–2015–Rademeyer)



Spawner Recruit (1917–2015–Rademeyer)



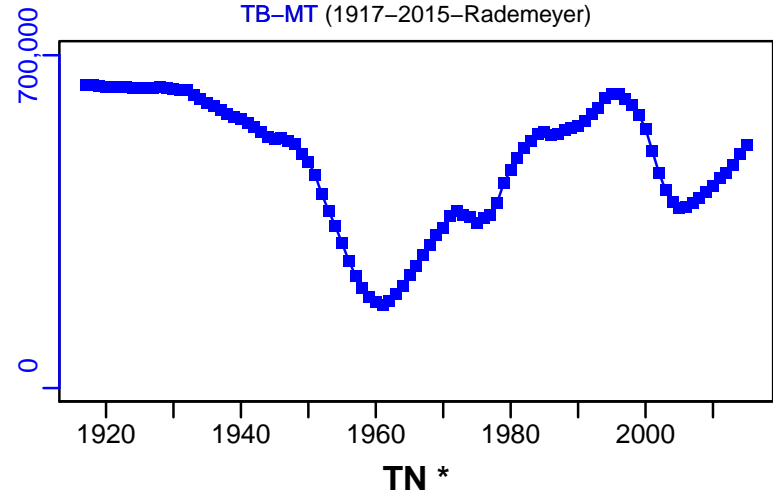
Production (1917–2015–Rademeyer)



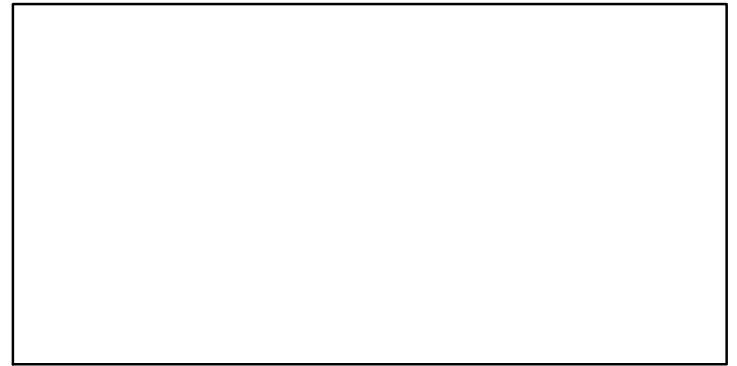
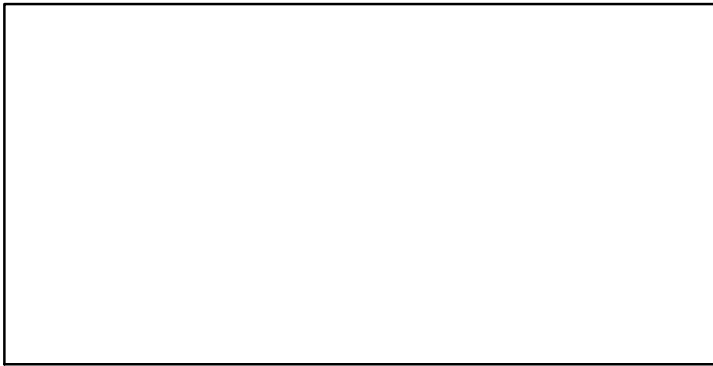
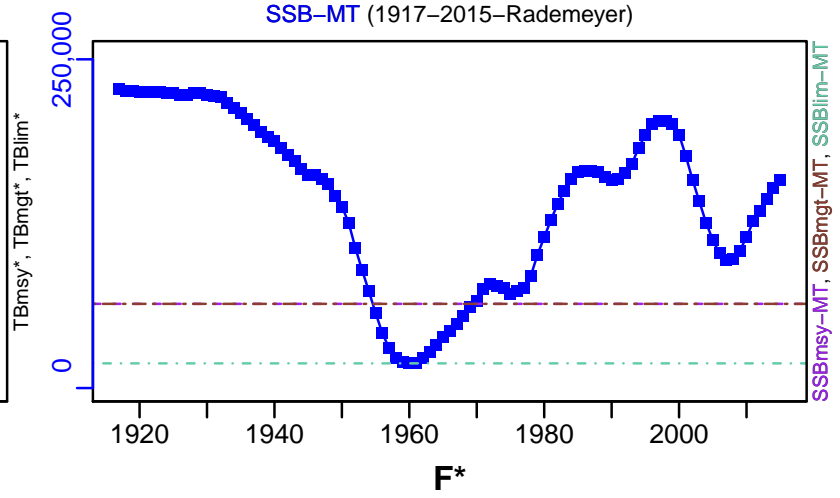
◆ Start Year ◆ End Year \* No Data

# Shallow-water cape hake South Africa [CHAKESA]

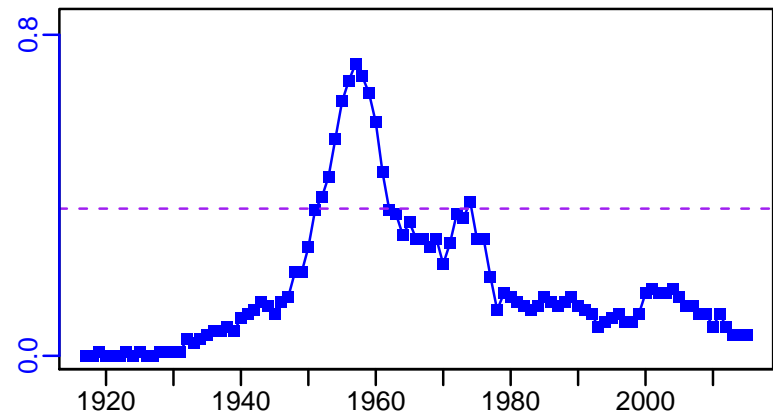
TB-MT (1917-2015-Rademeyer)



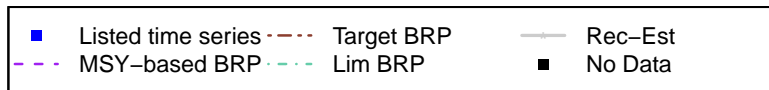
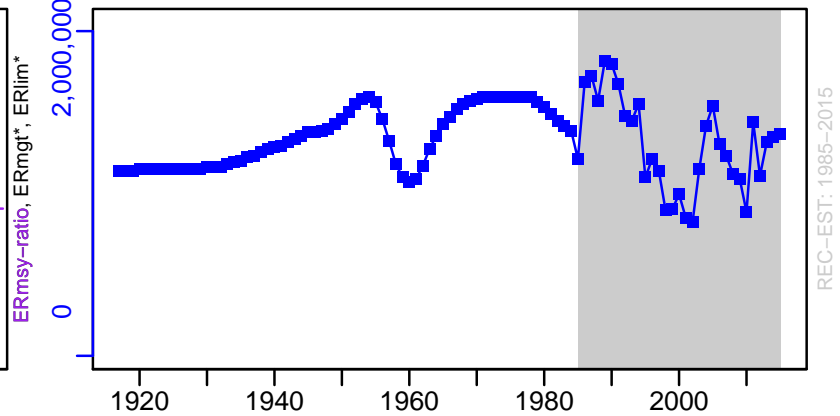
SSB-MT (1917-2015-Rademeyer)



ER-ratio (1917-2015-Rademeyer)



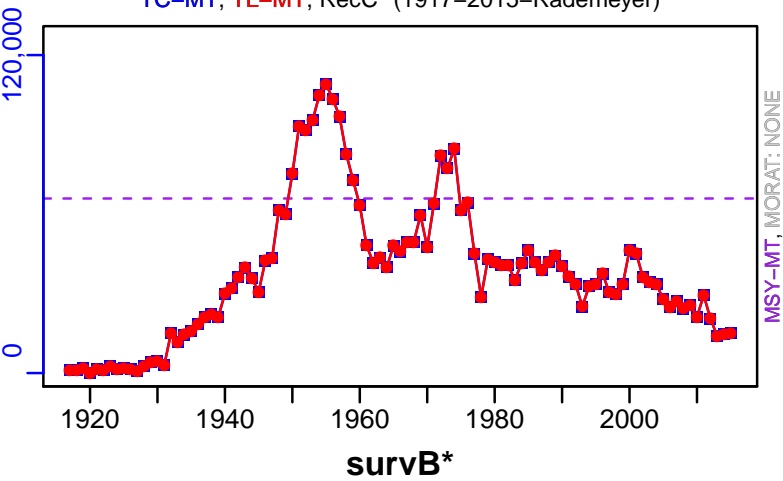
R-E00 (1917-2015-Rademeyer)





Shallow-water cape hake South Africa [CHAKESA]

TC-MT, TL-MT, RecC\* (1917-2015-Rademeyer)



TAC\*, Cpair\*, Cadv\*



CPUE\*



EFFORT\*

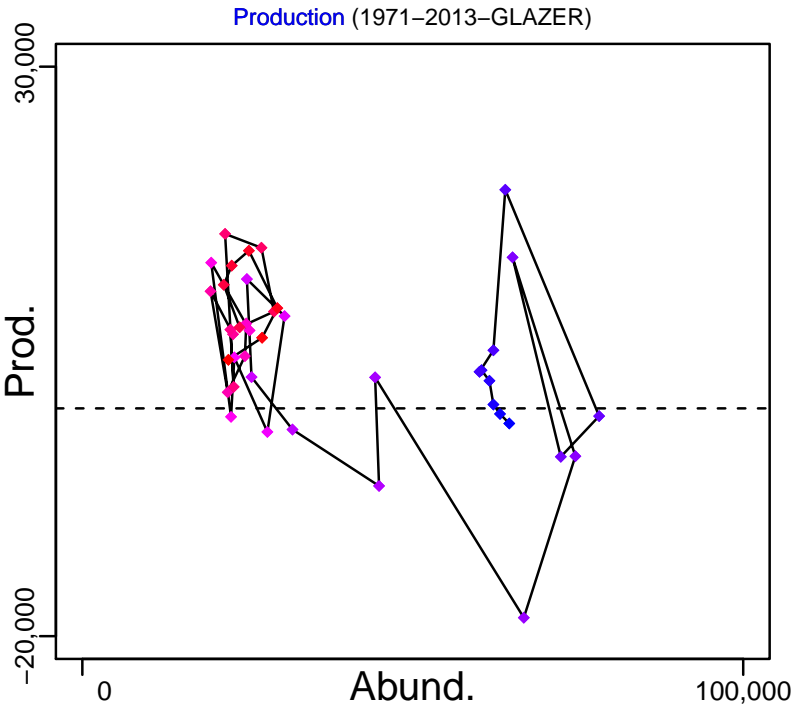
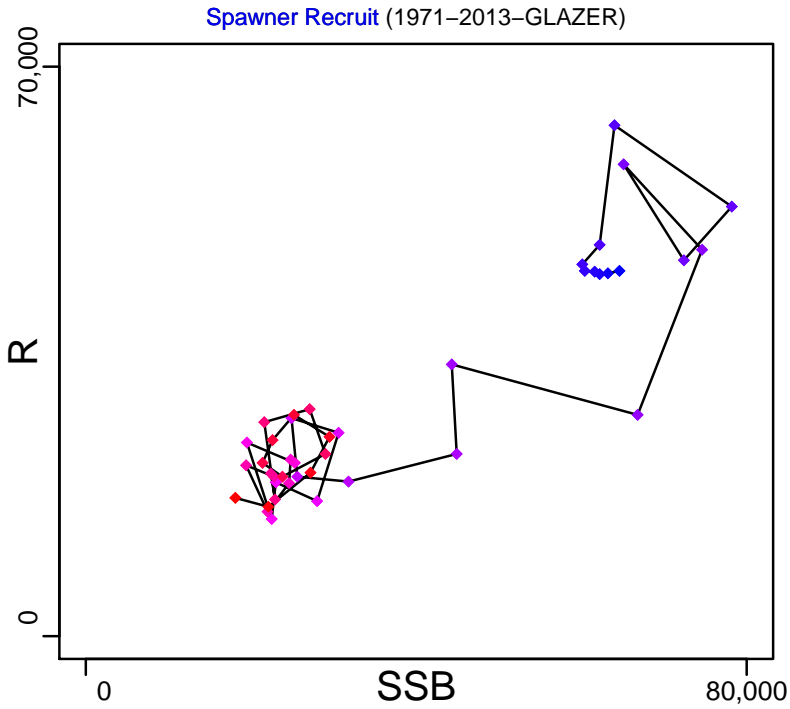


## Cape Hope squid South Africa [CHSQUIDSA]

Metadata	
<b>Scientific Name</b>	Loligo reynaudii
<b>Current Assess ID</b>	FBDAFF-CHSQUIDSA-1971-2013-GLAZER
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Asmts in RAM</b>	2013

Reference Points			
Type	ID	Asmt Year	Value
TBmsy	TBmsy-pr-MT	2013	25,703
SSBmsy	-	-	-
Fmsy	-	-	-
ERmsy	-	-	-
TBmgt	-	-	-
SSBmgt	-	-	-
Fmgt	-	-	-
ERmgt	-	-	-
TB0	TB0-MT	2013	64,258
SSB0	-	-	-
MSY	-	-	-
M	-	-	-
TBlim	-	-	-
SSBlim	-	-	-
Flim	-	-	-
ERlim	-	-	-

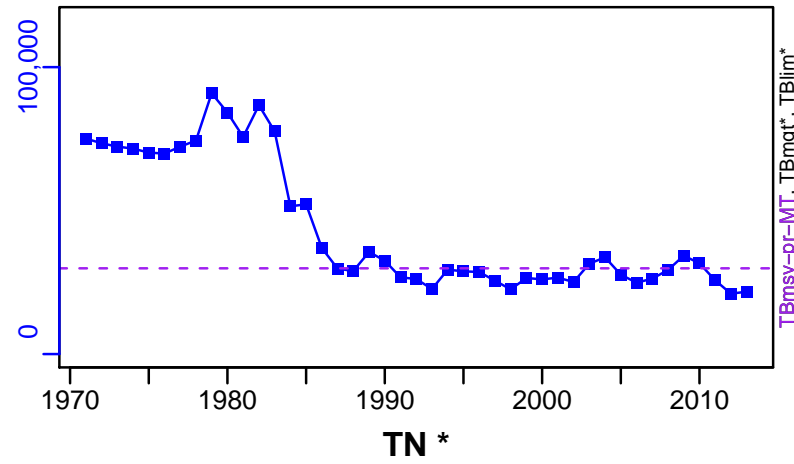
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
TB	TB-MT	2013	18,700	-	-
SSB	SSB-MT	2013	18,700	Both	1
TN	-	-	-	-	-
R	R-MT	2013	17,000	-	-
F	-	-	-	-	-
ER	ER-ratio	2013	0	-	-
TC	TC-MT	2013	6690		
TL	TL-MT	2013	6690		
TB/TBmsy	-	-	-		
SSB/SSBmsy	-	-	-		
F/Fmsy	-	-	-		
ER/ERmsy	-	-	-		
TB/TBmgt	-	-	-		
SSB/SSBmgt	-	-	-		
F/Fmgt	-	-	-		
ER/ERmgt	-	-	-		



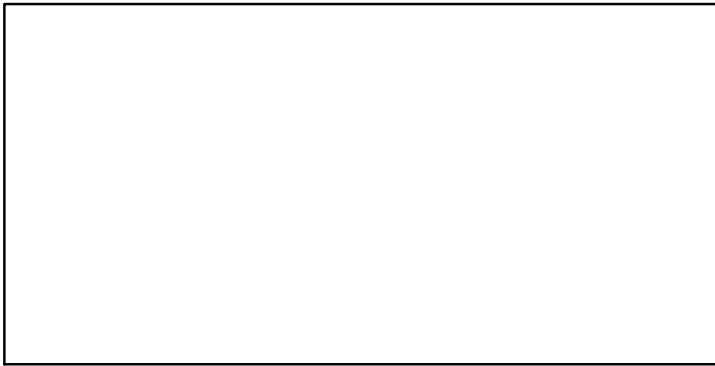
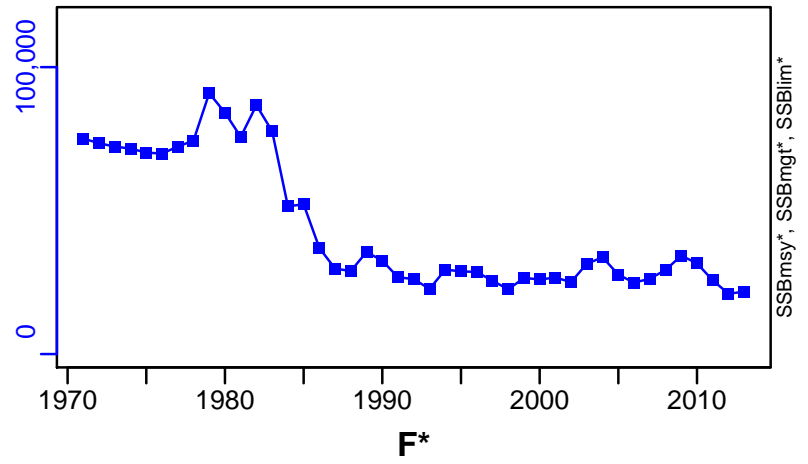
◆ Start Year ◆ End Year \* No Data

# Cape Hope squid South Africa [CHSQUIDSA]

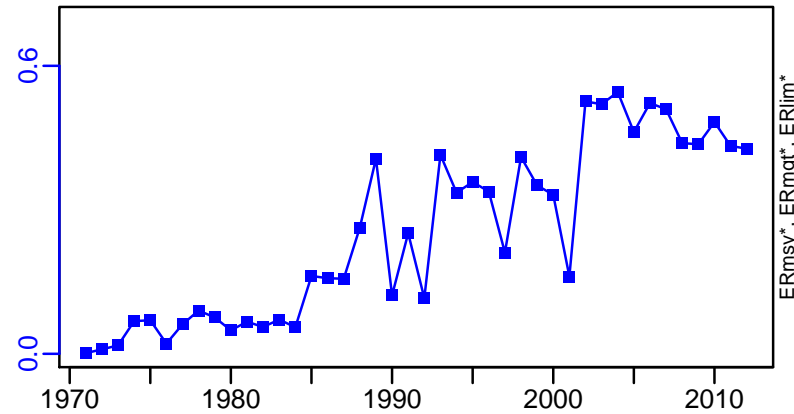
TB-MT (1971–2013–GLAZER)



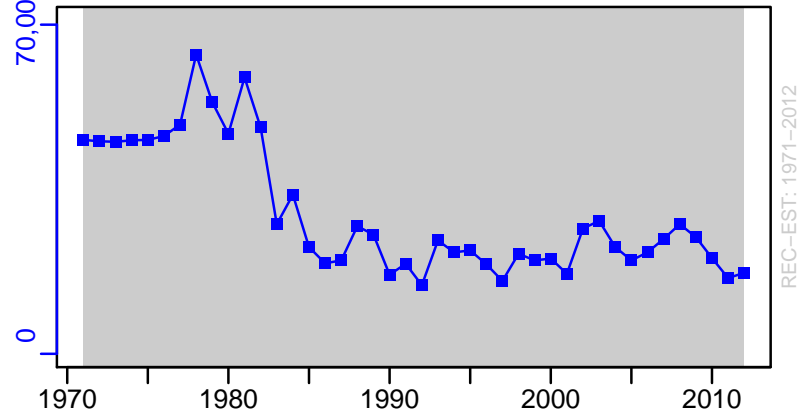
SSB-MT (1971–2013–GLAZER)



ER-ratio (1971–2013–GLAZER)

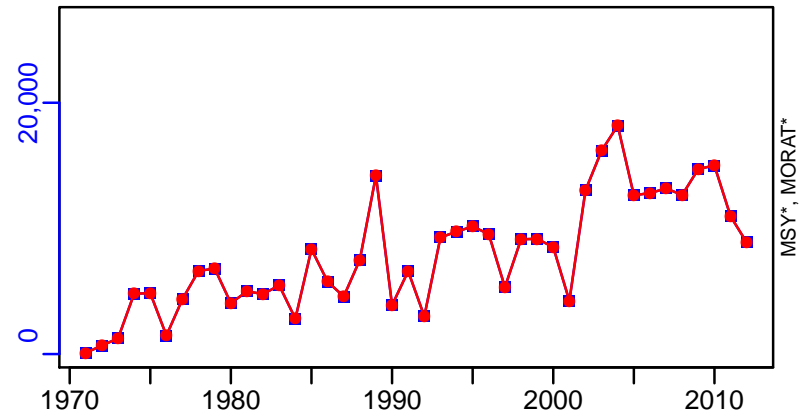


R-MT (1971–2013–GLAZER)



# Cape Hope squid South Africa [CHSQUIDSA]

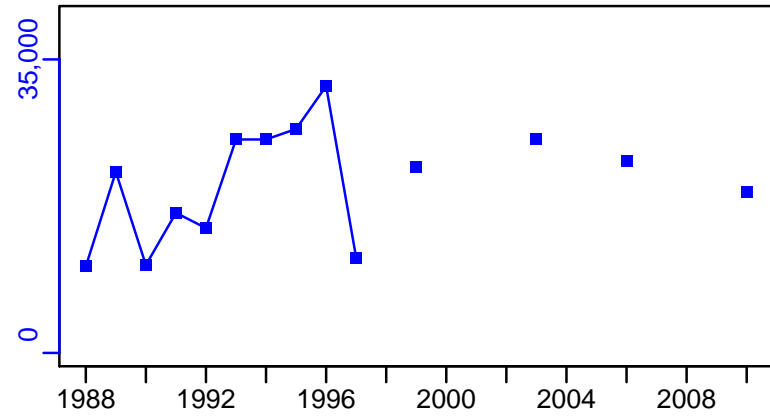
TC-MT, TL-MT, RecC\* (1971-2013-GLAZER)



TAC\*, Cpair\*, Cadv\*



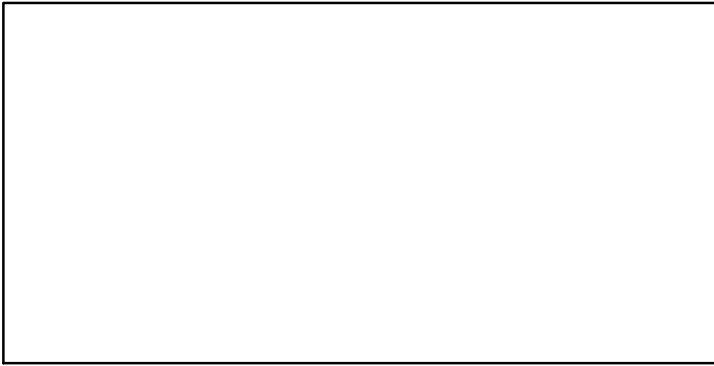
survB-1-MT (1971-2013-GLAZER)



CPUE\*



EFFORT\*



■ 1st listed time series    ▲ 3rd listed time series    — MORAT  
● 2nd listed time series    - - - MSY    \* No Data

## West coast rock lobster South Africa Areas 1-2 [CRLOBSTERSA12]

Metadata	
<b>Scientific Name</b>	Jasus lalandii
<b>Current Assess ID</b>	MARAM-CRLOBSTERSA12-1910-2014-Johnston
<b>Area</b>	South Africa Areas 1-2
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2012, 2014

Reference Points			
Type	ID	Asmt Year	Value
TBmsy	-	-	-
SSBmsy	-	-	-
Fmsy	-	-	-
ERmsy	-	-	-
TBmgt	TBmgt-MT	2014	683
SSBmgt	-	-	-
Fmgt	-	-	-
ERmgt	ERmgt-ratio	2014	0
TB0	TB0-MT	2014	56,583
SSB0	-	-	-
MSY	-	-	-
M	M-1/yr	2014	0.11
TBlim	-	-	-
SSBlim	-	-	-
Flim	-	-	-
ERlim	-	-	-

Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
TB	TB-MT	2014	621	Males	-
SSB	SSB-ratio	2014	0	Females	-
TN	-	-	-	-	-
R	R-E00	2014	96,000	-	-
F	-	-	-	-	-
ER	ER-ratio	2014	0	-	-
TC	TC-MT	2014	23		
TL	TL-MT	2014	23		
TB/TBmsy	-	-	-		
SSB/SSBmsy	-	-	-		
F/Fmsy	-	-	-		
ER/ERmsy	-	-	-		
TB/TBmgt	-	-	-		
SSB/SSBmgt	-	-	-		
F/Fmgt	-	-	-		
ER/ERmgt	-	-	-		

West coast rock lobster South Africa Areas 1–2 [CRLOBSTERSA12]

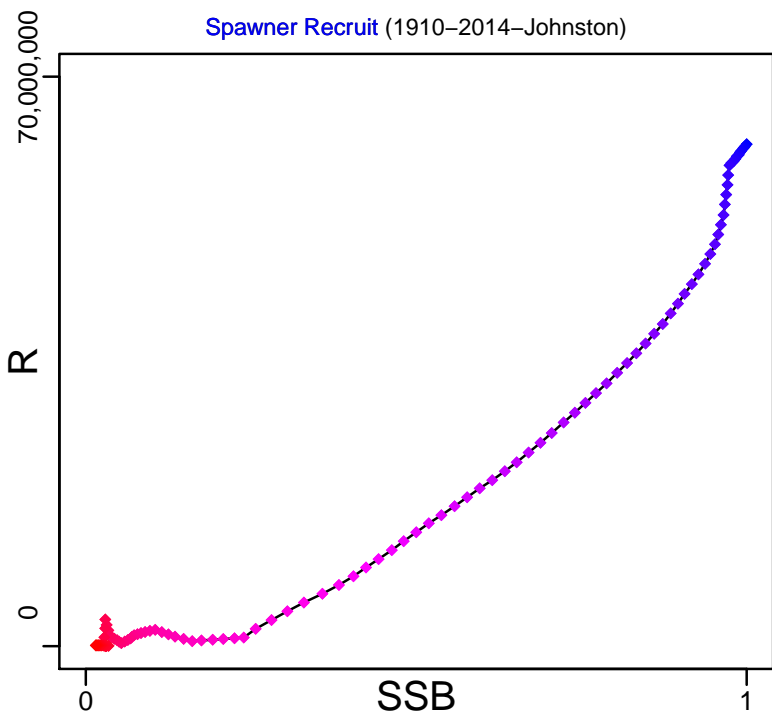
Kobe MSY\*



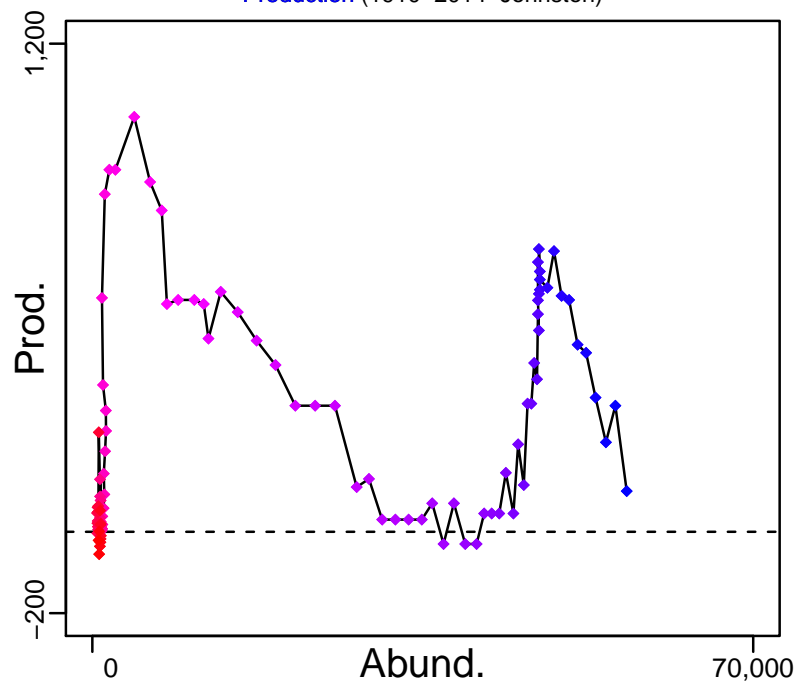
Kobe MGT\*



Spawner Recruit (1910–2014–Johnston)



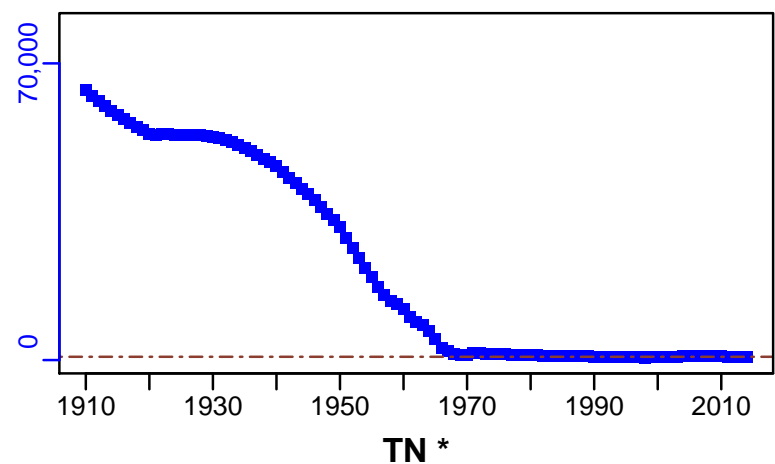
Production (1910–2014–Johnston)



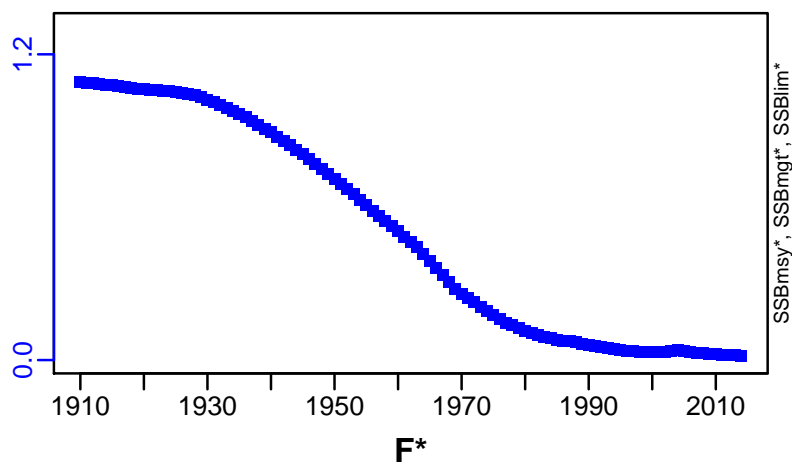
◆ Start Year ◆ End Year \* No Data

# West coast rock lobster South Africa Areas 1-2 [CRLOBSTERSA12]

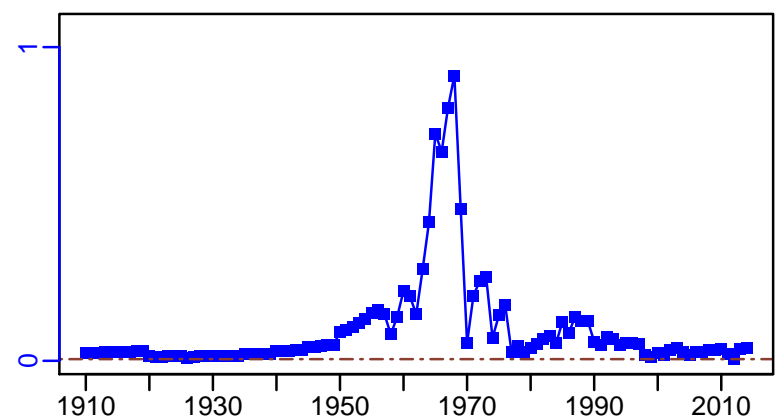
TB-MT (1910-2014-Johnston)



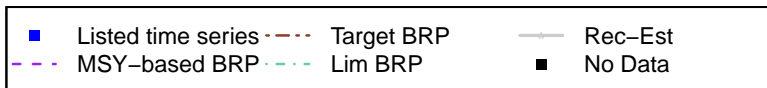
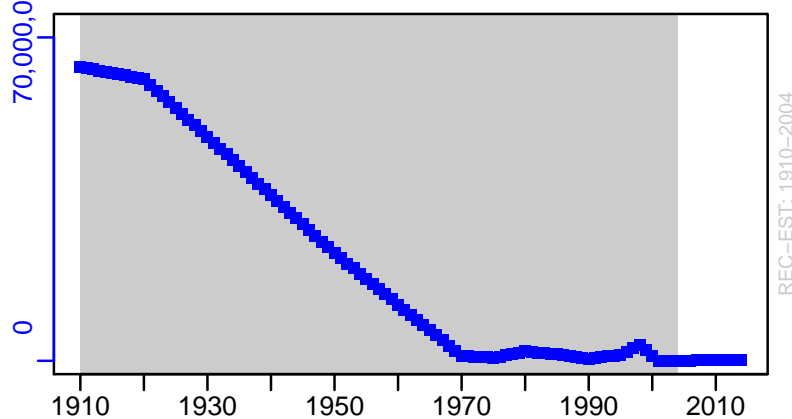
SSB-ratio (1910-2014-Johnston)



ER-ratio (1910-2014-Johnston)



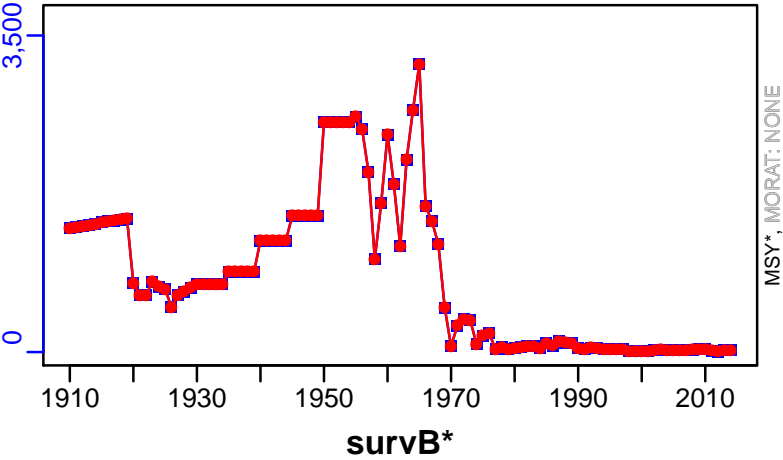
R-E00 (1910-2014-Johnston)





West coast rock lobster South Africa Areas 1-2 [CRLOBSTERSA12]

TC-MT, TL-MT, RecC\* (1910-2014-Johnston)



TAC\*, Cpair\*, Cadv\*



CPUE\*



EFFORT\*



## West coast rock lobster South Africa Areas 3-4 [CRLOBSTERSA34]

Metadata	
<b>Scientific Name</b>	Jasus lalandii
<b>Current Assess ID</b>	MARAM-CRLOBSTERSA34-1910-2014-Johnston
<b>Area</b>	South Africa Areas 3-4
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2012, 2014

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	TBmgt-MT	2014	4770
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	ERmgt-ratio	2014	0.03
<b>TB0</b>	TB0-MT	2014	166,501
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2014	0.11
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	4860	Males	-
<b>SSB</b>	SSB-ratio	2014	0	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	31,200,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0	-	-
<b>TC</b>	TC-MT	2014	262		
<b>TL</b>	TL-MT	2014	254		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

West coast rock lobster South Africa Areas 3–4 [CRLOBSTERSA34]

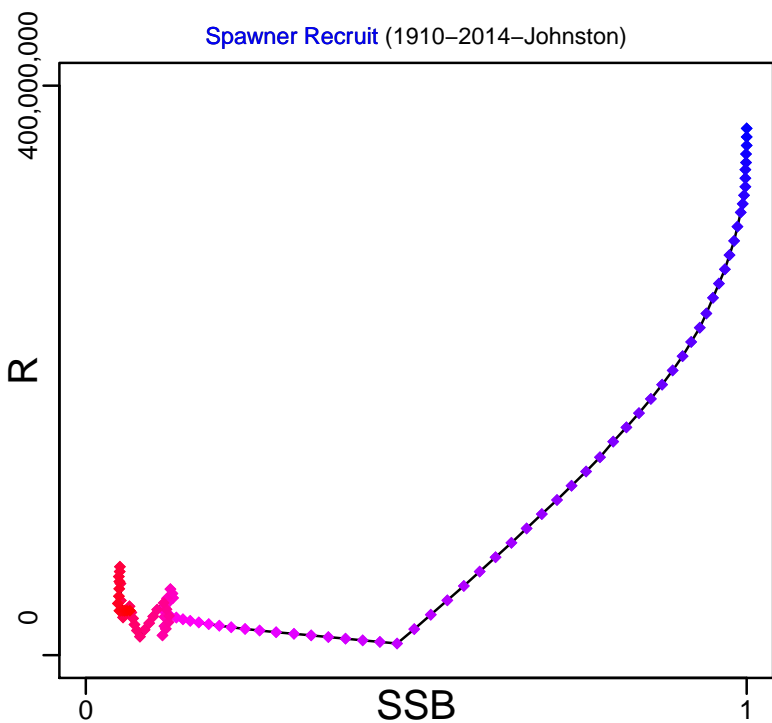
Kobe MSY\*



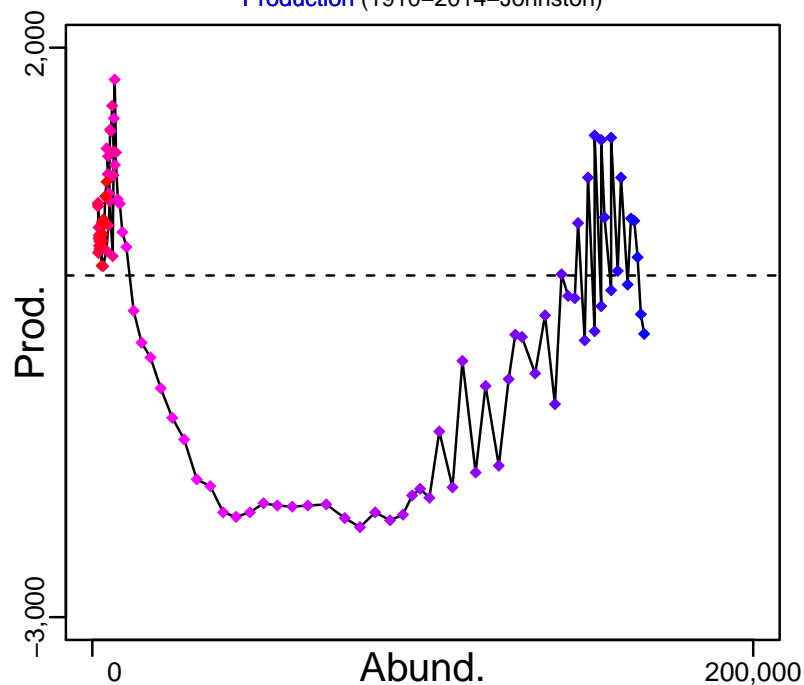
Kobe MGT\*



Spawner Recruit (1910–2014–Johnston)



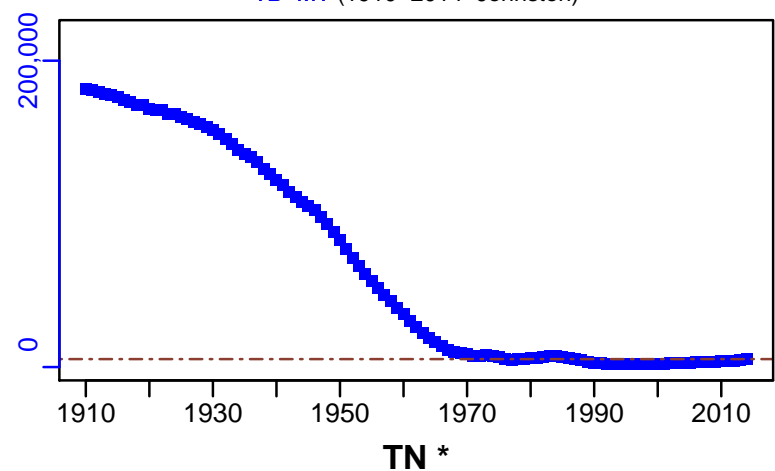
Production (1910–2014–Johnston)



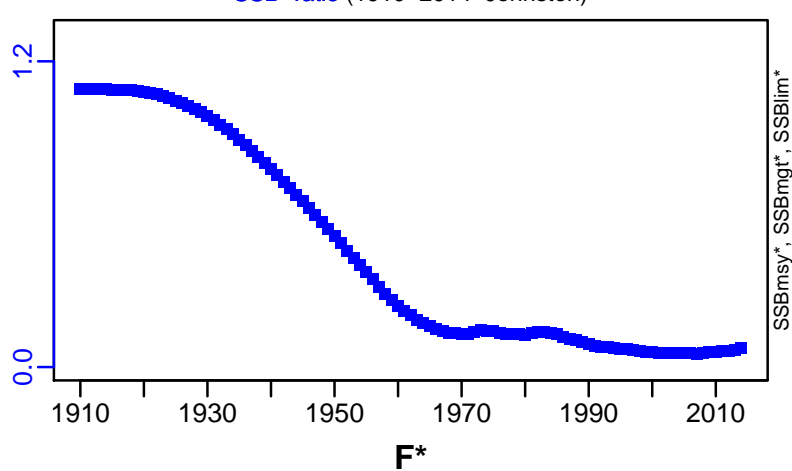
◆ Start Year ◆ End Year \* No Data

# West coast rock lobster South Africa Areas 3–4 [CRLOBSTERSA34]

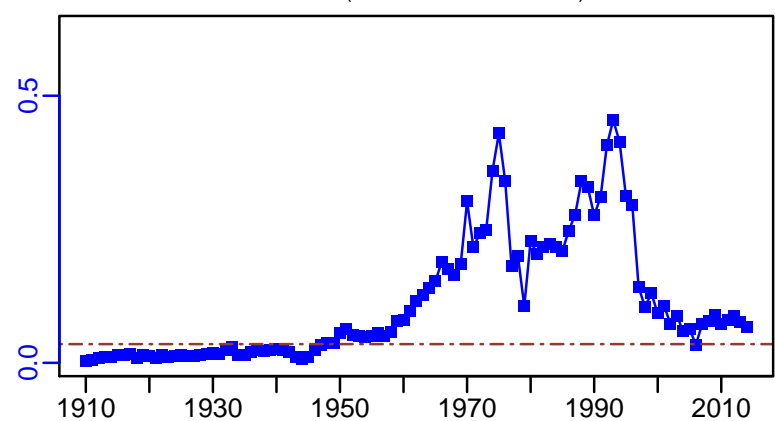
TB–MT (1910–2014–Johnston)



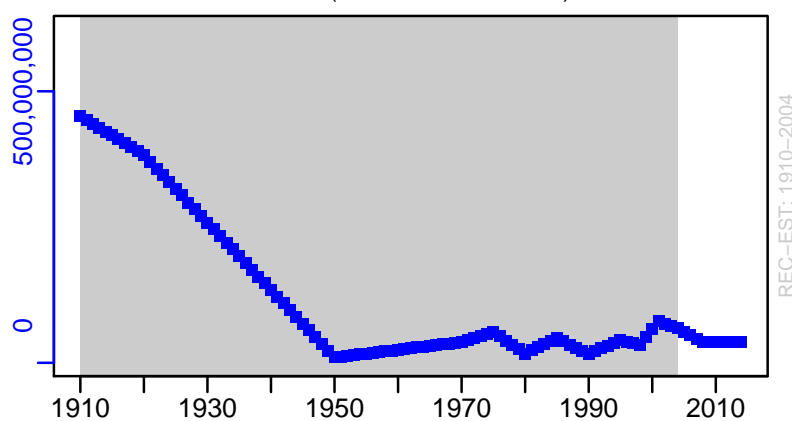
SSB–ratio (1910–2014–Johnston)



ER–ratio (1910–2014–Johnston)

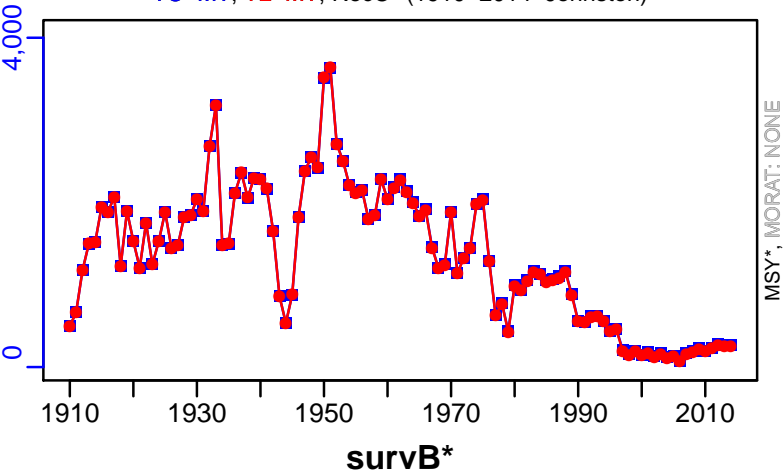


R–E00 (1910–2014–Johnston)



West coast rock lobster South Africa Areas 3–4 [CRLOBSTERSA34]

TC–MT, TL–MT, RecC\* (1910–2014–Johnston)



TAC\*, Cpair\*, Cadv\*



CPUE\*



EFFORT\*



## West coast rock lobster South Africa Areas 5-6 [CRLOBSTERSA56]

Metadata	
<b>Scientific Name</b>	Jasus lalandii
<b>Current Assess ID</b>	MARAM-CRLOBSTERSA56-1910-2014-Johnston
<b>Area</b>	South Africa Areas 5-6
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2012, 2014

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	TBmgt-MT	2014	3993
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	ERmgt-ratio	2014	0.09
<b>TB0</b>	TB0-MT	2014	255,837
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2014	0.11
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	3590	Males	-
<b>SSB</b>	SSB-ratio	2014	0	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	16,200,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0	-	-
<b>TC</b>	TC-MT	2014	206		
<b>TL</b>	TL-MT	2014	198		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

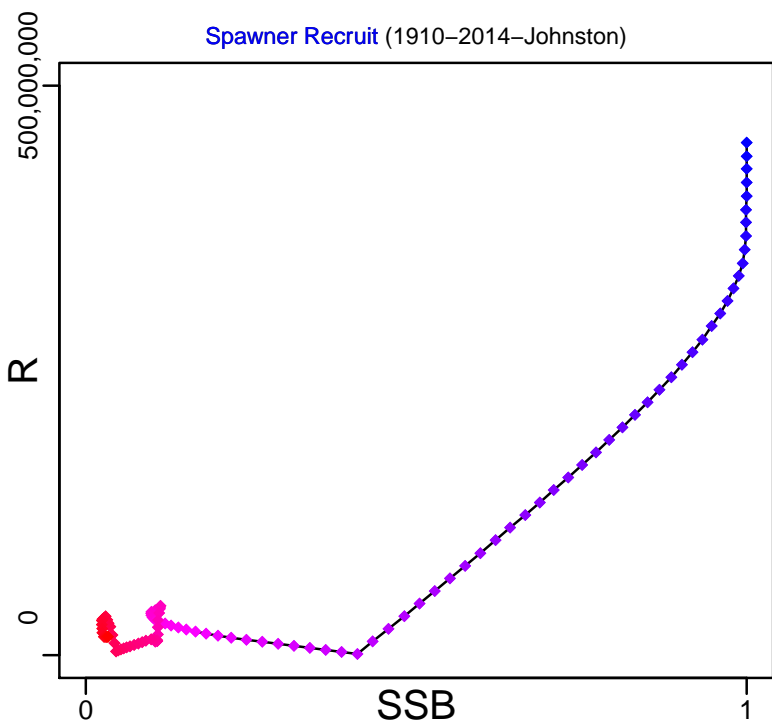
Kobe MSY\*



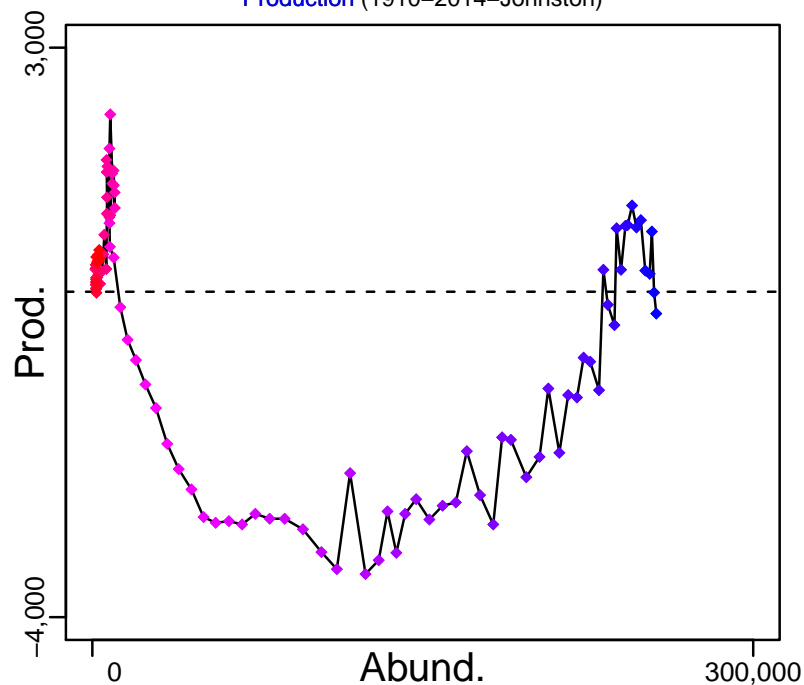
Kobe MGT\*



Spawner Recruit (1910–2014–Johnston)



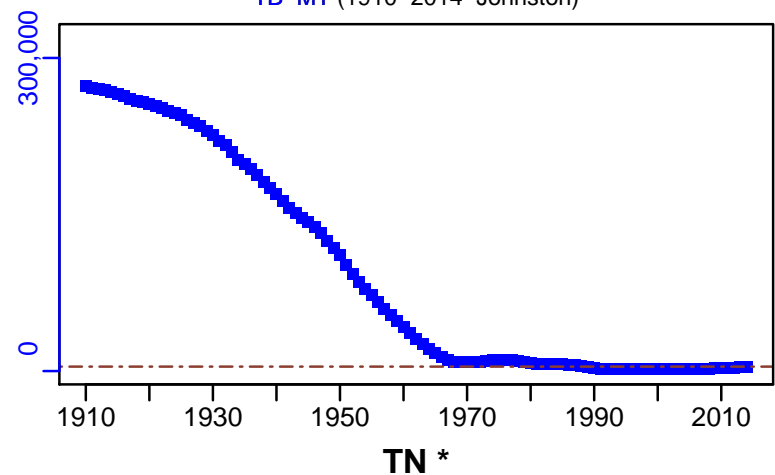
Production (1910–2014–Johnston)



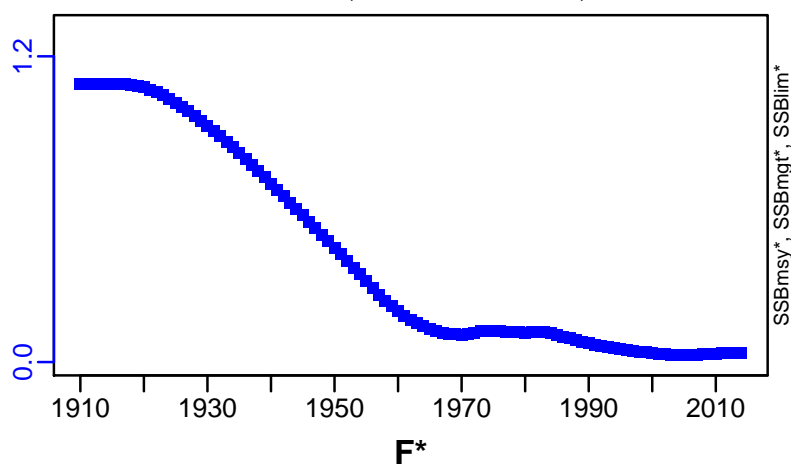
◆ Start Year ◆ End Year \* No Data

# West coast rock lobster South Africa Areas 5–6 [CRLOBSTERSA56]

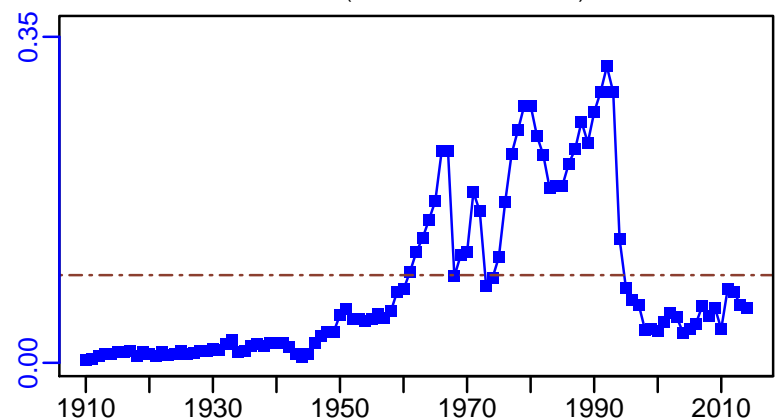
TB–MT (1910–2014–Johnston)



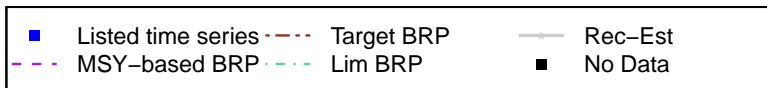
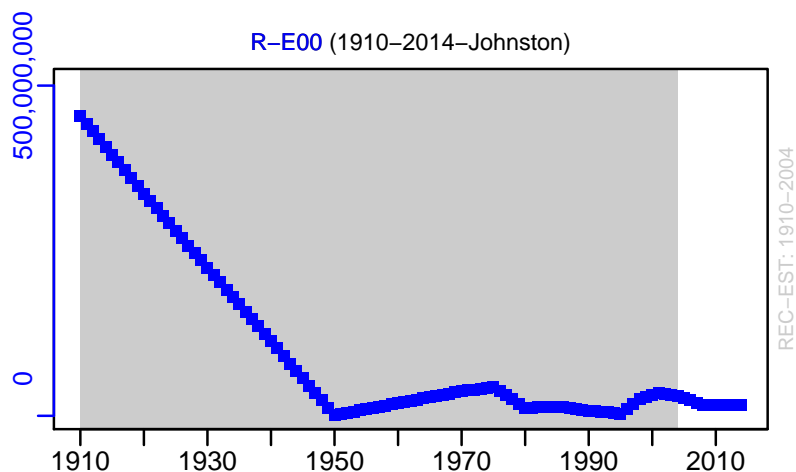
SSB–ratio (1910–2014–Johnston)



ER–ratio (1910–2014–Johnston)



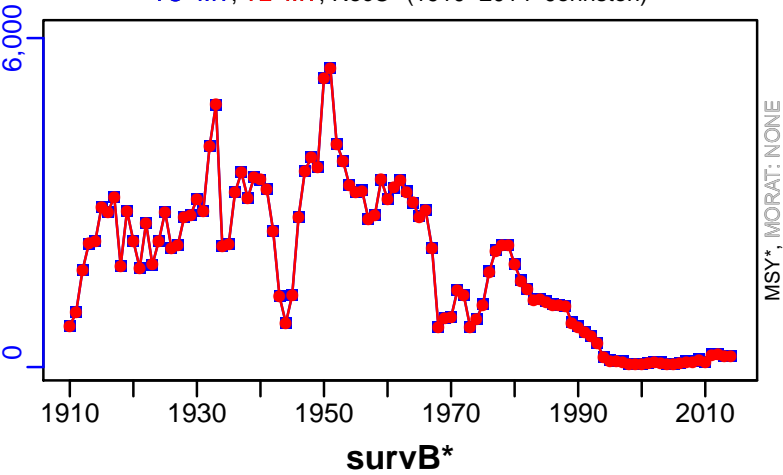
R–E00 (1910–2014–Johnston)





West coast rock lobster South Africa Areas 5–6 [CRLOBSTERSA56]

TC–MT, TL–MT, RecC\* (1910–2014–Johnston)



TAC\*, Cpair\*, Cadv\*



CPUE\*



EFFORT\*



## West coast rock lobster South Africa Area 7 [CRLOBSTERSA7]

Metadata	
<b>Scientific Name</b>	Jasus lalandii
<b>Current Assess ID</b>	MARAM-CRLOBSTERSA7-1910-2014-Johnston
<b>Area</b>	South Africa Area 7
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2012, 2014

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	TBmgt-MT	2014	6310
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	ERmgt-ratio	2014	0.06
<b>TB0</b>	TB0-MT	2014	116,689
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2014	0.11
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	2860	Males	-
<b>SSB</b>	SSB-ratio	2014	0	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	4,590,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0	-	-
<b>TC</b>	TC-MT	2014	129		
<b>TL</b>	TL-MT	2014	80		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

West coast rock lobster South Africa Area 7 [CRLOBSTERSA7]

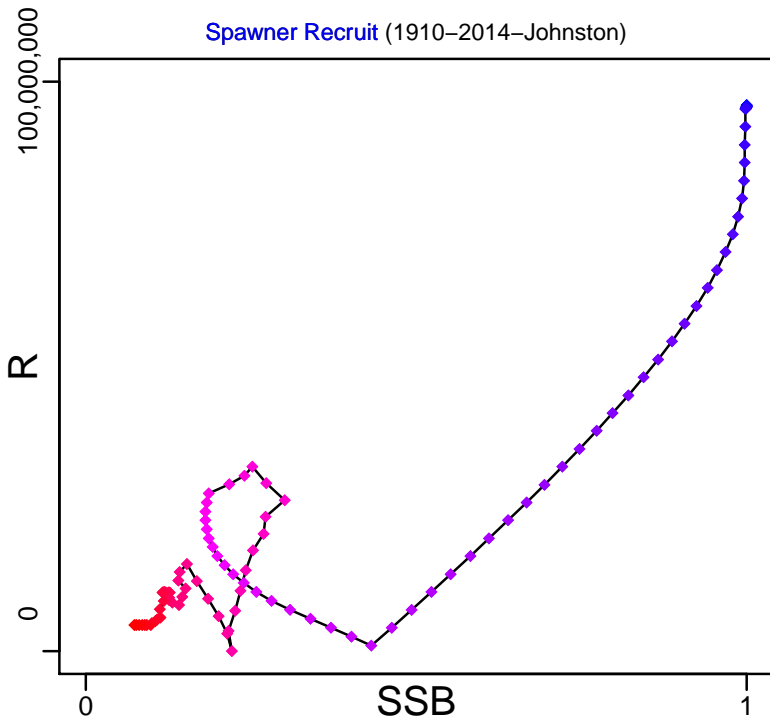
Kobe MSY\*



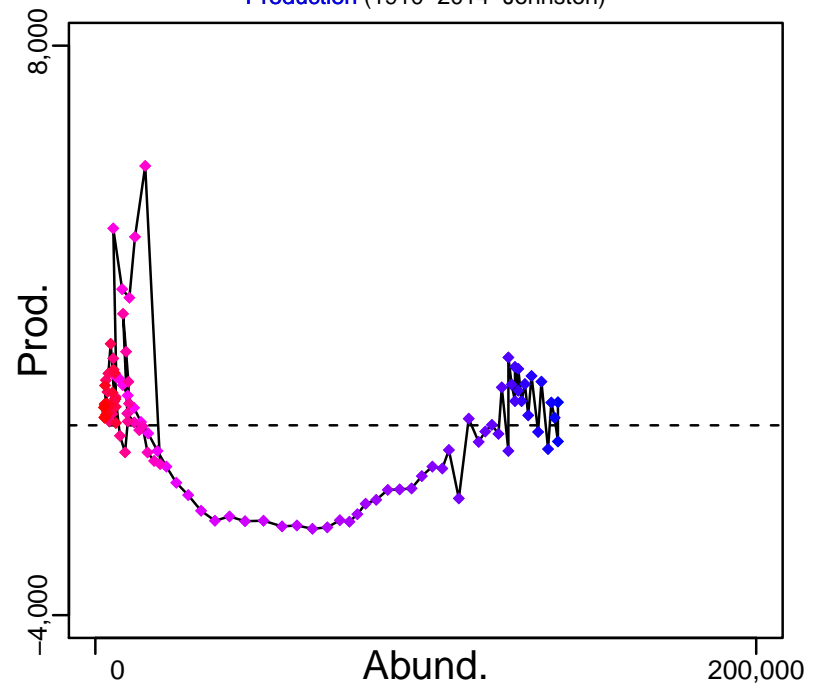
Kobe MGT\*



Spawner Recruit (1910–2014–Johnston)



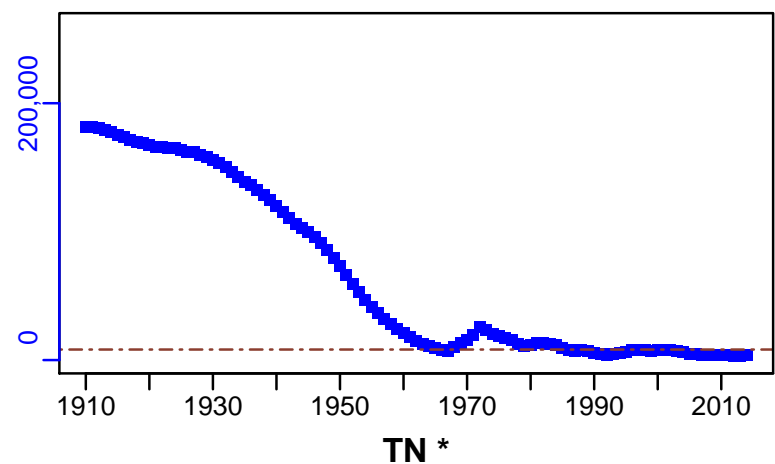
Production (1910–2014–Johnston)



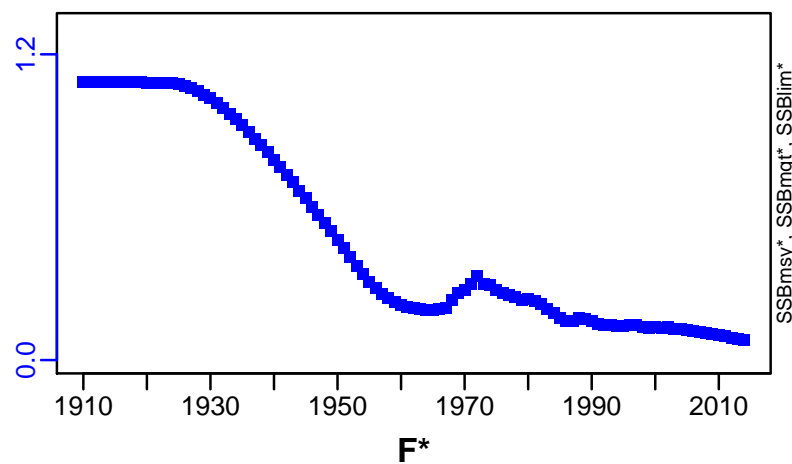
◆ Start Year ◆ End Year \* No Data

# West coast rock lobster South Africa Area 7 [CRLOBSTERSA7]

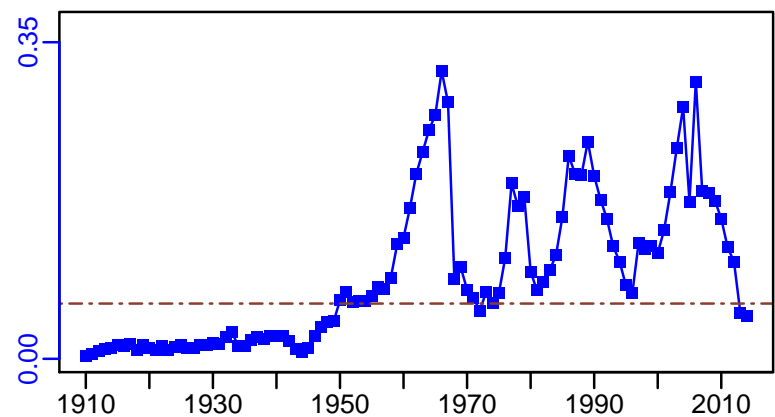
TB-MT (1910-2014-Johnston)



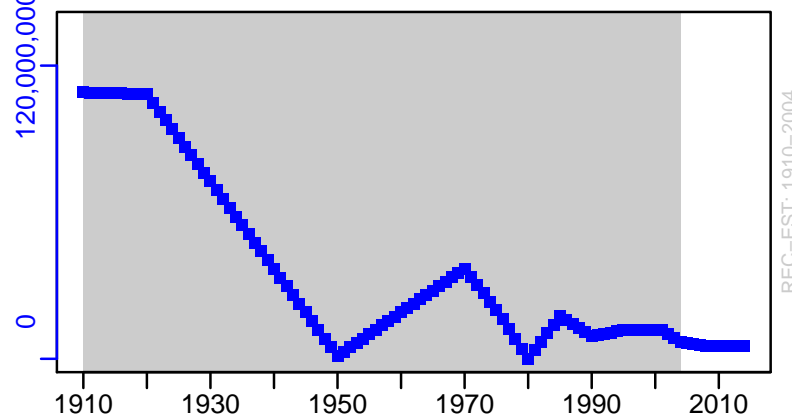
SSB-ratio (1910-2014-Johnston)



ER-ratio (1910-2014-Johnston)

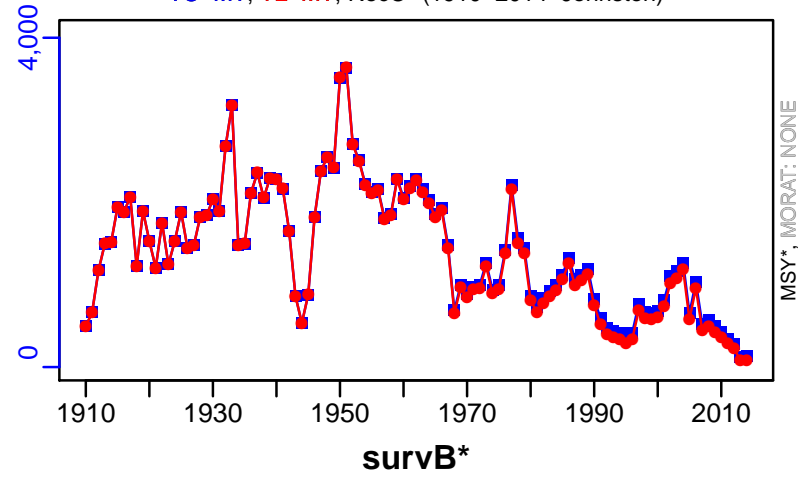


R-E00 (1910-2014-Johnston)



# West coast rock lobster South Africa Area 7 [CRLOBSTERSA7]

TC-MT, TL-MT, RecC\* (1910–2014–Johnston)



TAC\*, Cpair\*, Cadv\*



CPUE\*



EFFORT\*



■ 1st listed time series    ▲ 3rd listed time series    — MORAT  
 ● 2nd listed time series    - - - MSY    \* No Data

## West coast rock lobster South Africa Area 8 [CRLOBSTERSA8]

Metadata	
<b>Scientific Name</b>	Jasus lalandii
<b>Current Assess ID</b>	MARAM-CRLOBSTERSA8-1910-2014-Johnston
<b>Area</b>	South Africa Area 8
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2012, 2014

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	TBmgt-MT	2014	11,869
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	ERmgt-ratio	2014	0.14
<b>TB0</b>	TB0-MT	2014	199,707
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2014	0.11
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	8860	Males	-
<b>SSB</b>	SSB-ratio	2014	0	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	$2.05 \times 10^8$	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0	-	-
<b>TC</b>	TC-MT	2014	2220		
<b>TL</b>	TL-MT	2014	1500		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

West coast rock lobster South Africa Area 8 [CROBSTERSA8]

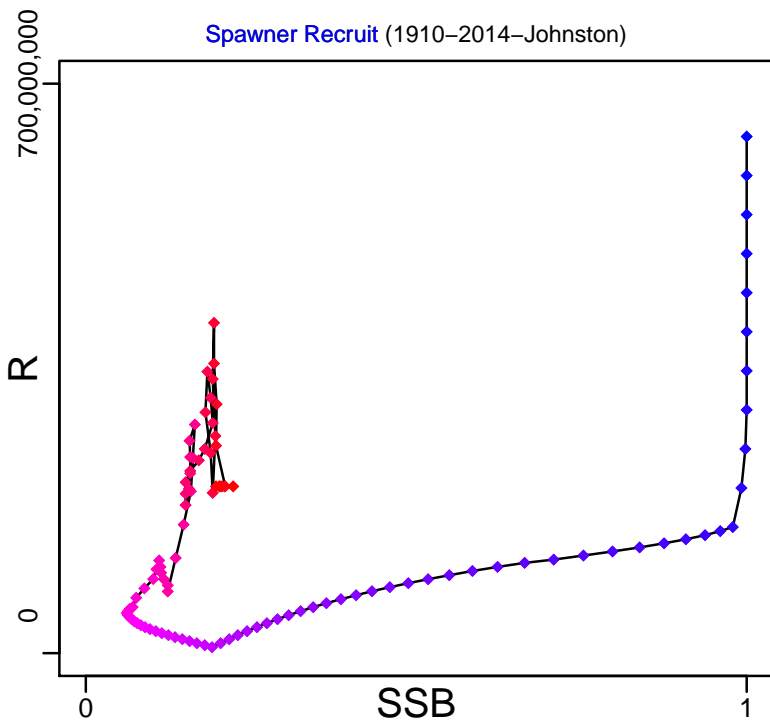
Kobe MSY\*



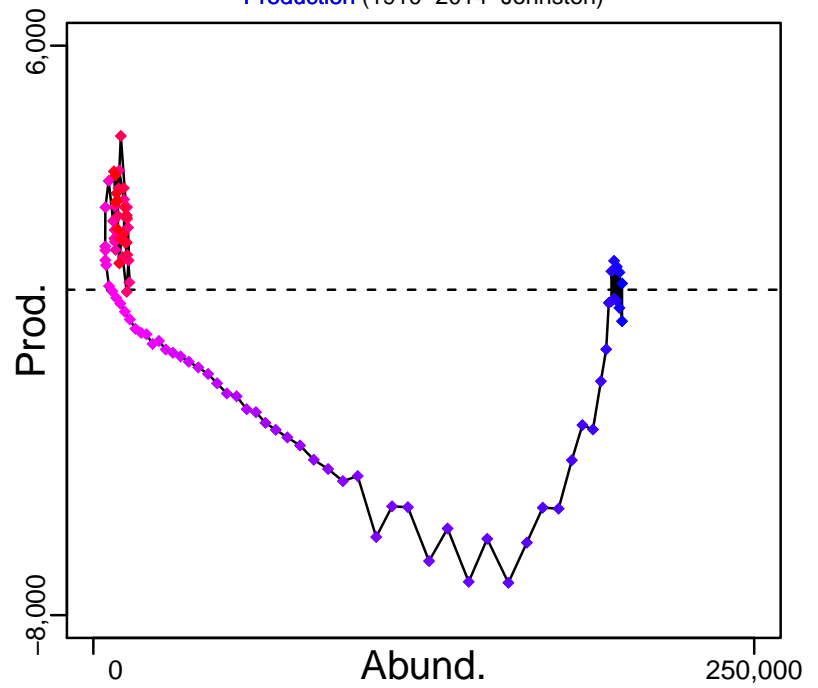
Kobe MGT\*



Spawner Recruit (1910–2014–Johnston)



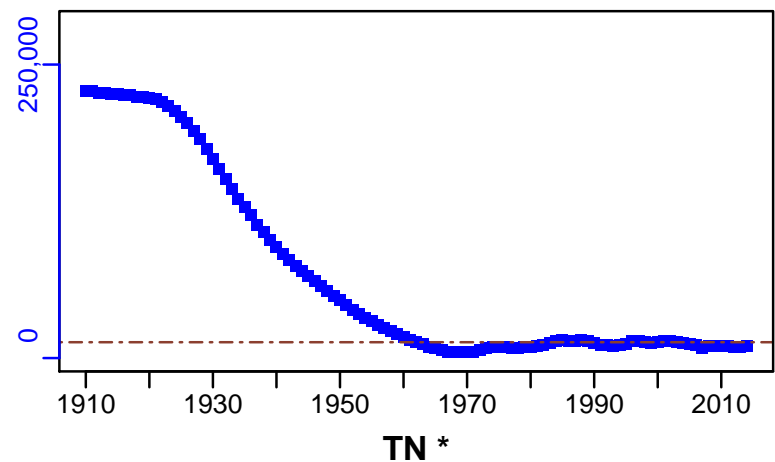
Production (1910–2014–Johnston)



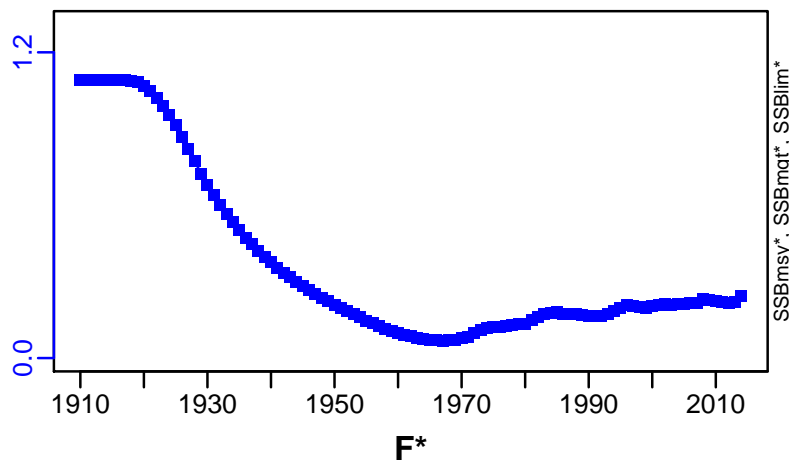
◆ Start Year ◆ End Year \* No Data

# West coast rock lobster South Africa Area 8 [CRLOBSTERSA8]

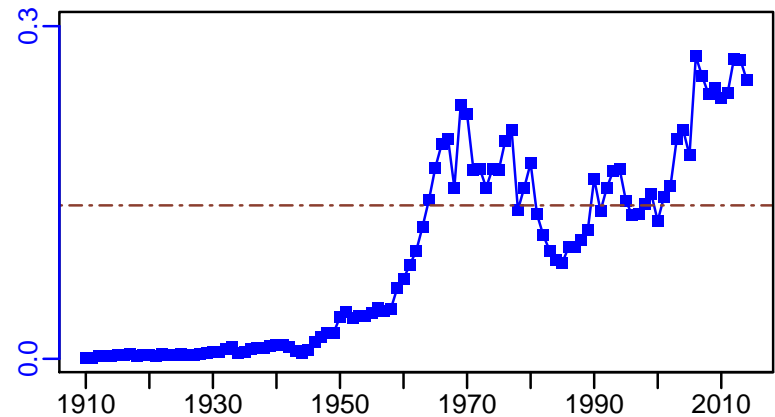
TB-MT (1910-2014-Johnston)



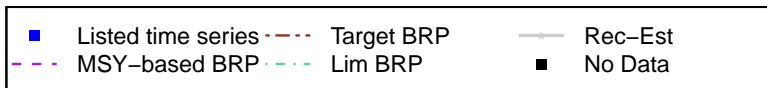
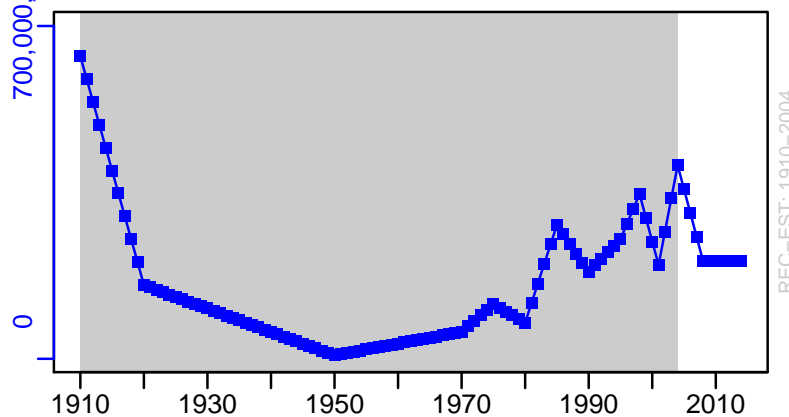
SSB-ratio (1910-2014-Johnston)



ER-ratio (1910-2014-Johnston)



R-E00 (1910-2014-Johnston)

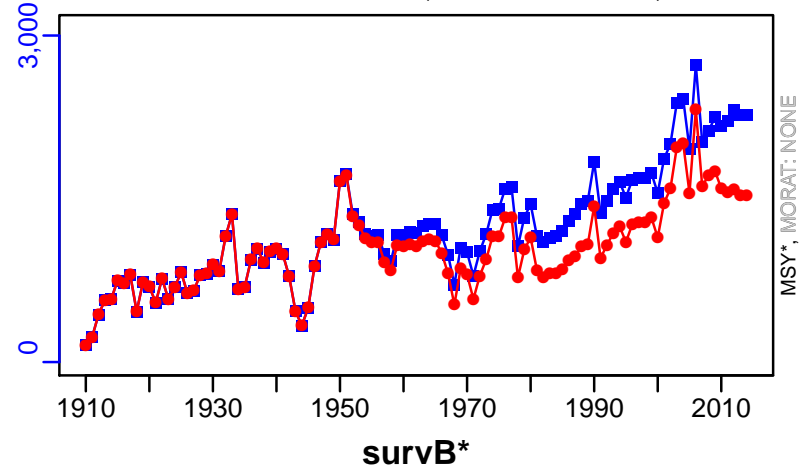




# West coast rock lobster South Africa Area 8 [CRLOBSTERSA8]

TC-MT, TL-MT, RecC\* (1910–2014–Johnston)

TAC\*, Cpair\*, Cadv\*



MSY\*, MORAT: NONE

CPUE\*

EFFORT\*

■ 1st listed time series    ▲ 3rd listed time series    — MORAT  
● 2nd listed time series    - - - MSY    \* No Data

## Cape horse mackerel South Africa South coast [CTRACSA]

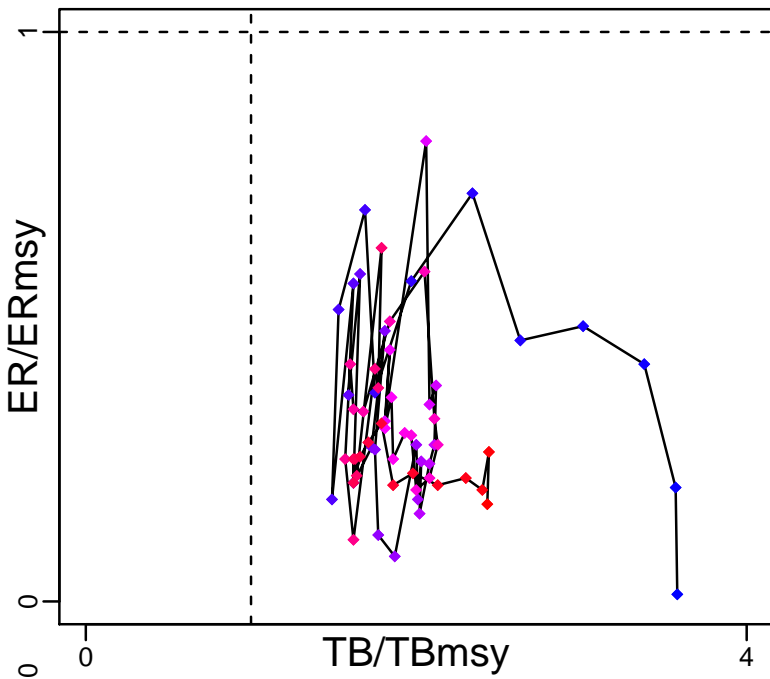
Metadata	
<b>Scientific Name</b>	Trachurus capensis
<b>Current Assess ID</b>	MARAM-CTRACSA-1949-2013-Furman
<b>Area</b>	South Africa South coast
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2013

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-MT	2013	307,654
<b>SSBmsy</b>	SSBmsy-MT	2013	234,635
<b>Fmsy</b>	Fmsy-1/yr	2013	0.19
<b>ERmsy</b>	ERmsy-ratio	2013	0.24
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2013	1,052,609
<b>SSB0</b>	SSB0-MT	2013	960,562
<b>MSY</b>	MSY-MT	2013	72,924
<b>M</b>	M-1/yr	2013	0.3
<b>TBlim</b>	TBlim-MT	2013	366,474
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

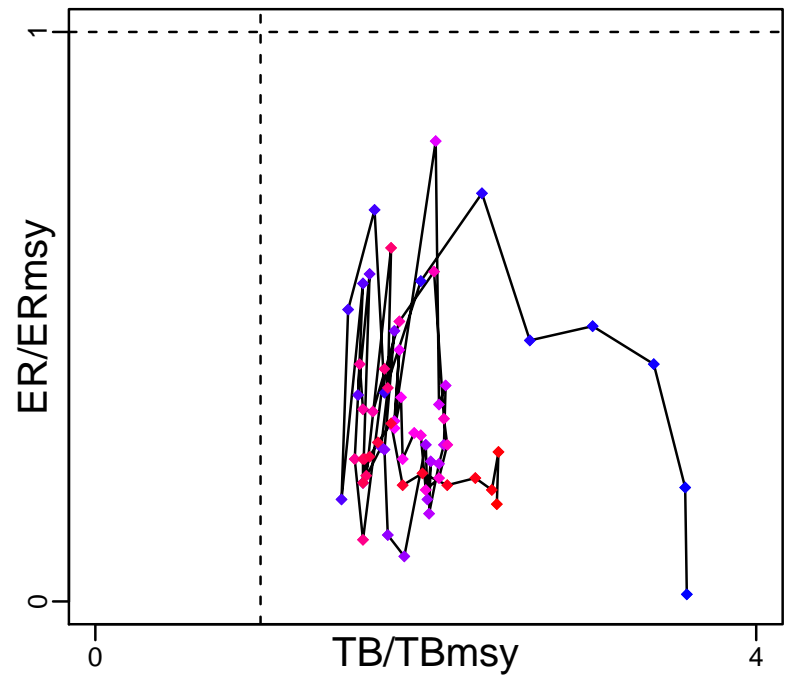
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2013	731,000	-	0+
<b>SSB</b>	SSB-MT	2013	606,000	Both	3+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2013	$1.46 \times 10^9$	-	0
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2013	0	-	-
<b>TC</b>	TC-MT	2013	29,700		
<b>TL</b>	TL-MT	2013	29,700		
<b>TB/TBmsy</b>	TBdivTBmsy-dimensionless	2013	2.48		
<b>SSB/SSBmsy</b>	SSBdivSSBmsy-dimensionless	2013	2.85		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-ratio	2013	0.17		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Cape horse mackerel South Africa South coast [CTRACSA]

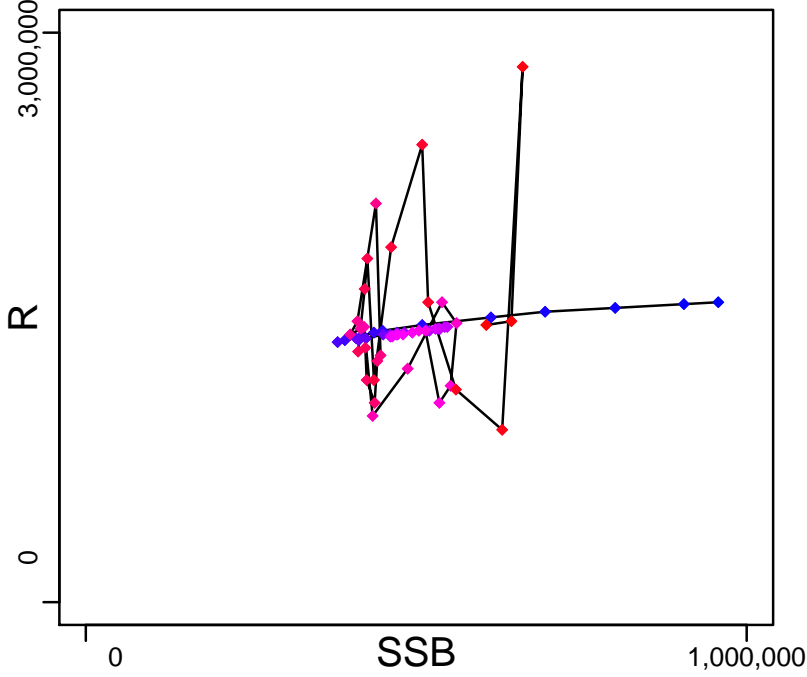
Kobe MSYpref (1949–2013–Furman)



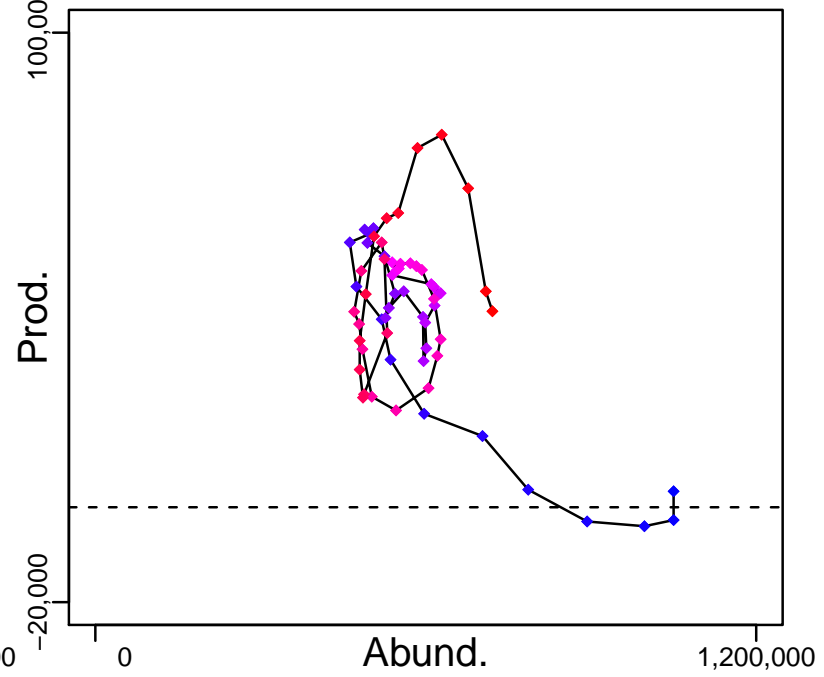
Kobe MGTpref (1949–2013–Furman)



Spawner Recruit (1949–2013–Furman)



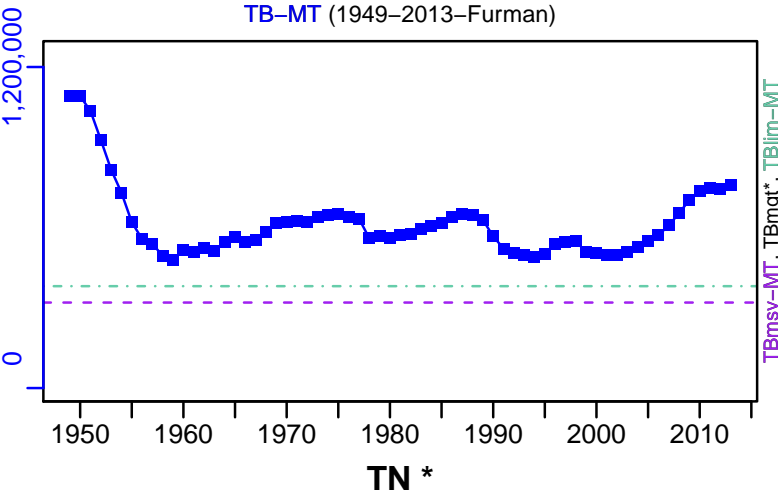
Production (1949–2013–Furman)



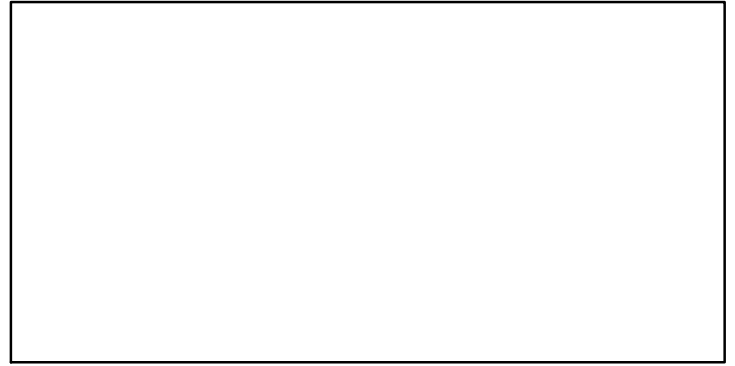
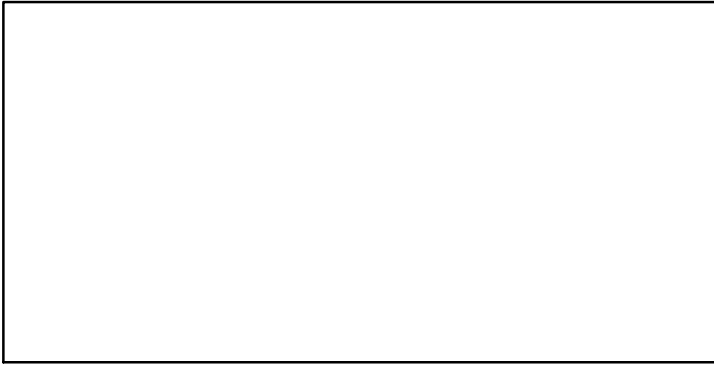
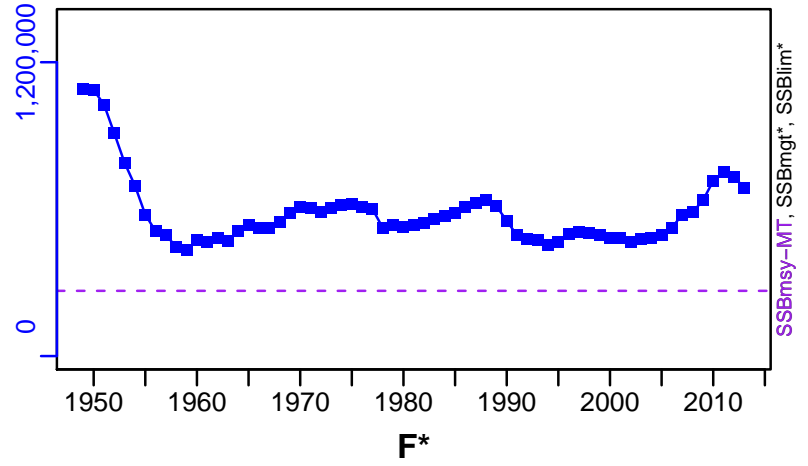
◆ Start Year ◆ End Year \* No Data

# Cape horse mackerel South Africa South coast [CTRACSA]

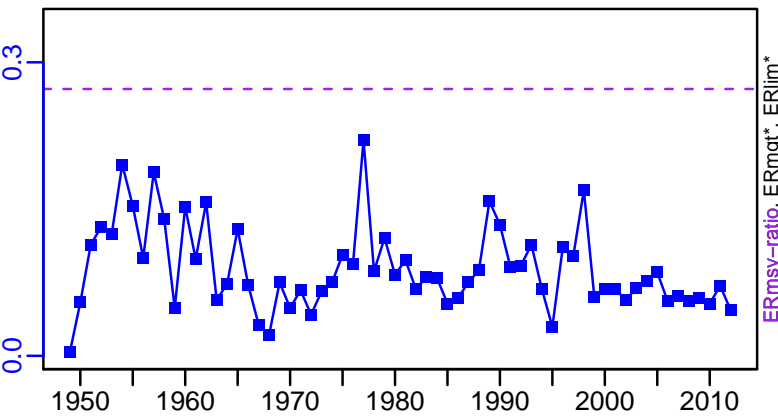
TB-MT (1949–2013–Furman)



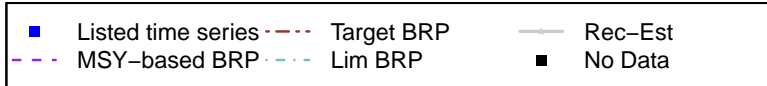
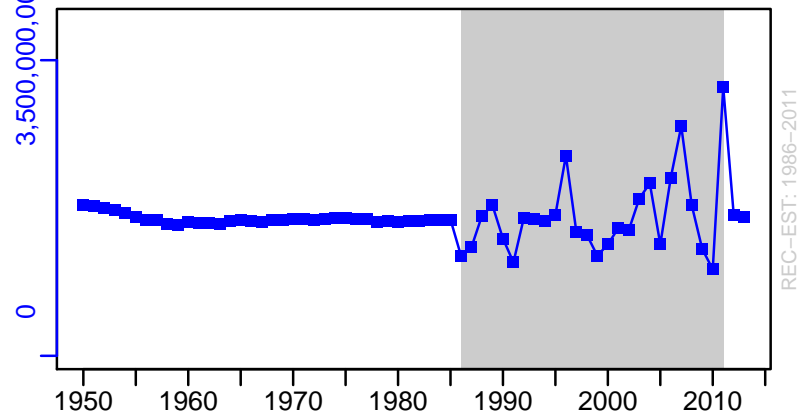
SSB-MT (1949–2013–Furman)



ER-ratio (1949–2013–Furman)



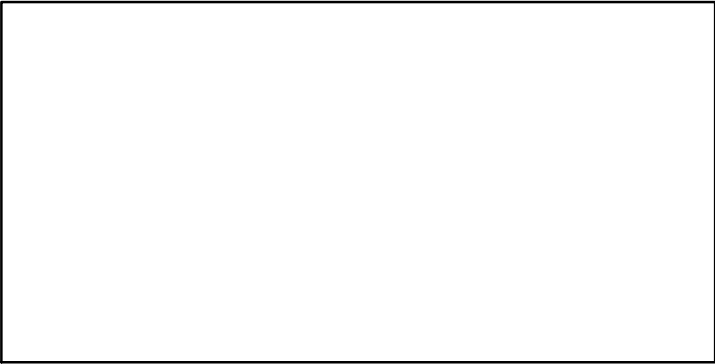
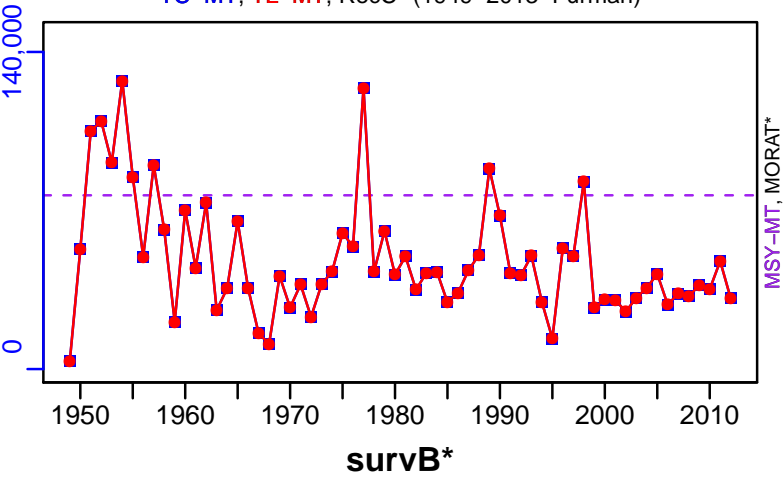
R-E00 (1949–2013–Furman)



Cape horse mackerel South Africa South coast [CTRACSA]

TC-MT, TL-MT, RecC\* (1949-2013-Furman)

TAC\*, Cpair\*, Cadv\*



EFFORT\*



## Deep-water cape hake South Africa [DEEPCHAKESA]

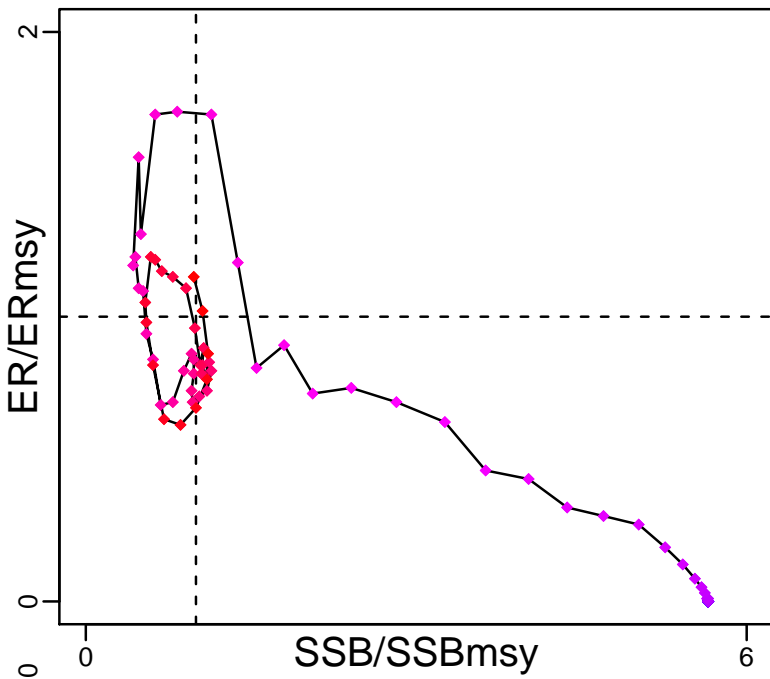
Metadata	
<b>Scientific Name</b>	Merluccius paradoxus
<b>Current Assess ID</b>	MARAM-DEEPCHAKESA-1917-2015-Rademeyer
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2013, 2015

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2015	181,000
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-ratio	2015	0.41
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	SSBmgt-MT	2015	181,000
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2015	2,256,000
<b>SSB0</b>	SSB0-MT	2015	1,023,000
<b>MSY</b>	MSY-MT	2015	118,900
<b>M</b>	M-1/yr	2015	0.72
<b>TBlim</b>	TBlim-MT	2013	60,000
<b>SSBlim</b>	SSBlim-MT	2015	77,200
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

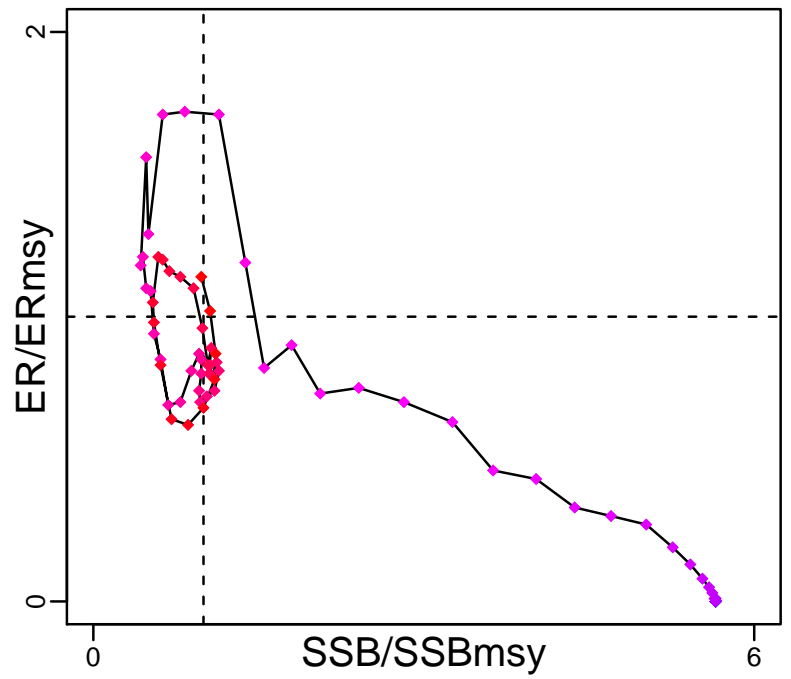
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2015	517,000	-	0+
<b>SSB</b>	SSB-MT	2015	178,000	Females	4
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2015	$3.86 \times 10^9$	-	0
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2015	0	-	-
<b>TC</b>	TC-MT	2015	133,000		
<b>TL</b>	TL-MT	2015	133,000		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSBdivSSBmsy-dimensionless	2015	0.98		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ERdivERmsy-dimensionless	2015	1.14		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Deep-water cape hake South Africa [DEEPCHAKESA]

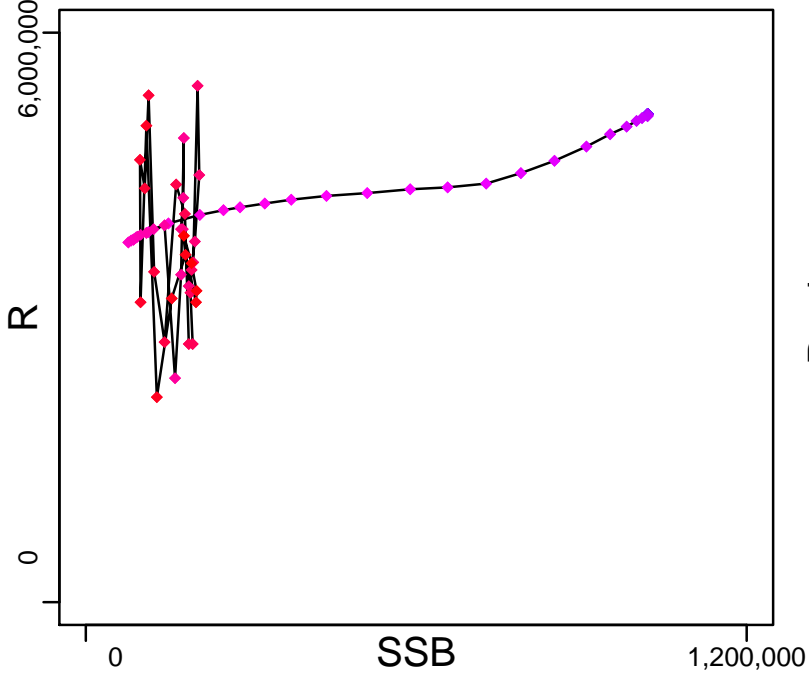
Kobe MSYpref (1917–2015–Rademeyer)



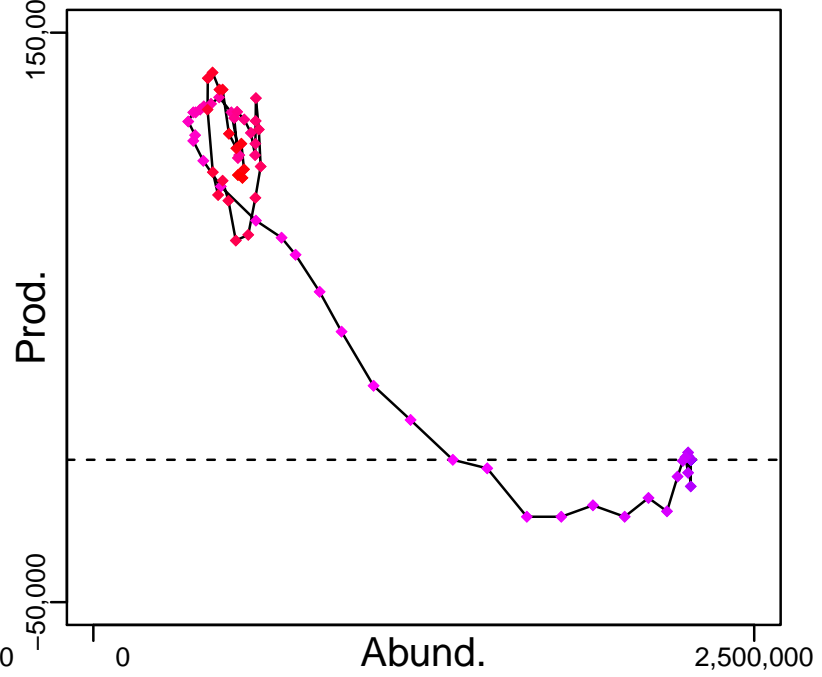
Kobe MGTpref (1917–2015–Rademeyer)



Spawner Recruit (1917–2015–Rademeyer)



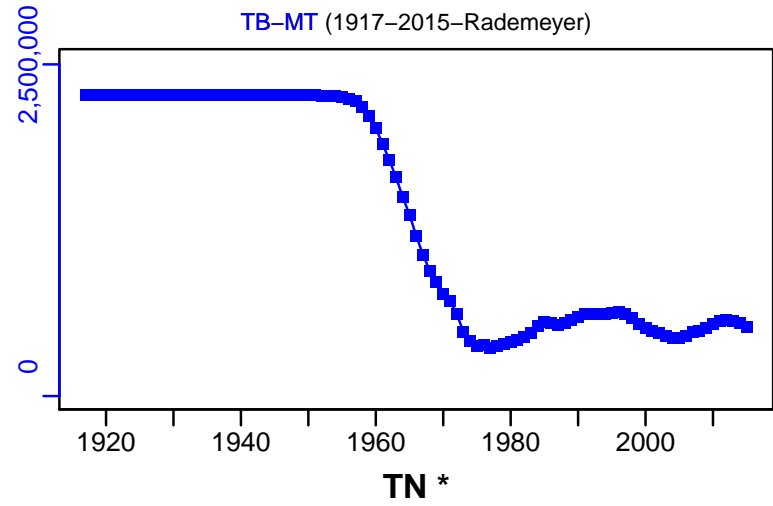
Production (1917–2015–Rademeyer)



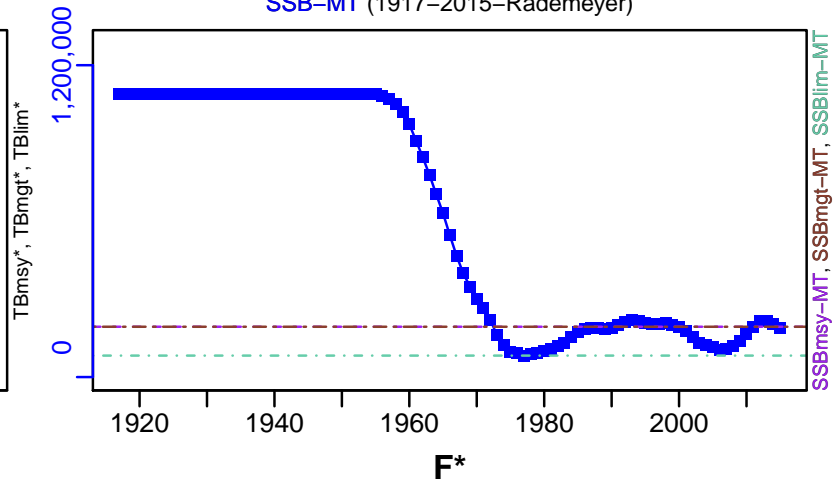
◆ Start Year ◆ End Year \* No Data

# Deep-water cape hake South Africa [DEEPCHAKESA]

TB-MT (1917–2015–Rademeyer)

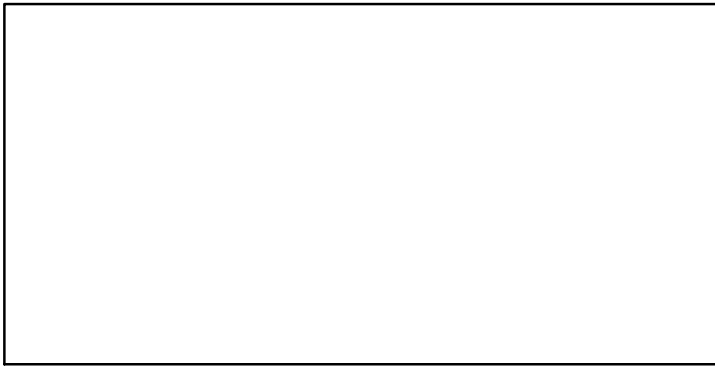


SSB-MT (1917–2015–Rademeyer)

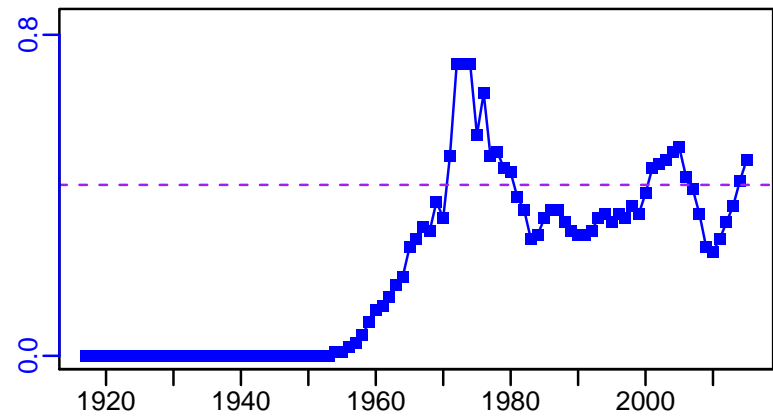


TN \*

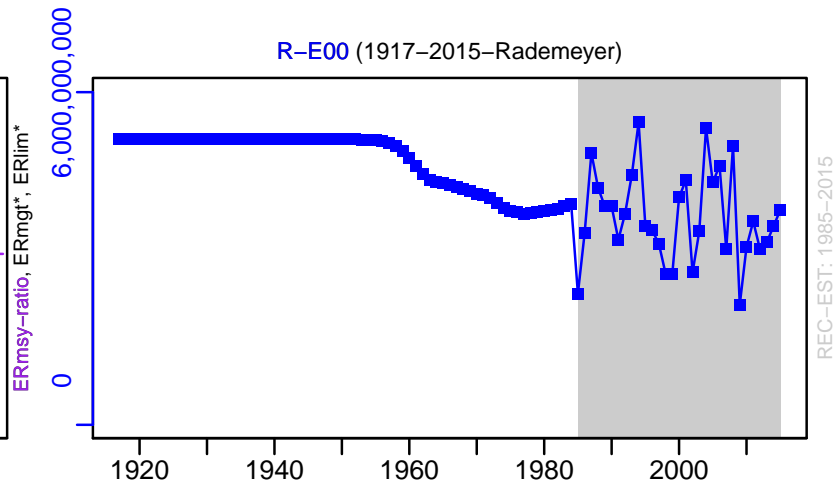
F\*



ER-ratio (1917–2015–Rademeyer)



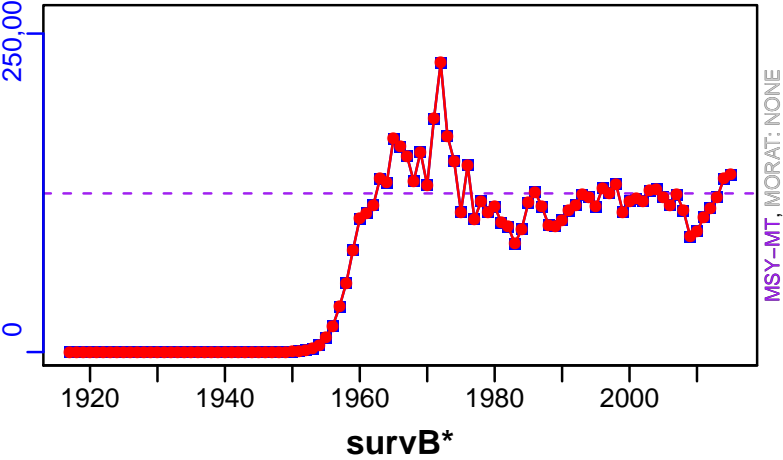
R-E00 (1917–2015–Rademeyer)





Deep-water cape hake South Africa [DEEPCHAKESA]

TC-MT, TL-MT, RecC\* (1917-2015-Rademeyer)



TAC\*, Cpair\*, Cadv\*



CPUE\*



EFFORT\*

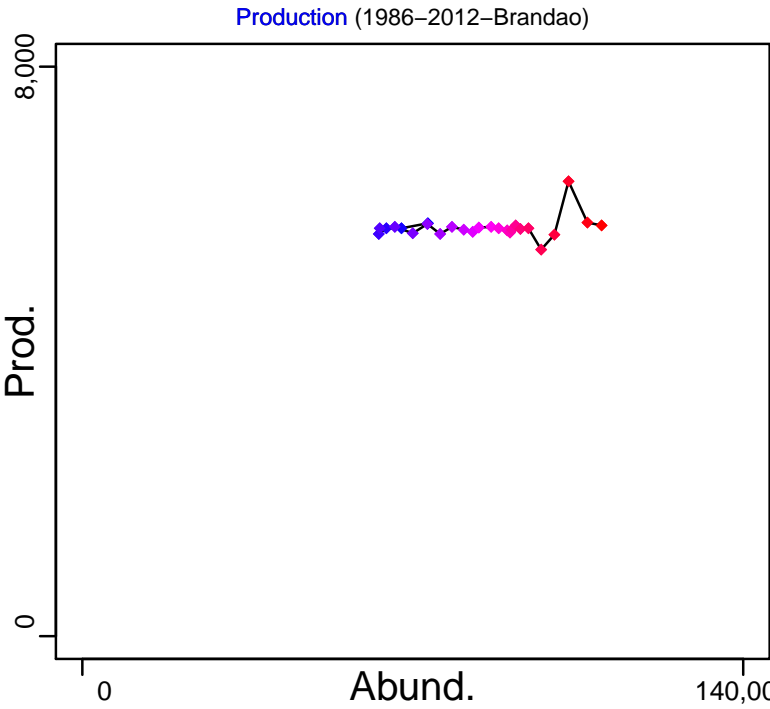


## Kingklip South Africa [KINGKLIPSA]

Metadata	
<b>Scientific Name</b>	Genypterus capensis
<b>Current Assess ID</b>	MARAM-KINGKLIPSA-1986-2012-Brandao
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2012

Reference Points			
Type	ID	Asmt Year	Value
TBmsy	-	-	-
SSBmsy	-	-	-
Fmsy	-	-	-
ERmsy	-	-	-
TBmgt	-	-	-
SSBmgt	-	-	-
Fmgt	-	-	-
ERmgt	-	-	-
TB0	TB0-MT	2012	85,311
SSB0	-	-	-
MSY	MSY-MT	2012	5855
M	-	-	-
TBlim	-	-	-
SSBlim	-	-	-
Flim	-	-	-
ERlim	-	-	-

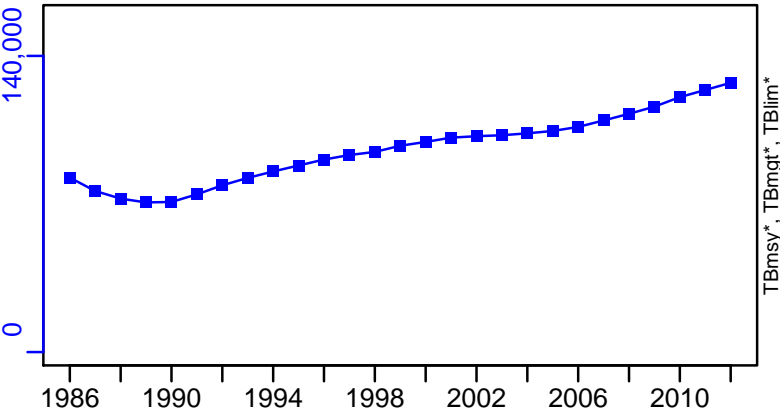
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
TB	TB-MT	2012	113,000	-	0+
SSB	-	-	-	-	-
TN	-	-	-	-	-
R	-	-	-	-	-
F	-	-	-	-	-
ER	ER-calc-ratio	2012	0	-	-
TC	TC-MT	2012	3520		
TL	TL-MT	2012	3520		
TB/TBmsy	-	-	-		
SSB/SSBmsy	-	-	-		
F/Fmsy	-	-	-		
ER/ERmsy	-	-	-		
TB/TBmgt	-	-	-		
SSB/SSBmgt	-	-	-		
F/Fmgt	-	-	-		
ER/ERmgt	-	-	-		



◆ Start Year ◆ End Year \* No Data

# Kingklip South Africa [KINGKLIPSA]

TB-MT (1986-2012-Brandao)



SSB\*



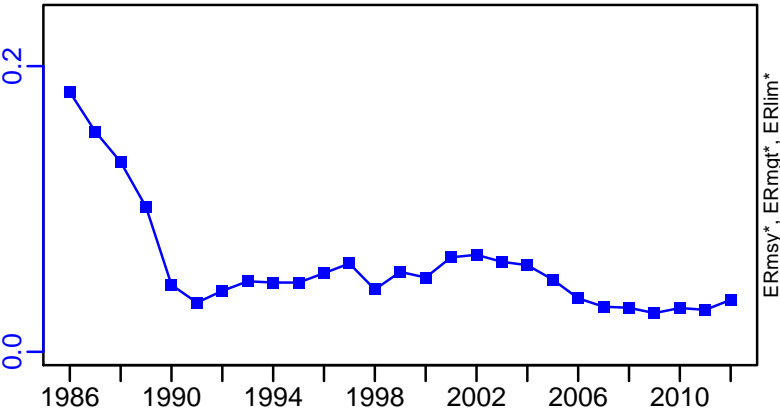
TN \*



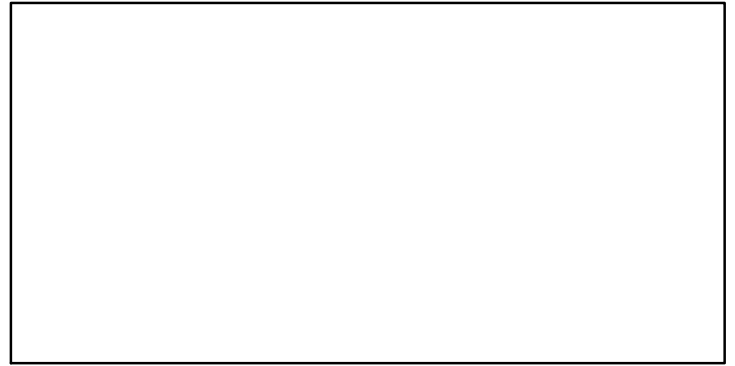
F\*



ER-calc-ratio (1986-2012-Brandao)



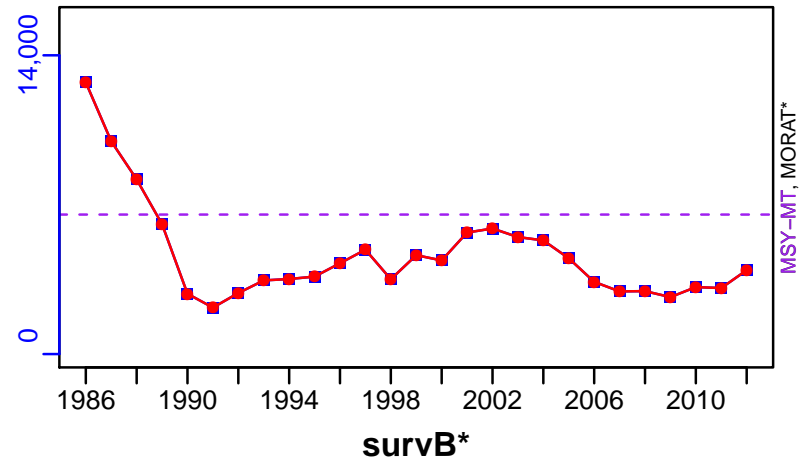
Recruits\*



# Kingklip South Africa [KINGKLIPSA]

TC-MT, TL-MT, RecC\* (1986–2012–Brandao)

TAC\*, Cpair\*, Cadv\*



EFFORT\*



## Patagonian toothfish South Africa Subantarctic Prince Edward Islands [PTOOTHFISHPEI]

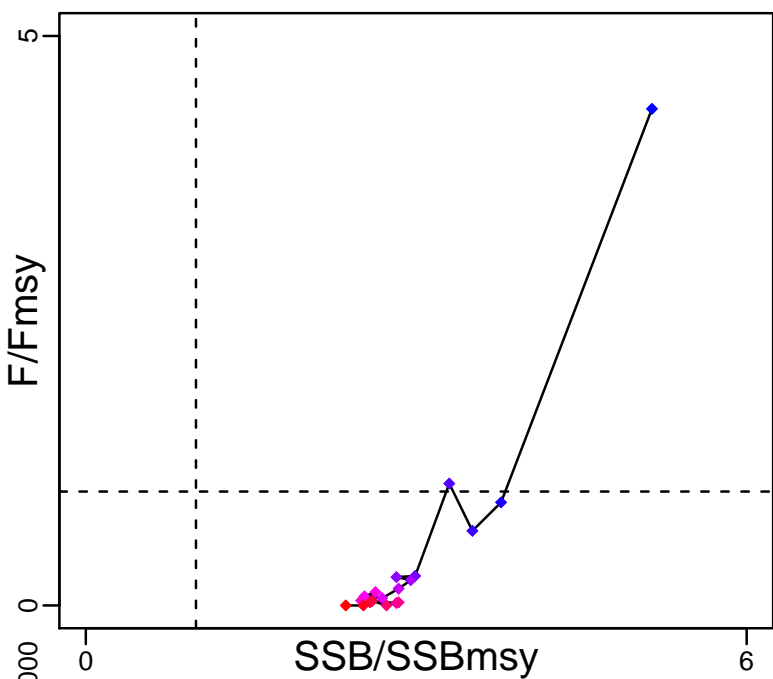
Metadata	
<b>Scientific Name</b>	Dissostichus eleginoides
<b>Current Assess ID</b>	MARAM-PTOOTHFISHPEI-1960-2015-Brandao
<b>Area</b>	South Africa Subantarctic Prince Edward Islands
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2013, 2015

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-MT	2015	9180
<b>Fmsy</b>	Fmsy-1/yr	2015	0.12
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2015	59,165
<b>SSB0</b>	SSB0-MT	2015	37,662
<b>MSY</b>	MSY-MT	2015	1514
<b>M</b>	M-1/yr	2015	0.13
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

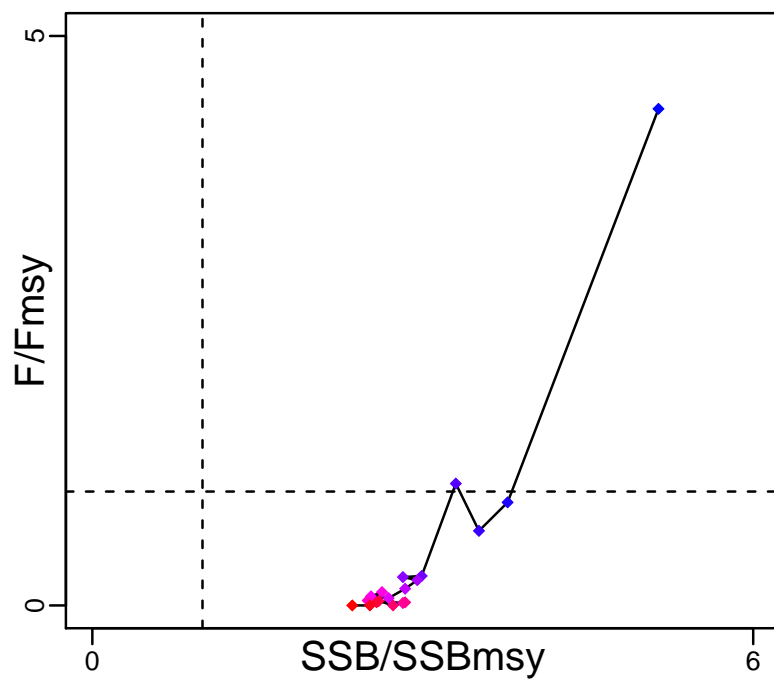
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2015	34,100	-	0+
<b>SSB</b>	SSB-MT	2015	21,700	-	13+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2015	$1.41 \times 10^{12}$	-	6
<b>F</b>	F-1/yr	2015	0	-	-
<b>ER</b>	ER-calc-ratio	2015	0	-	-
<b>TC</b>	TC-MT	2015	575		
<b>TL</b>	TL-MT	2015	575		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSBdivSSBmsy-dimensionless	2015	2.36		
<b>F/Fmsy</b>	FdivFmsy-dimensionless	2015	0		
<b>ER/ERmsy</b>	ER-ratio/Fmsy-1/yr	2013	0.01		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Patagonian toothfish South Africa Subantarctic Prince Edward Islands [PTOOTHFISHPEI]

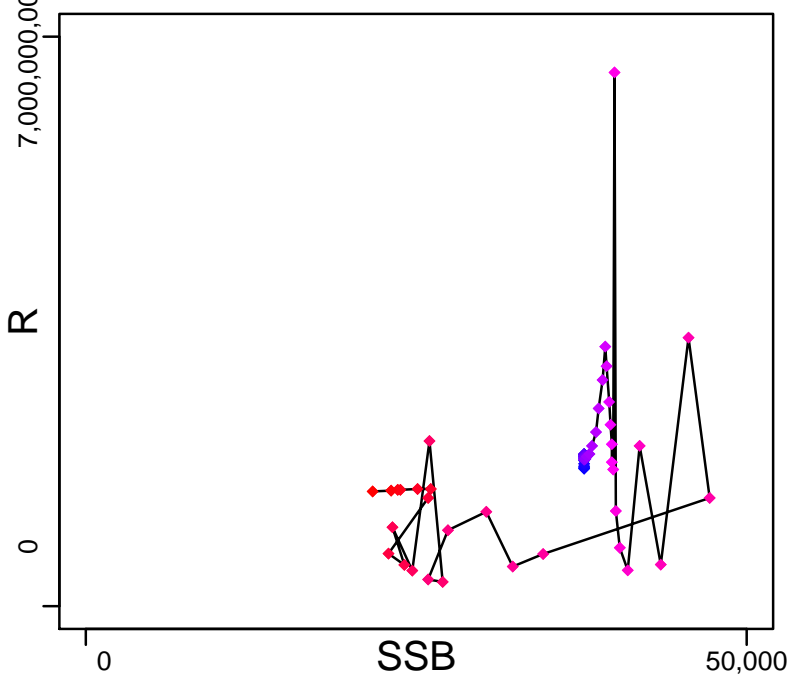
Kobe MSYpref (1960–2015–Brandao)



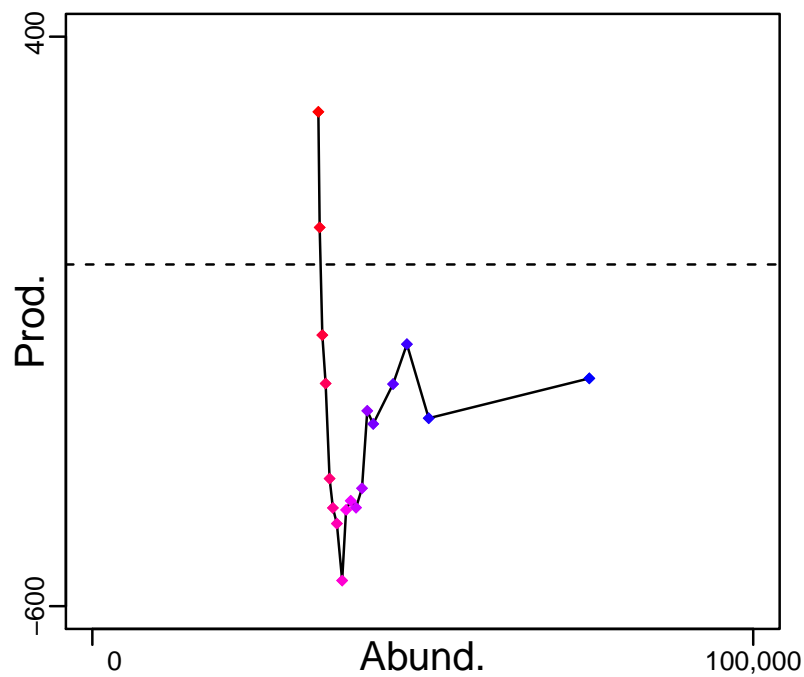
Kobe MGTpref (1960–2015–Brandao)



Spawner Recruit (1960–2015–Brandao)



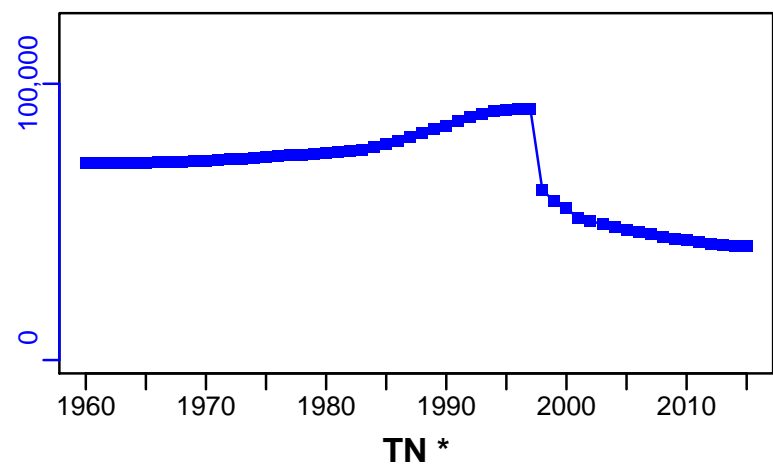
Production (1960–2015–Brandao)



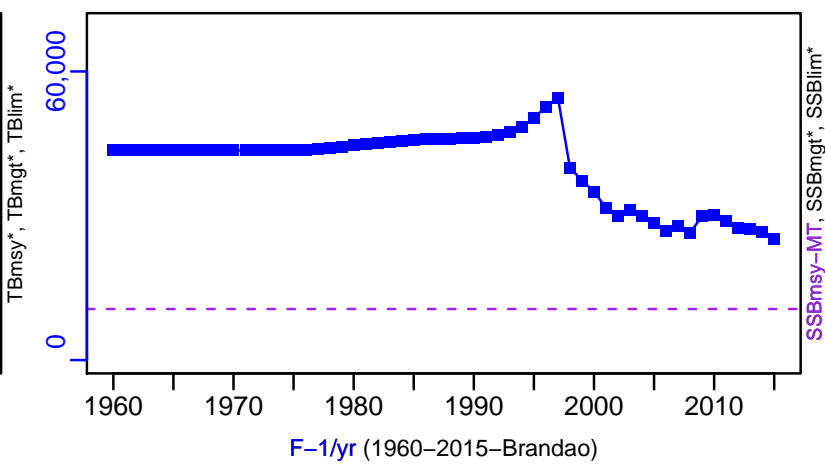
◆ Start Year ◆ End Year \* No Data

# Patagonian toothfish South Africa Subantarctic Prince Edward Islands [PTOOTHFISHPEI]

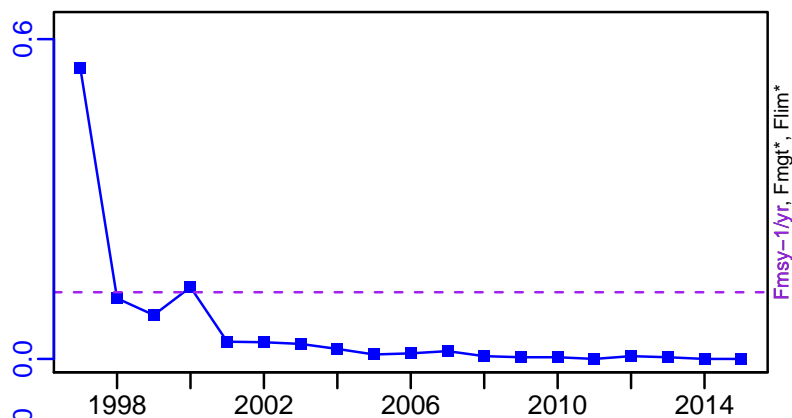
TB-MT (1960–2015–Brandao)



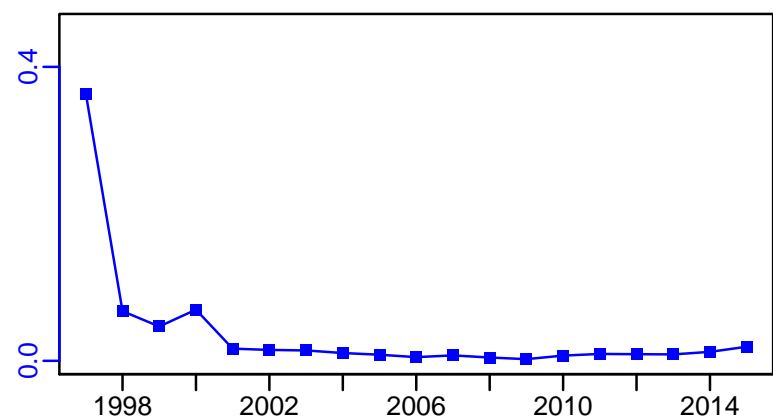
SSB-MT (1960–2015–Brandao)



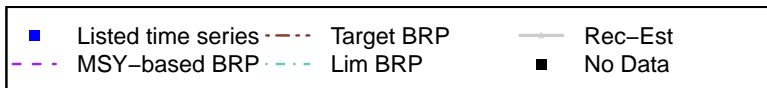
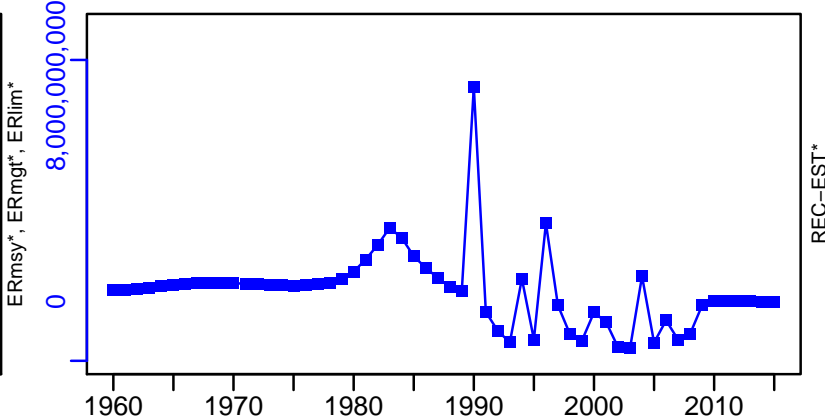
F-1/yr (1960–2015–Brandao)



ER-calc-ratio (1960–2015–Brandao)



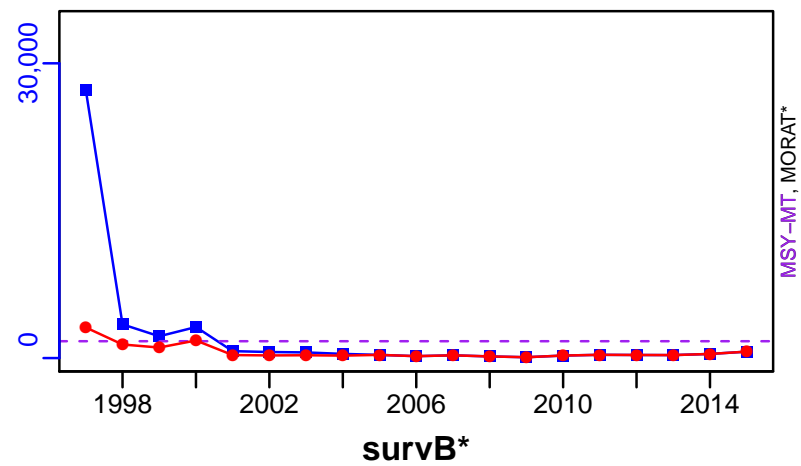
R-E00 (1960–2015–Brandao)





Patagonian toothfish South Africa Subantarctic Prince Edward Islands [PTOOTHFISHPEI]

TC-MT, TL-MT, RecC\* (1960–2015–Brandao)



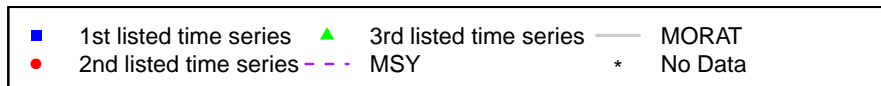
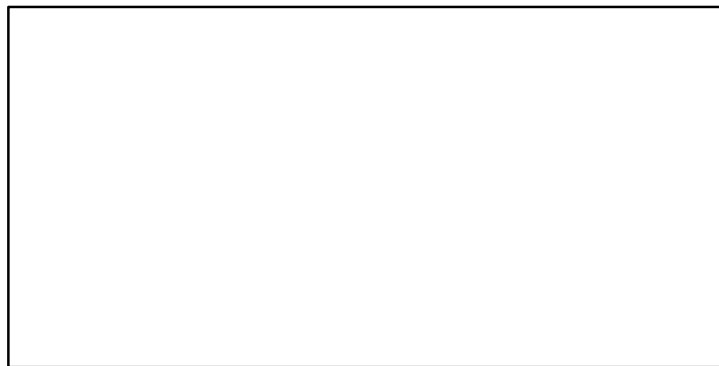
TAC\*, Cpair\*, Cadv\*



CPUE\*



EFFORT\*



## Abalone South Africa [SAABALONESA]

Metadata	
<b>Scientific Name</b>	Haliotis midae
<b>Current Assess ID</b>	MARAM-SAABALONESA-1951-2015-Brandao
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2013, 2015

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	SSBmsy-pr-MT	2015	11,575
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2015	31,391
<b>SSB0</b>	SSB0-MT	2015	28,937
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2015	0.15
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2015	6210	-	1+
<b>SSB</b>	SSB-MT	2015	5080	-	7+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2015	9,070,000	-	8
<b>F</b>	F-1/yr	2015	0	-	-
<b>ER</b>	ER-ratio	2015	0	-	-
<b>TC</b>	TC-MT	2015	985		
<b>TL</b>	TL-MT	2015	50		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Abalone South Africa [SAABALONESA]

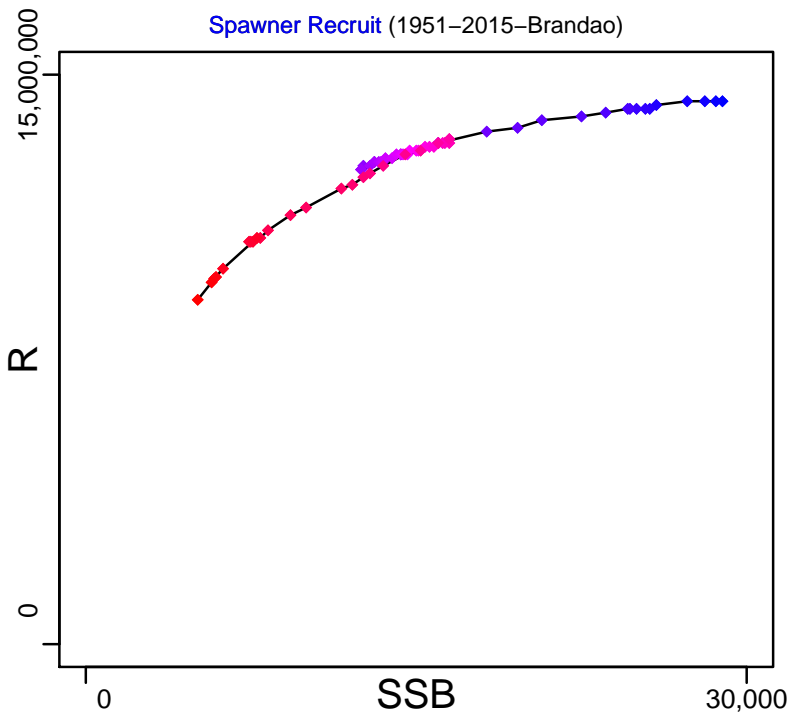
Kobe MSY\*



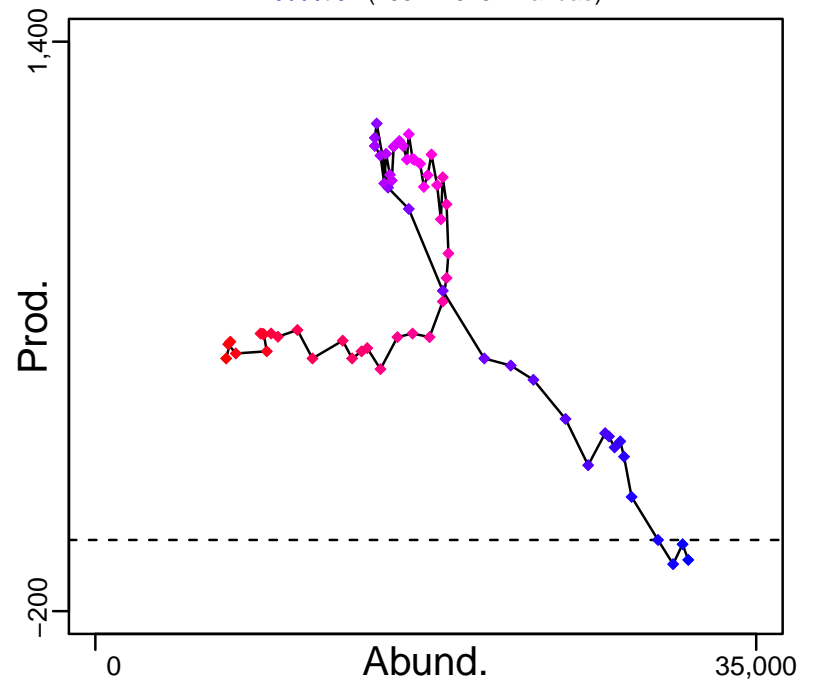
Kobe MGT\*



Spawner Recruit (1951–2015–Brandao)



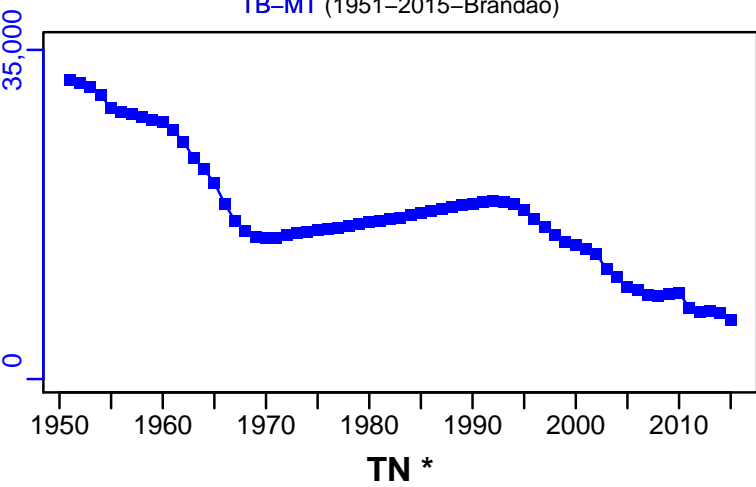
Production (1951–2015–Brandao)



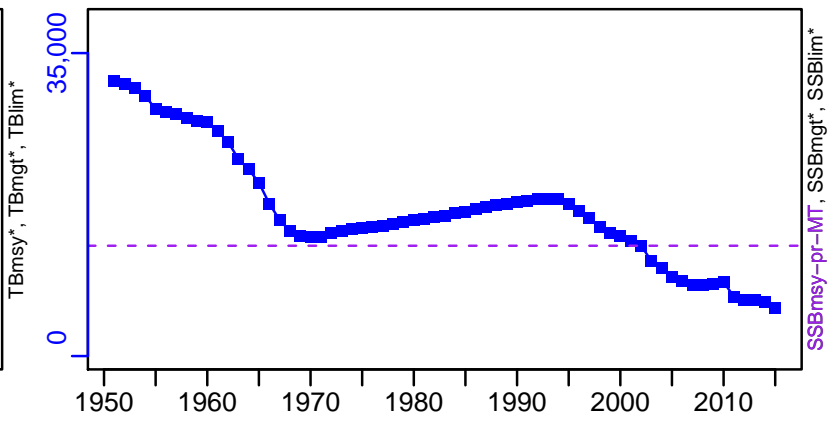
◆ Start Year ◆ End Year \* No Data

# Abalone South Africa [SAABALONESA]

TB-MT (1951–2015–Brandao)



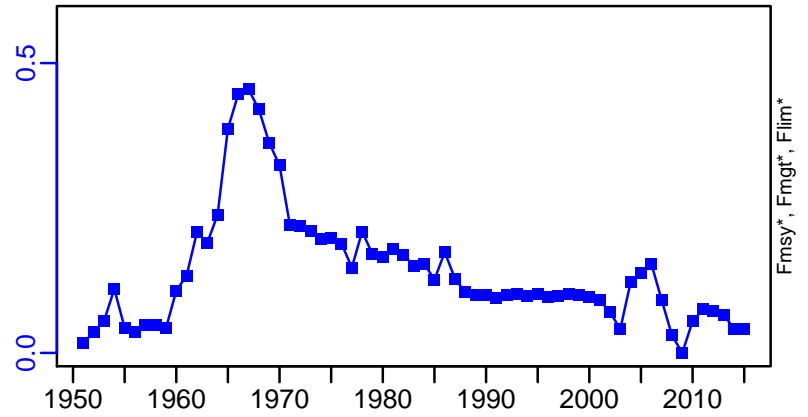
SSB-MT (1951–2015–Brandao)



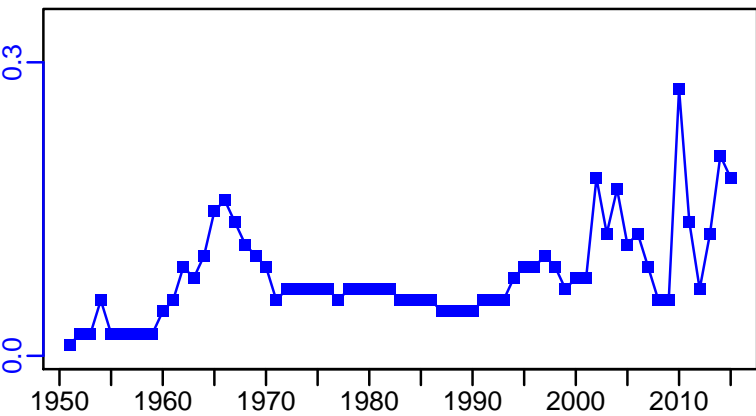
TN \*



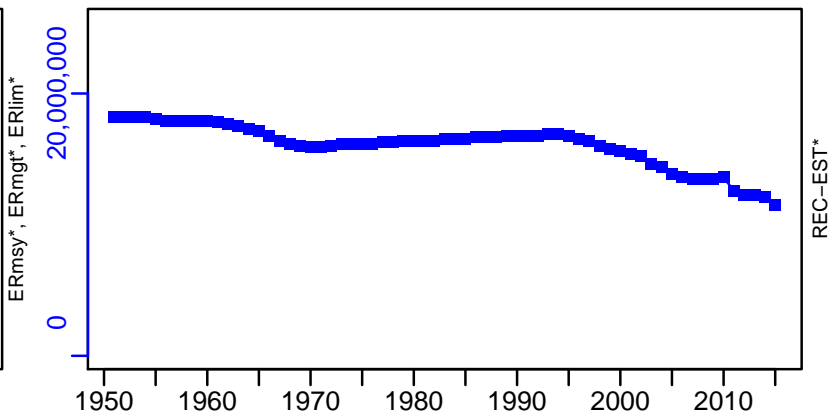
F-1/yr (1951–2015–Brandao)



ER-ratio (1951–2015–Brandao)

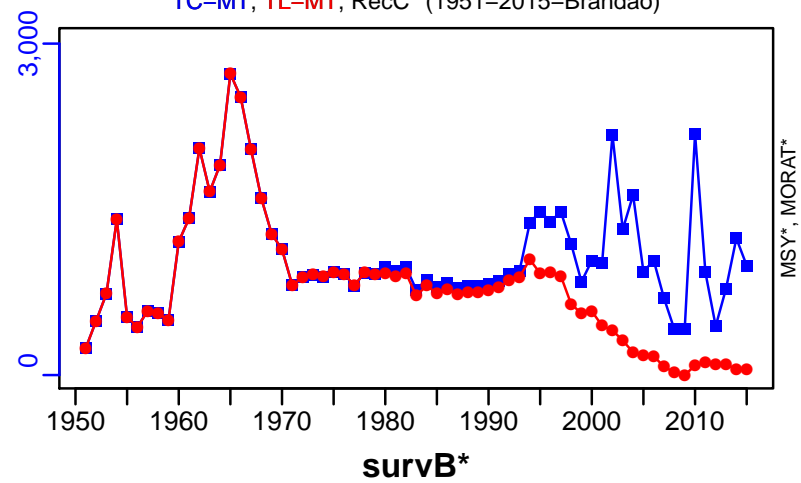


R-E00 (1951–2015–Brandao)

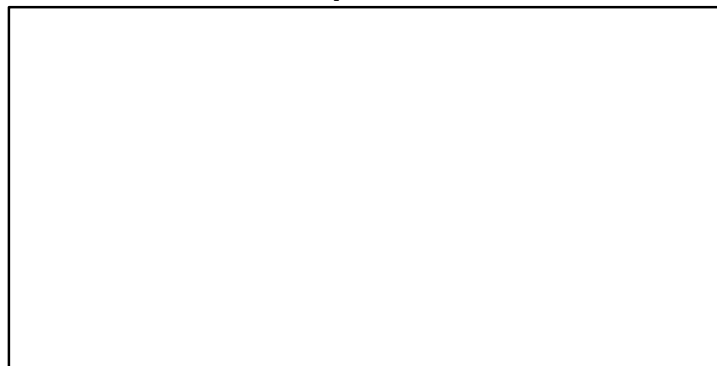


# Abalone South Africa [SAABALONESA]

TC-MT, TL-MT, RecC\* (1951-2015-Brandao)



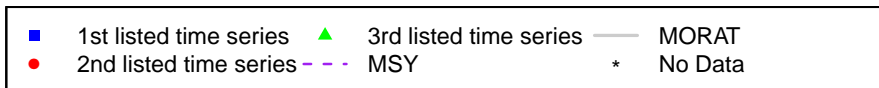
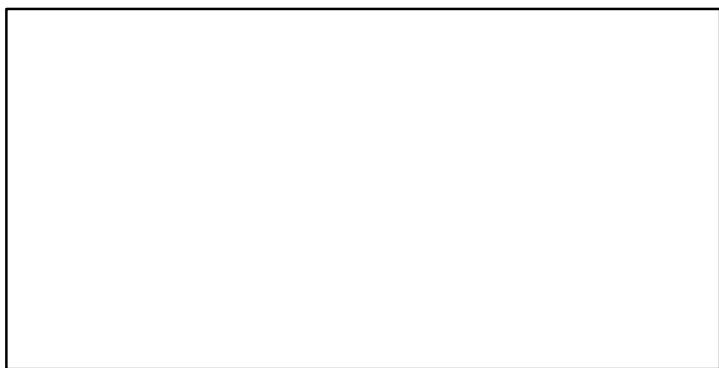
TAC\*, Cpair\*, Cadv\*



CPUE\*



EFFORT\*



## Sardine South Africa [SARDSA]

Metadata	
<b>Scientific Name</b>	Sardinops sagax
<b>Current Assess ID</b>	MARAM-SARDSA-1949-2015-deMoor
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2015, 2011

Reference Points			
Type	ID	Asmt Year	Value
TBmsy	-	-	-
SSBmsy	-	-	-
Fmsy	-	-	-
ERmsy	-	-	-
TBmgt	-	-	-
SSBmgt	-	-	-
Fmgt	-	-	-
ERmgt	-	-	-
TB0	TB0-MT	2015	1,122,314
SSB0	-	-	-
MSY	-	-	-
M	M-1/yr	2015	0.9
TBlim	TBlim-MT	2015	361,990
SSBlim	-	-	-
Flim	-	-	-
ERlim	-	-	-

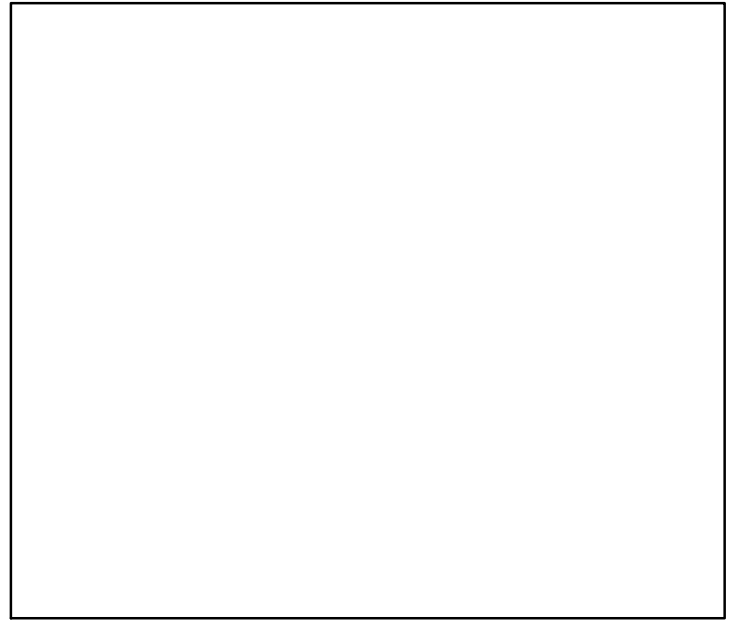
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
TB	TB-MT	2015	688,000	Both	0+
SSB	SSB-MT	2015	339,000	Both	0+
TN	TN-E00	2015	$4.47 \times 10^{10}$	Both	0+
R	R-E00	2015	$3.13 \times 10^{10}$	Both	-
F	-	-	-	-	-
ER	ER-ratio	2015	0	Both	0+
TC	TC-MT	2015	96,300		
TL	TL-MT	2015	96,300		
TB/TBmsy	-	-	-		
SSB/SSBmsy	-	-	-		
F/Fmsy	-	-	-		
ER/ERmsy	-	-	-		
TB/TBmgt	-	-	-		
SSB/SSBmgt	-	-	-		
F/Fmgt	-	-	-		
ER/ERmgt	-	-	-		

Sardine South Africa [SARDSA]

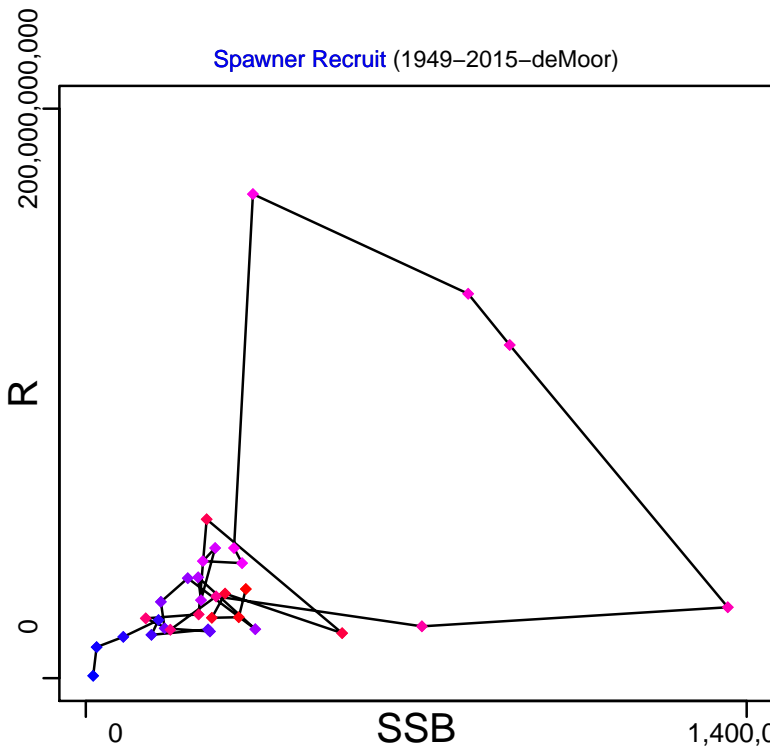
Kobe MSY\*



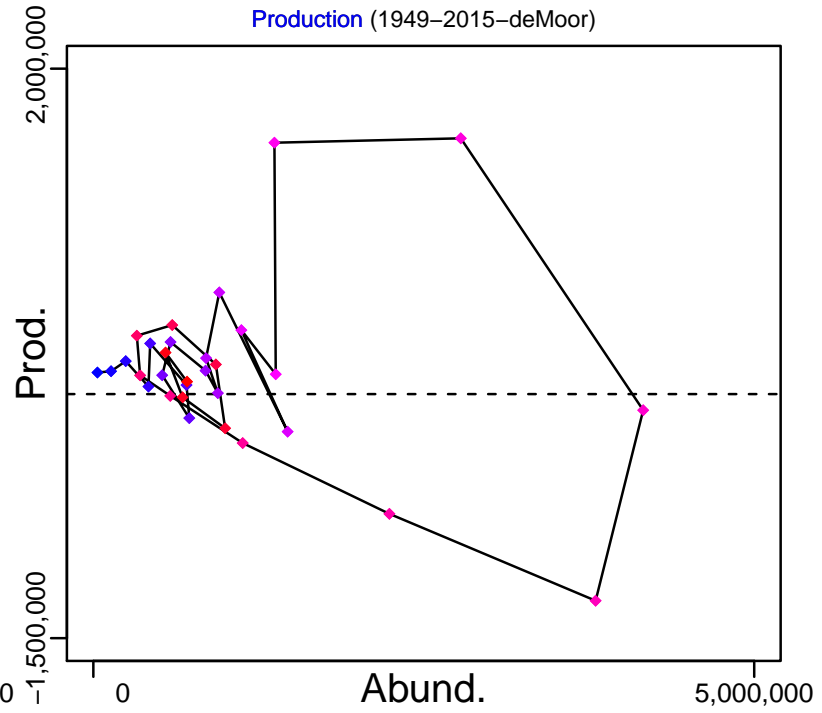
Kobe MGT\*



Spawner Recruit (1949–2015–deMoor)

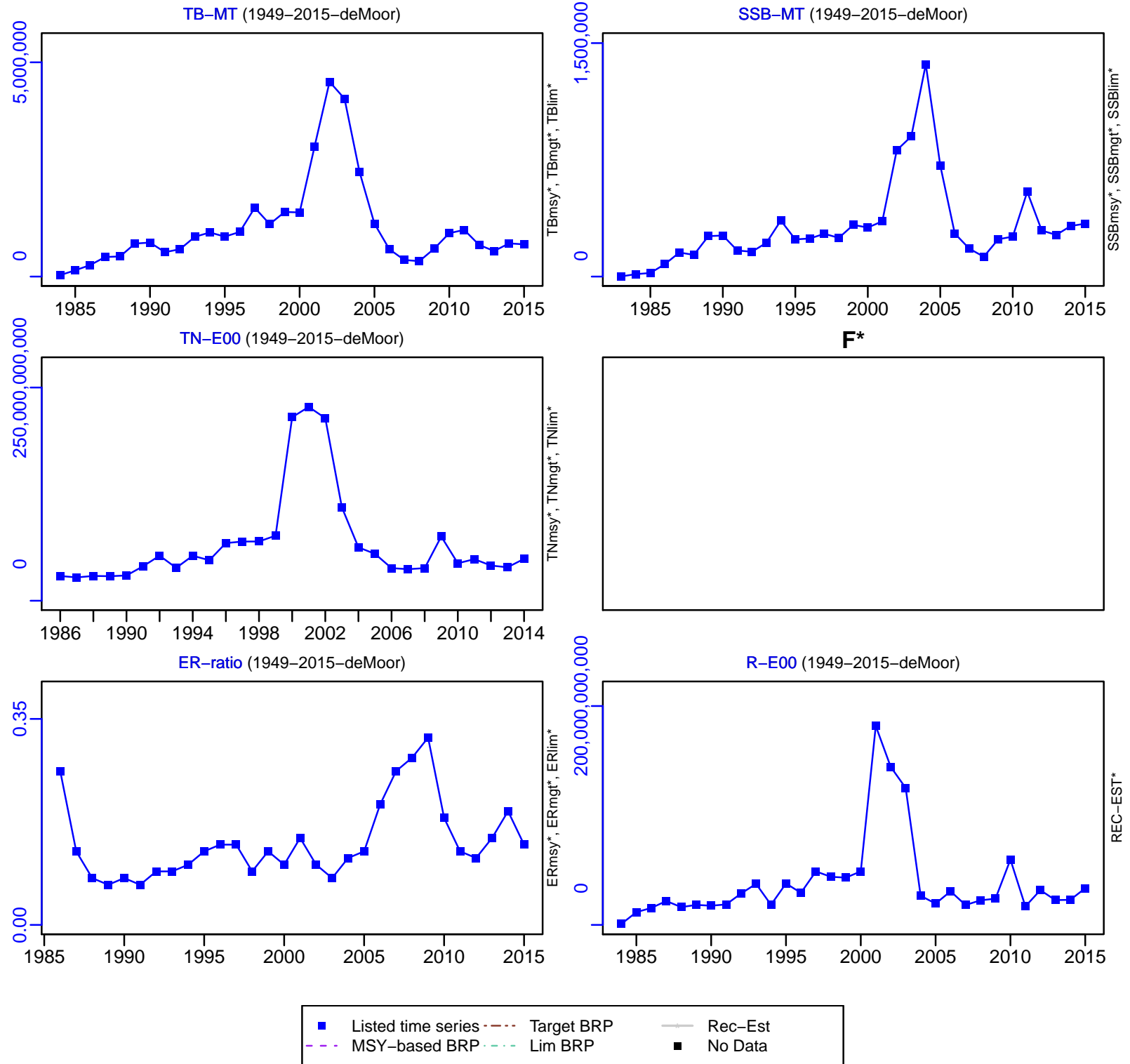


Production (1949–2015–deMoor)



◆ Start Year ◆ End Year \* No Data

# Sardine South Africa [SARDSA]

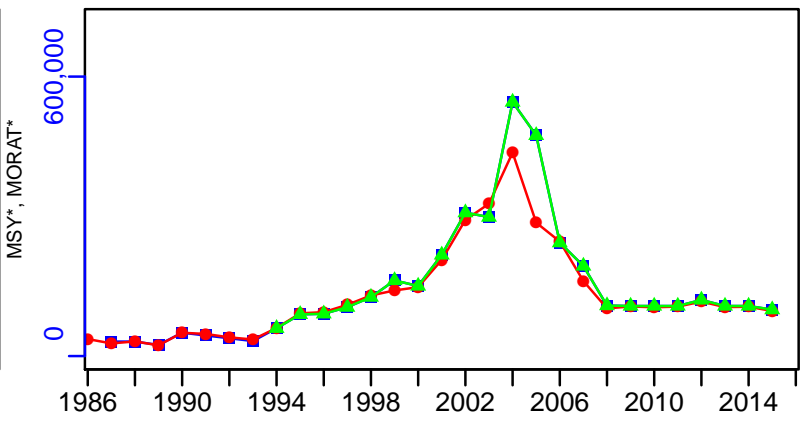
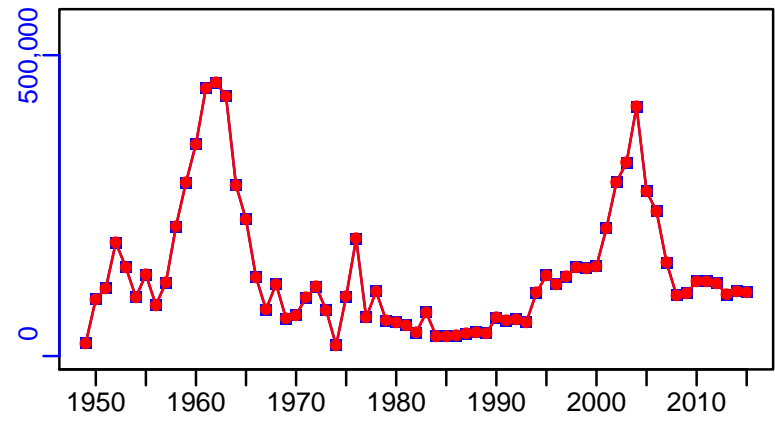




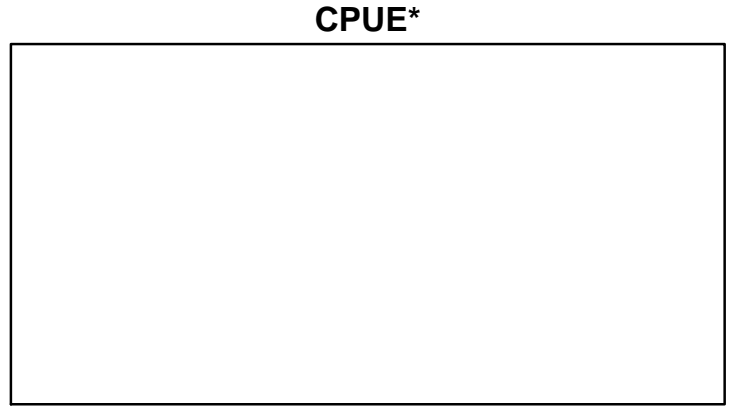
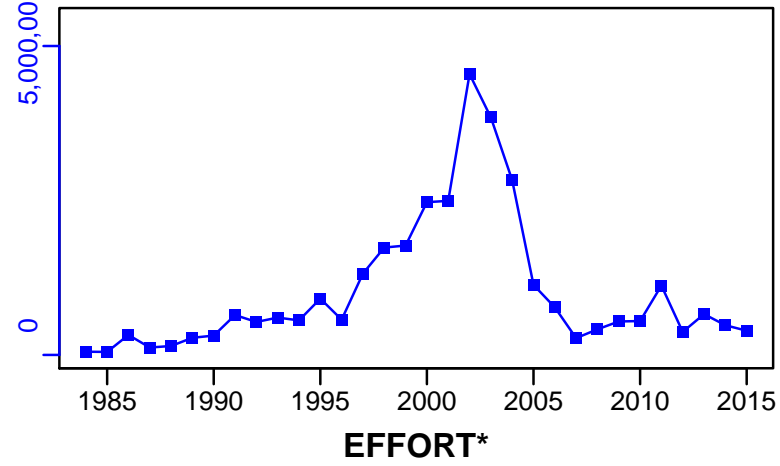
# Sardine South Africa [SARDSA]

TC-MT, TL-MT, RecC\* (1949-2015-deMoor)

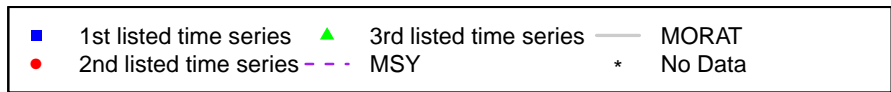
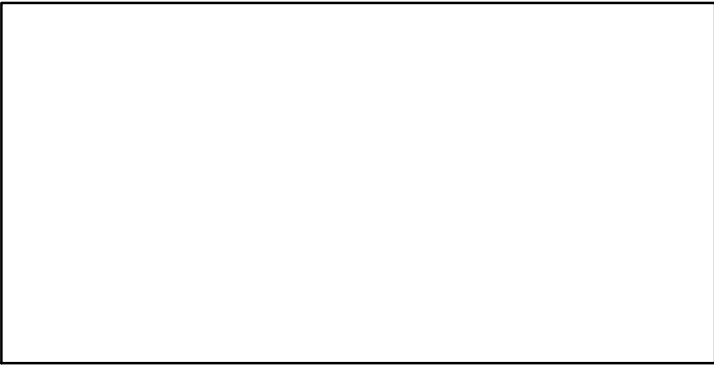
TAC-MT, Cpair-MT, Cadvised-MT (1949-2015-deMoor)



survB-MT (1949-2015-deMoor)



EFFORT\*



## Southern spiny lobster South Africa South coast [SSLOBSTERSASC]

Metadata	
<b>Scientific Name</b>	Palinurus gilchristi
<b>Current Assess ID</b>	MARAM-SSLOBSTERSASC-1973-2014-Johnston
<b>Area</b>	South Africa South coast
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2012, 2014

Reference Points			
Type	ID	Asmt Year	Value
TBmsy	-	-	-
SSBmsy	-	-	-
Fmsy	-	-	-
ERmsy	-	-	-
TBmgt	-	-	-
SSBmgt	SSBmgt-MT	2014	1484
Fmgt	-	-	-
ERmgt	-	-	-
TB0	-	-	-
SSB0	SSB0-MT	2014	4047
MSY	-	-	-
M	M-1/yr	2014	0.1
TBlim	-	-	-
SSBlim	-	-	-
Flim	-	-	-
ERlim	-	-	-

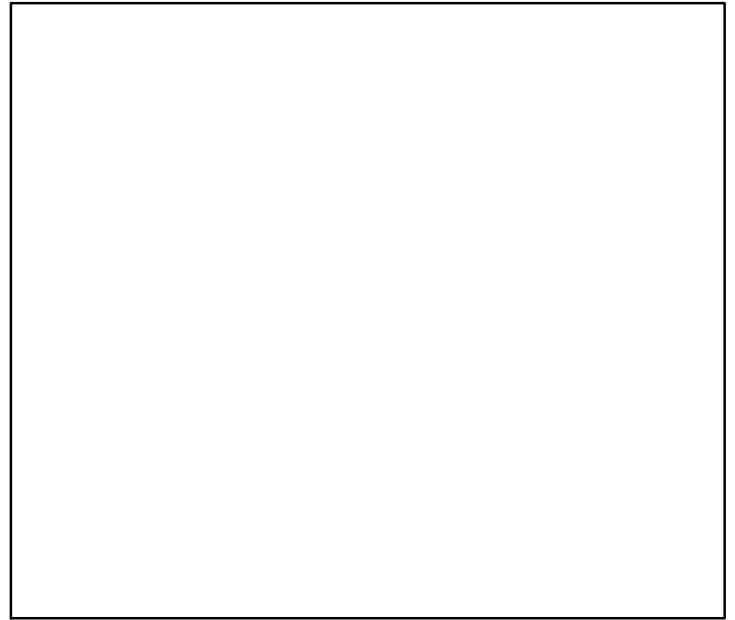
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
TB	TB-MT	2014	1070	-	-
SSB	SSB-MT	2014	1170	Females	-
TN	-	-	-	-	-
R	R-E00	2014	3,840,000	-	-
F	-	-	-	-	-
ER	ER-ratio	2014	0	-	-
TC	TC-MT	2014	359		
TL	TL-MT	2014	359		
TB/TBmsy	-	-	-		
SSB/SSBmsy	-	-	-		
F/Fmsy	-	-	-		
ER/ERmsy	-	-	-		
TB/TBmgt	-	-	-		
SSB/SSBmgt	-	-	-		
F/Fmgt	-	-	-		
ER/ERmgt	-	-	-		

Southern spiny lobster South Africa South coast [SSLOBSTERSASC]

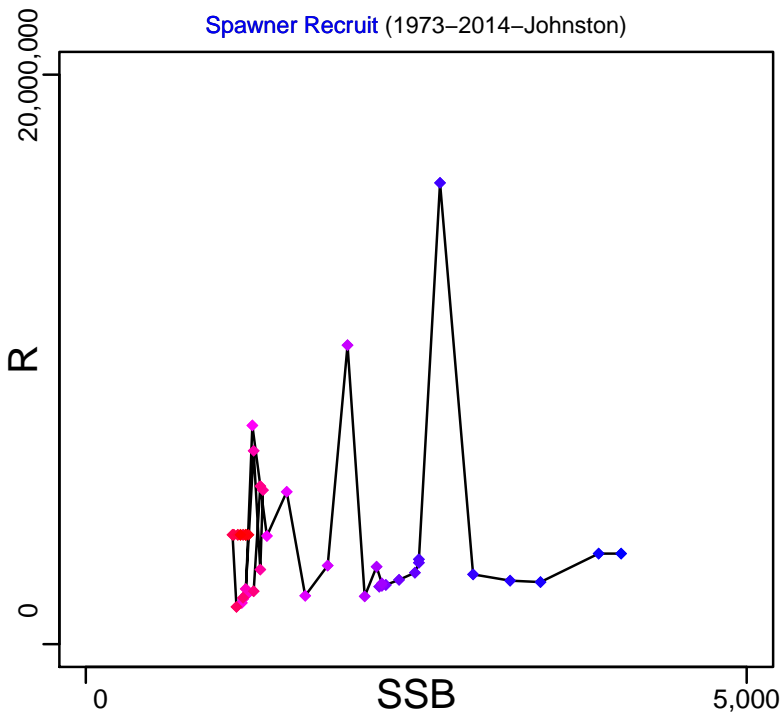
Kobe MSY\*



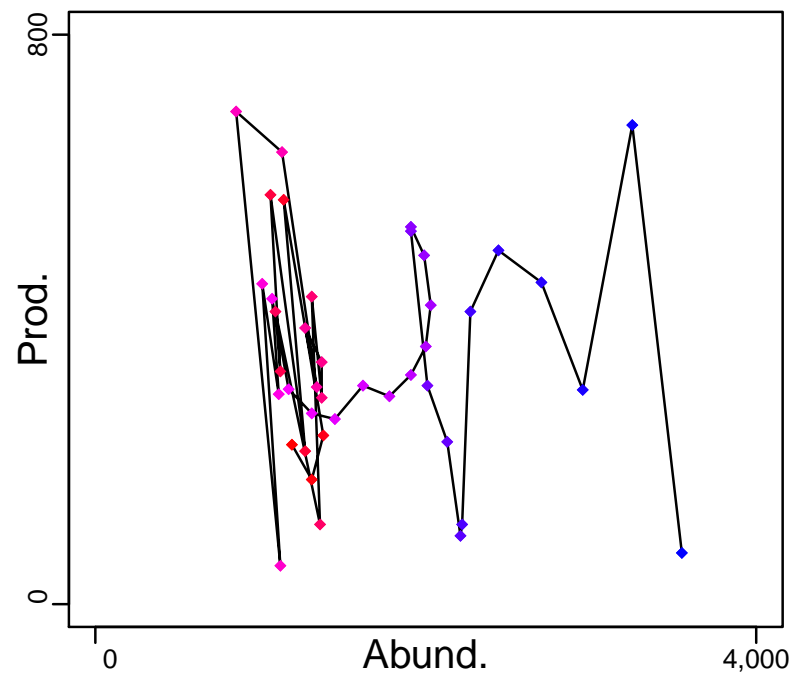
Kobe MGT\*



Spawner Recruit (1973–2014–Johnston)



Production (1973–2014–Johnston)

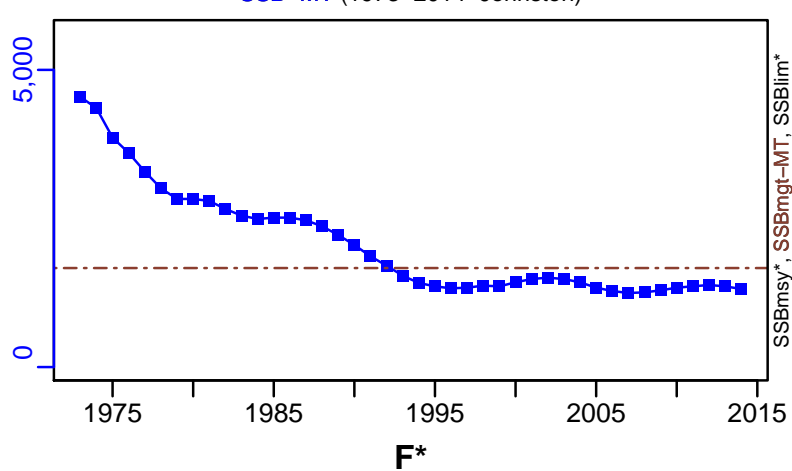
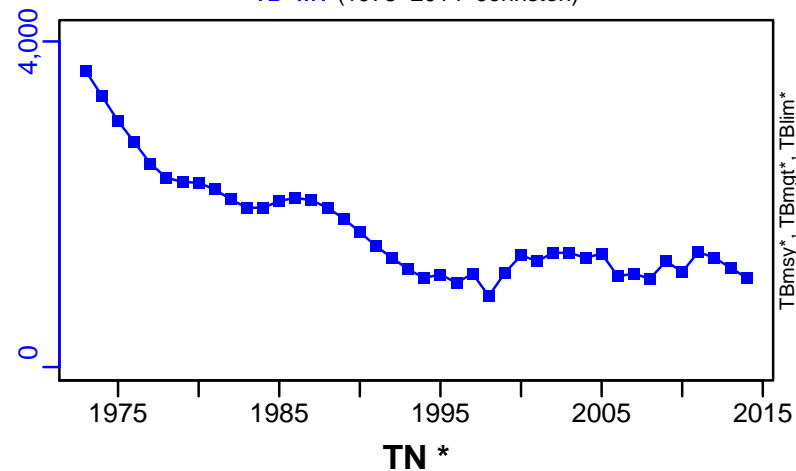


◆ Start Year ◆ End Year \* No Data

# Southern spiny lobster South Africa South coast [SSLOBSTERSASC]

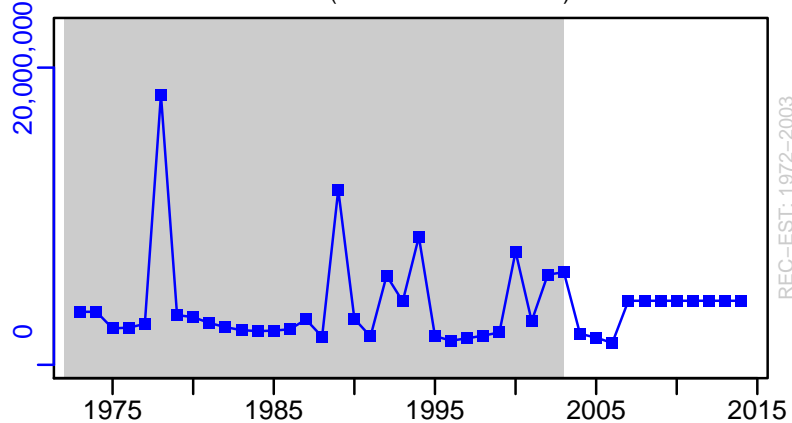
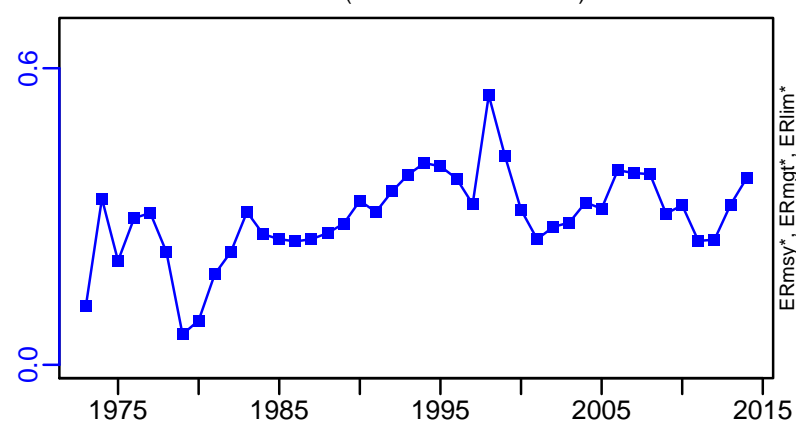
TB-MT (1973–2014–Johnston)

SSB-MT (1973–2014–Johnston)



ER-ratio (1973–2014–Johnston)

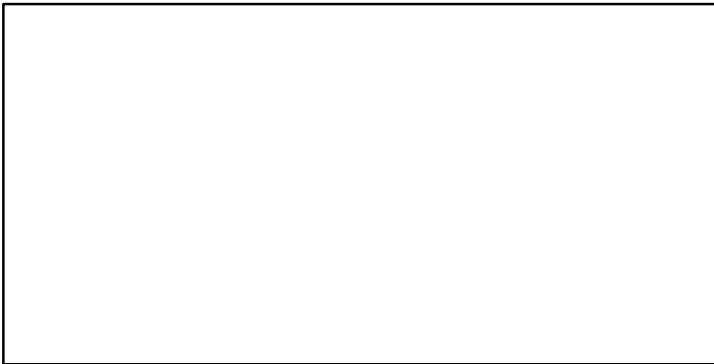
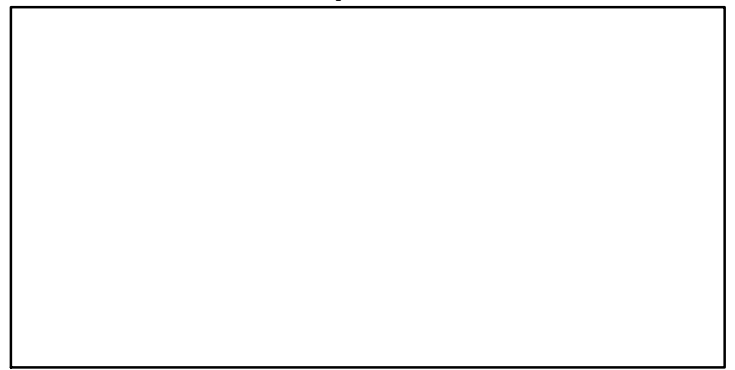
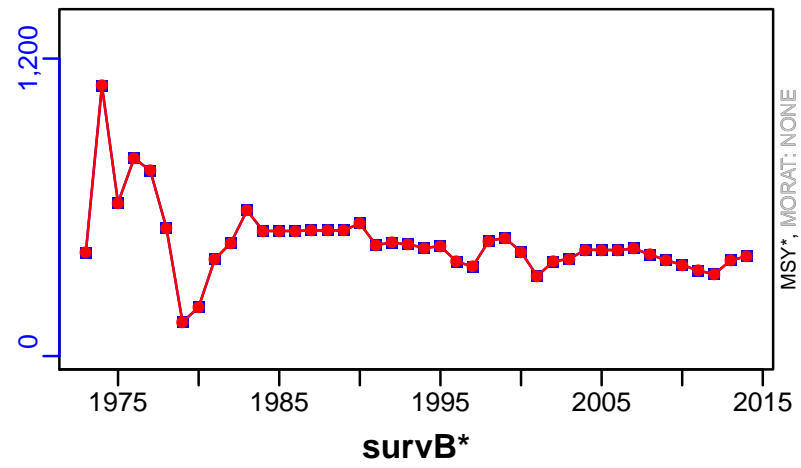
R-E00 (1973–2014–Johnston)



# Southern spiny lobster South Africa South coast [SSLOBSTERSASC]

TC-MT, TL-MT, RecC\* (1973–2014–Johnston)

TAC\*, Cpair\*, Cadv\*



EFFORT\*

