

# South Africa Stocks

## v4.41 (Aug-21-2018)

Not present Present Preferred

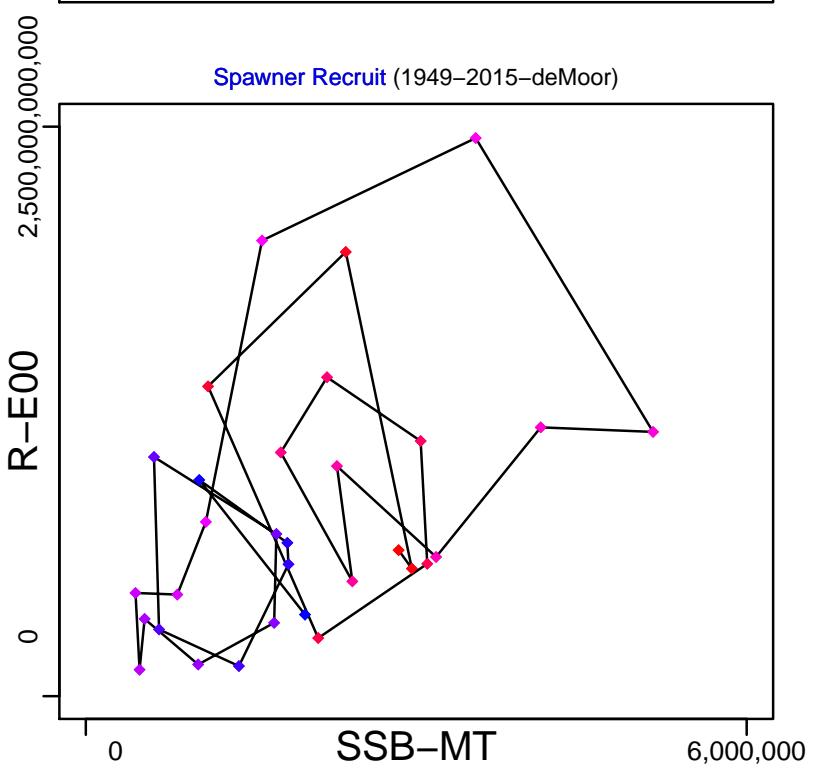
Stock	Time Series Types			
	B/Bmsy	U/Umsy	B/Bmgt	U/Umgt
1. ANCHOSA [Anchovy South Africa]	TB SSB	ER F	TB SSB	ER F
2. CHAKESA [Shallow-water cape hake South Africa]	TB SSB	ER F	TB SSB	ER F
3. CHSQUIDSA [Cape Hope squid South Africa]	TB SSB	ER F	TB SSB	ER F
4. CRLOBSTERSA12 [West coast rock lobster South Africa Areas 1-2]	TB SSB	ER F	TB SSB	ER F
5. CRLOBSTERSA34 [West coast rock lobster South Africa Areas 3-4]	TB SSB	ER F	TB SSB	ER F
6. CRLOBSTERSA56 [West coast rock lobster South Africa Areas 5-6]	TB SSB	ER F	TB SSB	ER F
7. CRLOBSTERSA7 [West coast rock lobster South Africa Area 7]	TB SSB	ER F	TB SSB	ER F
8. CRLOBSTERSA8 [West coast rock lobster South Africa Area 8]	TB SSB	ER F	TB SSB	ER F
9. CTRACSA [Cape horse mackerel South Africa South coast]	TB SSB	ER F	TB SSB	ER F
10. DEEPCHAKESA [Deep-water cape hake South Africa]	TB SSB	ER F	TB SSB	ER F
11. KINGKLIPSA [Kingklip South Africa]	TB SSB	ER F	TB SSB	ER F
12. PTOOTHFISHPEI [Patagonian toothfish South Africa Subantarctic Prince Edward Islands]	TB SSB	ER F	TB SSB	ER F
13. SAABALONESA [Abalone South Africa]	TB SSB	ER F	TB SSB	ER F
14. SARDSA [Sardine South Africa]	TB SSB	ER F	TB SSB	ER F
15. SSLOBSTERSASC [Southern spiny lobster South Africa South coast]	TB SSB	ER F	TB SSB	ER F

## Anchovy South Africa [ANCHOSA]

Metadata	
<b>Scientific Name</b>	Engraulis encrasiculus
<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
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2015	5,261,270
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2015	1.2
<b>TBlim</b>	TBlim-MT	2015	204,441
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

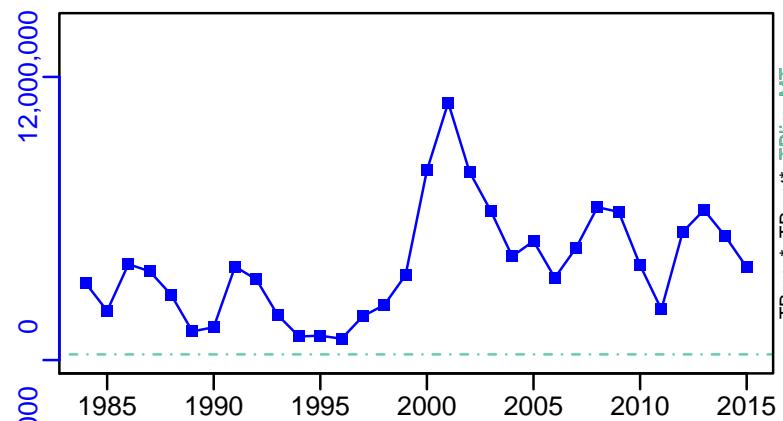
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2015	3,340,000	Both	0+
<b>SSB</b>	SSB-MT	2015	2,020,000	Both	0+
<b>TN</b>	TN-E00	2015	$9.94 \times 10^{11}$	Both	0+
<b>R</b>	R-E00	2015	$6.41 \times 10^{11}$	Both	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2015	0.053	Both	0+
<b>TC</b>	TC-MT	2015	238,000		
<b>TL</b>	TL-MT	2015	238,000		
<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\***

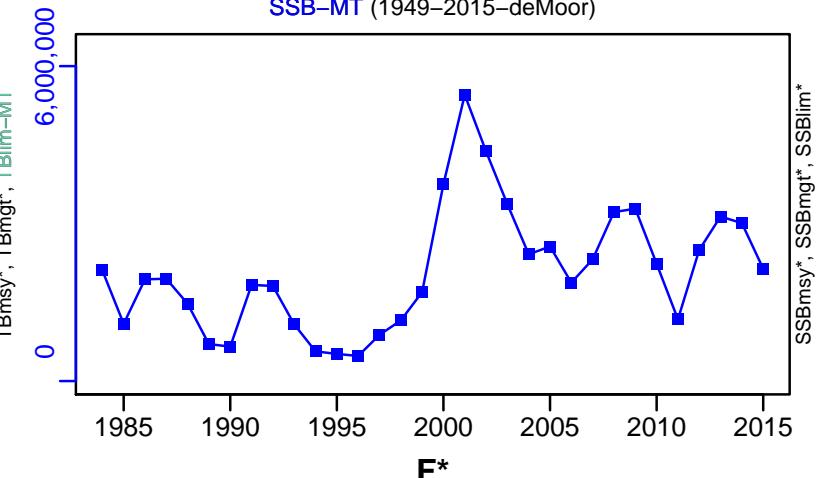
◆ Start Year   ◆ End Year   \* No Data

### Anchovy South Africa [ANCHOSA]

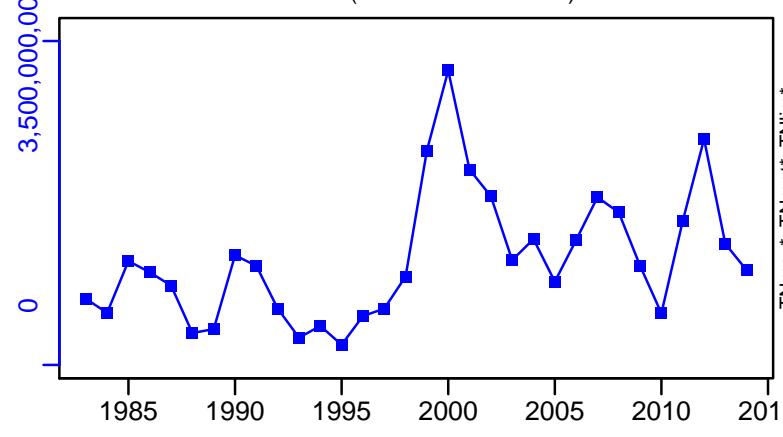
TB-MT (1949–2015–deMoor)



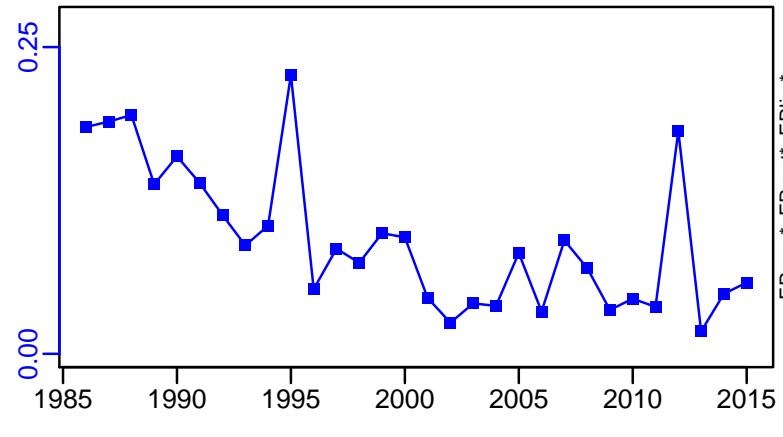
SSB-MT (1949–2015–deMoor)



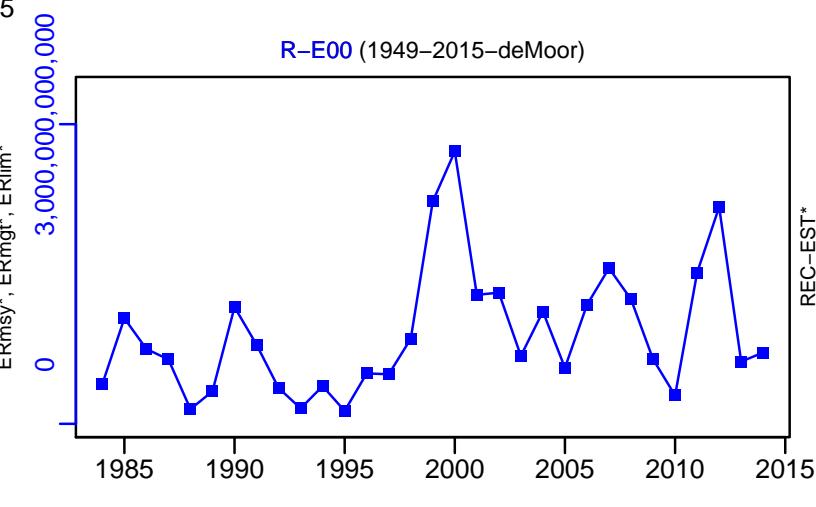
TN-E00 (1949–2015–deMoor)



ER-ratio (1949–2015–deMoor)



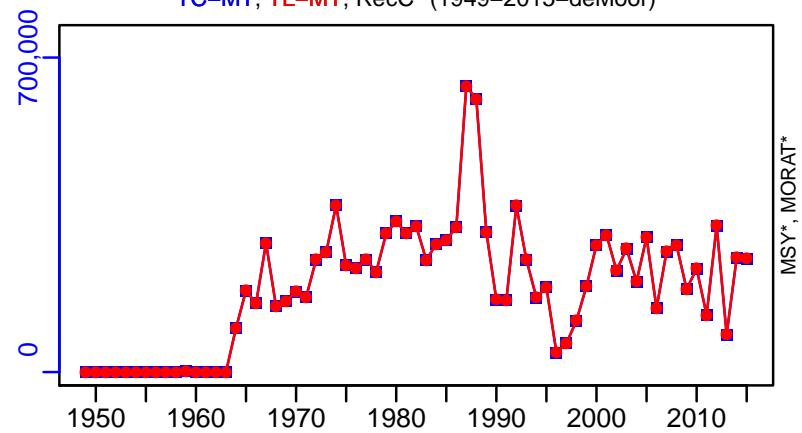
R-E00 (1949–2015–deMoor)



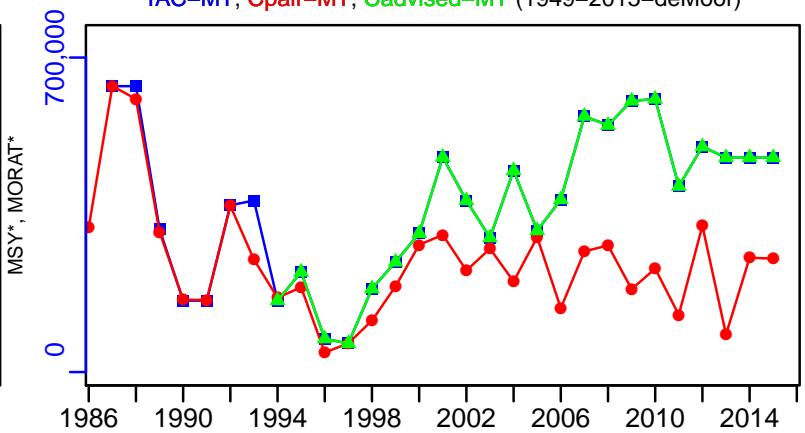
■ Listed time series   — Target BRP   — Rec-Est  
— MSY-based BRP   --- Lim BRP   ■ No Data

### Anchovy South Africa [ANCHOSA]

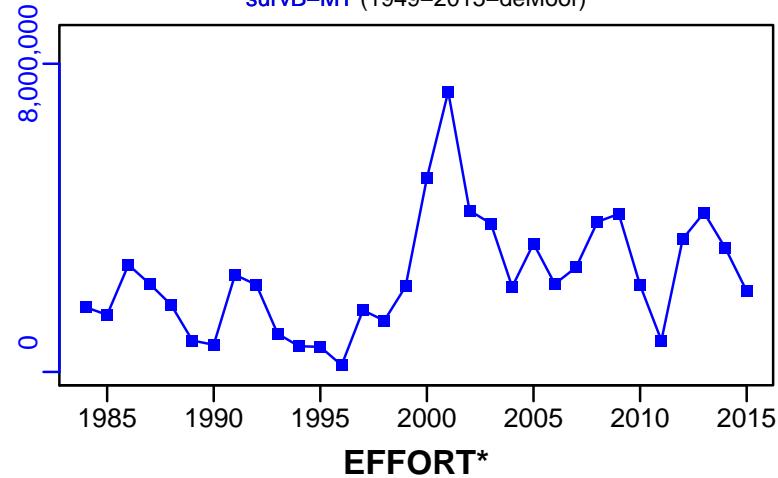
TC-MT, TL-MT, RecC\* (1949–2015–deMoor)



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



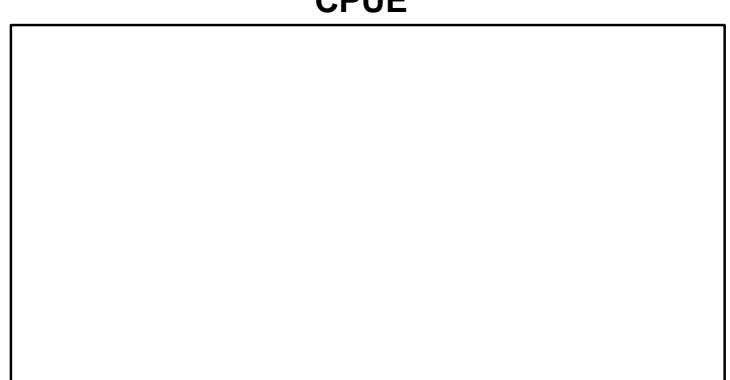
survB-MT (1949–2015–deMoor)



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]

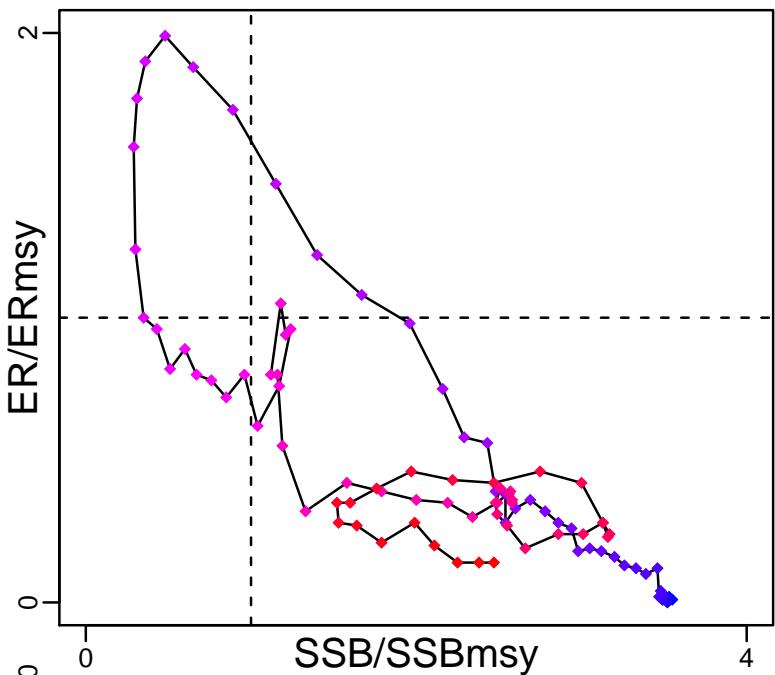
<b>Metadata</b>	
<b>Scientific Name</b>	Merluccius capensis
<b>Current Assess ID</b>	MARAM-CHAKESA-1917-2015-Rademeyer
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource 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

<b>Reference Points</b>			
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>
<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	0.353
<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	0.717
<b>TBlim</b>	TBlim-MT	2013	43,000
<b>SSBlim</b>	SSBlim-MT	2015	18,500
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

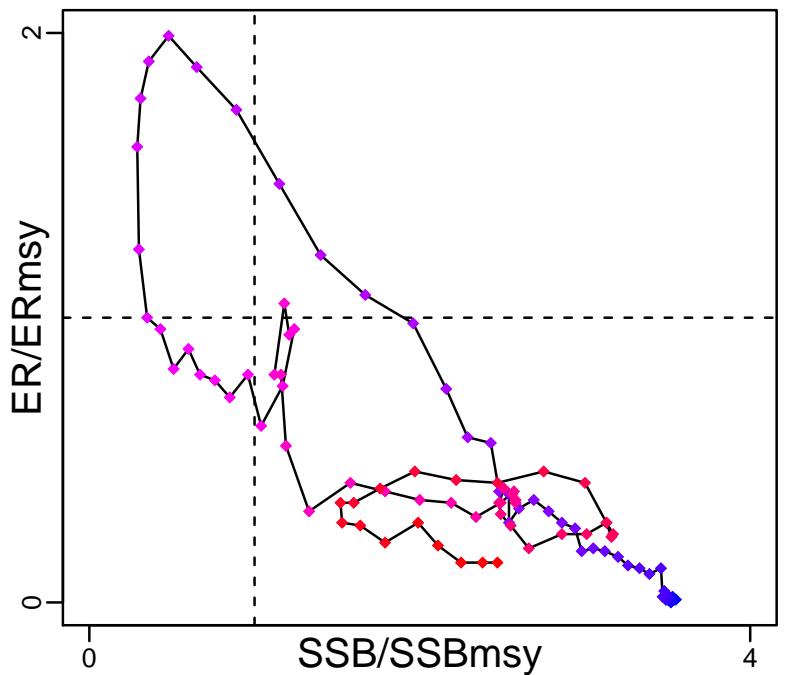
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2015	510,000	-	0+	
<b>SSB</b>	SSB-MT	2015	156,000	Females	5	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2015	$1.33 \times 10^9$	-	0	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2015	0.05	-	-	
<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>	SSB-MT/SSBmgt-MT	2015	2.472			
<b>F/Fmgt</b>	-	-	-			
<b>ER/ERmgt</b>	-	-	-			

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

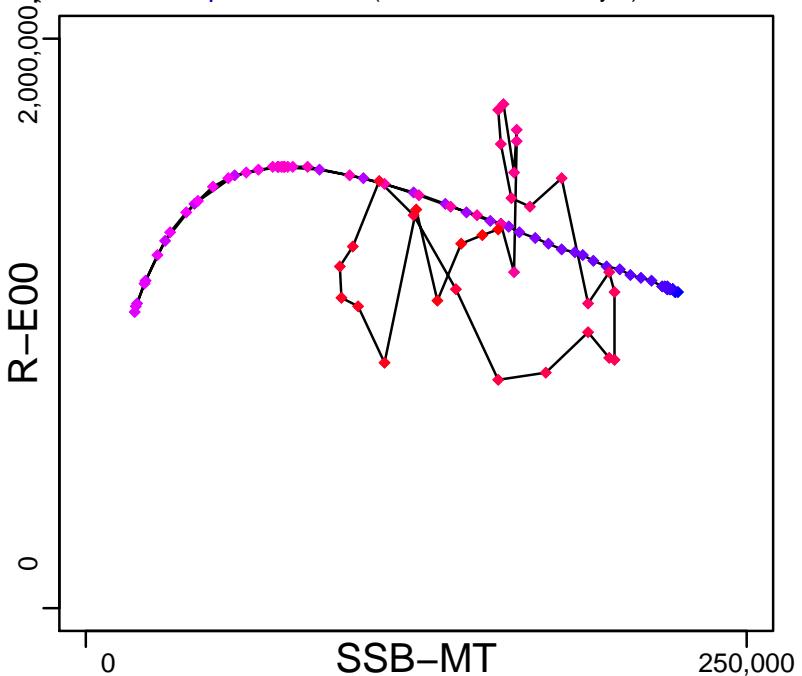
Kobe MSYpref (1917–2015–Rademeyer)



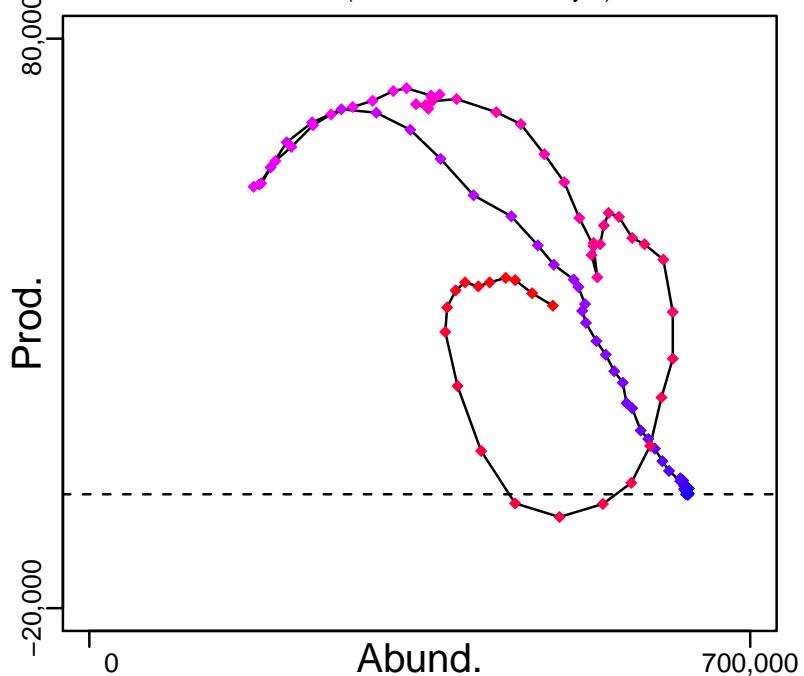
Kobe MGTpref (1917–2015–Rademeyer)



Spawner Recruit (1917–2015–Rademeyer)



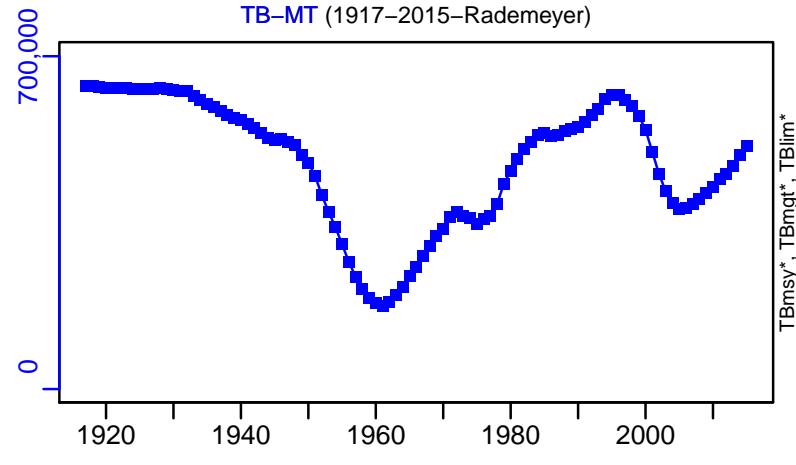
Production (1917–2015–Rademeyer)



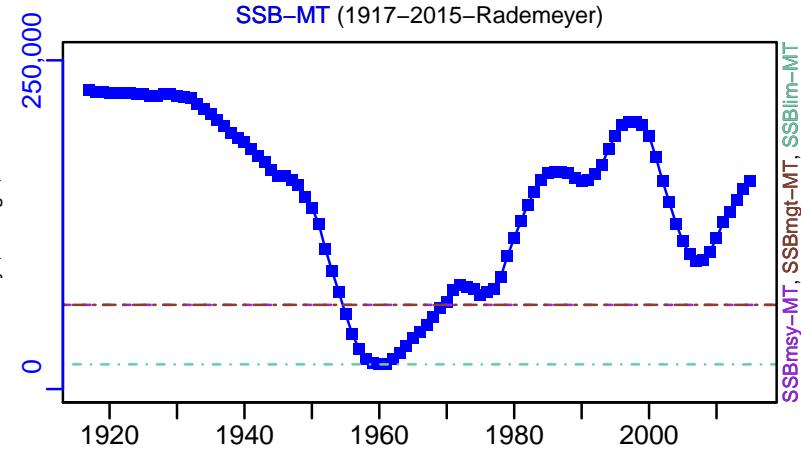
- ◆ Start Year
- ◆ End Year
- \* No Data

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

TB-MT (1917–2015–Rademeyer)

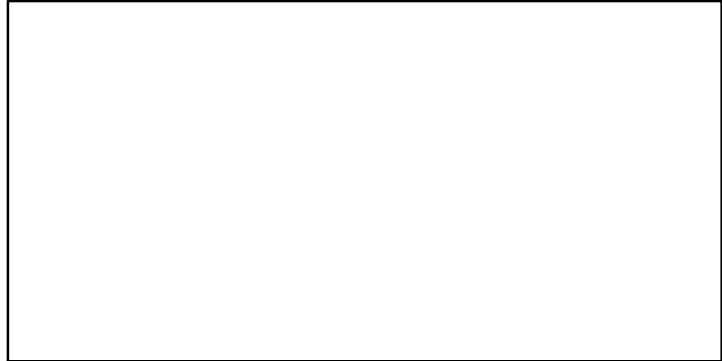
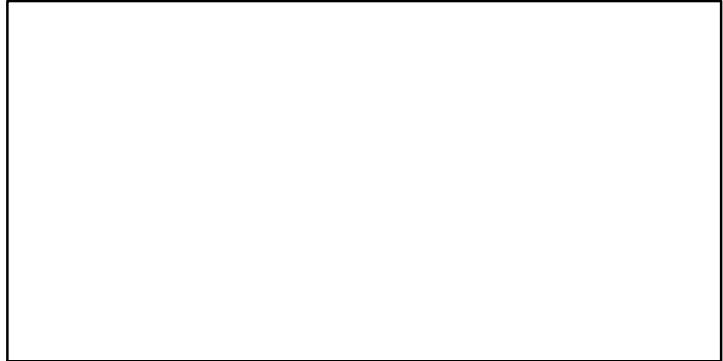


SSB-MT (1917–2015–Rademeyer)

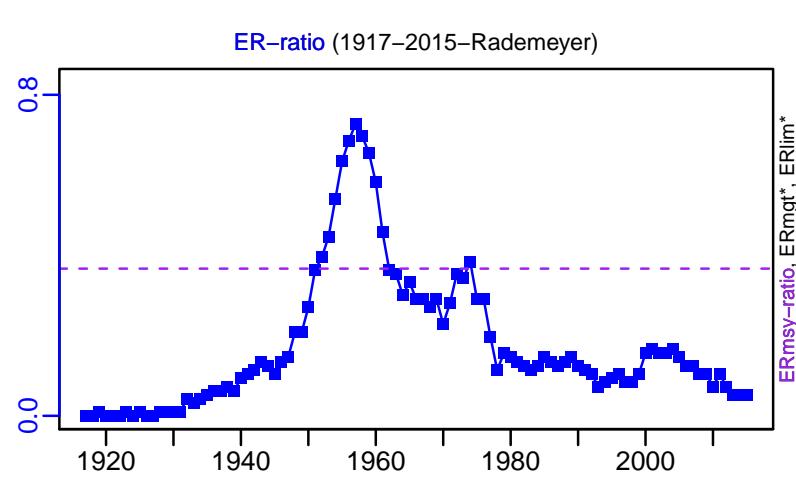


**TN \***

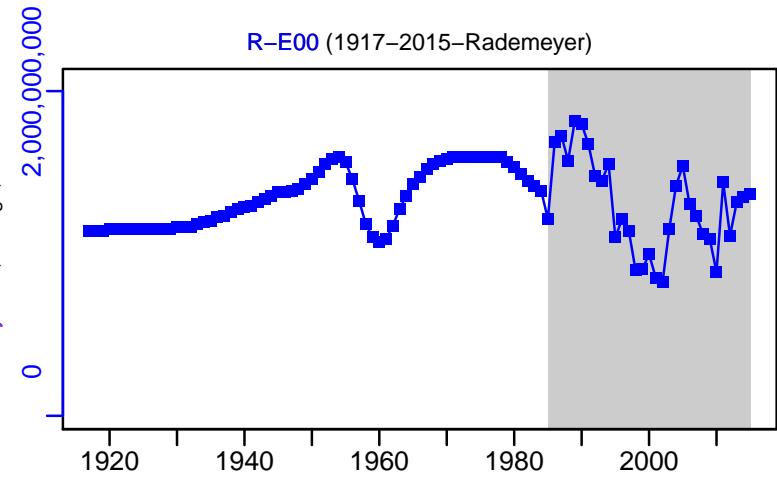
**F\***



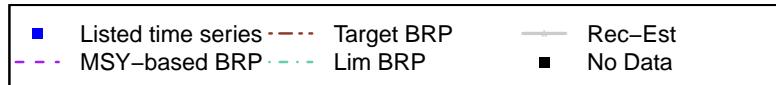
ER-ratio (1917–2015–Rademeyer)



R-E00 (1917–2015–Rademeyer)



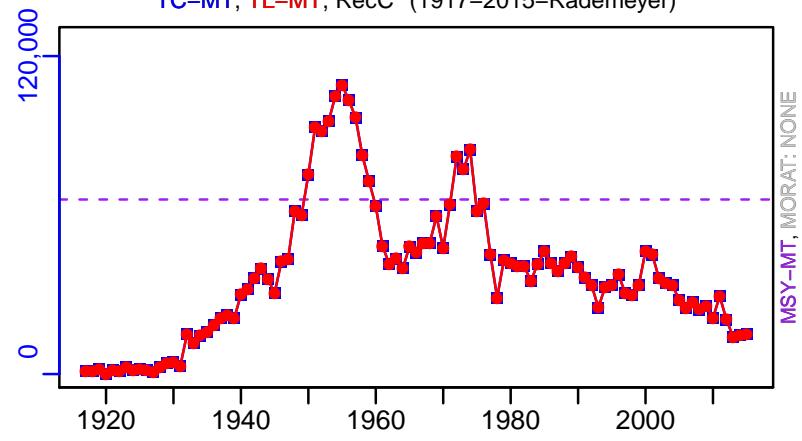
REC-EST: 1985–2015



Shallow-water cape hake South Africa [CHAKESA]

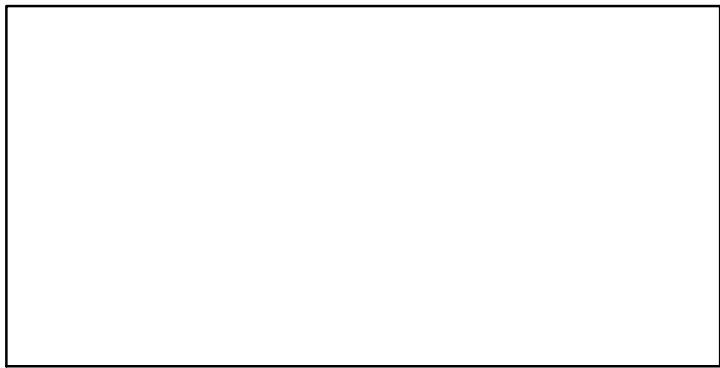
TC-MT, TL-MT, RecC\* (1917–2015–Rademeyer)

TAC\*, Cpair\*, Cadv\*

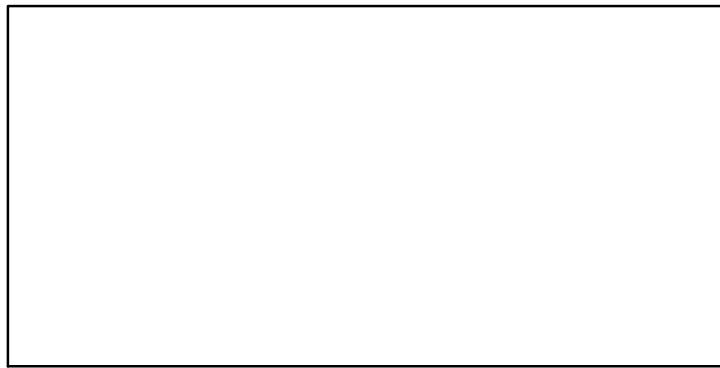


MSY-MT, MORAT: NONE

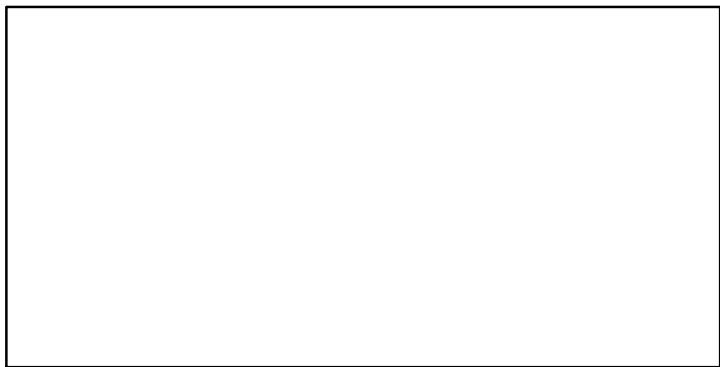
**survB\***



**CPUE\***



**EFFORT\***



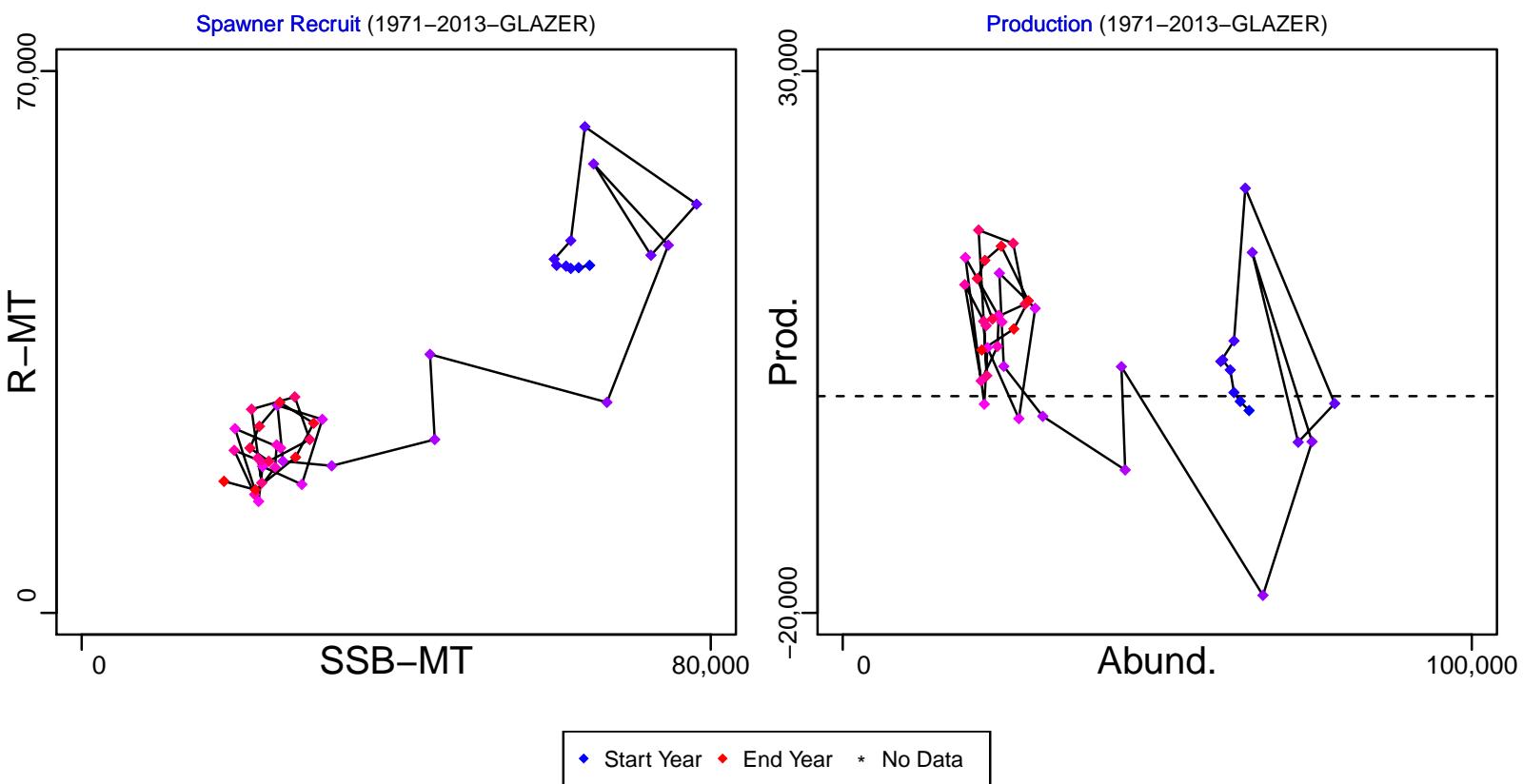
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - - MSY                | * No Data |

## 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
<b>TBmsy</b>	TBmsy-pr-MT	2013	25,703
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2013	64,258
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

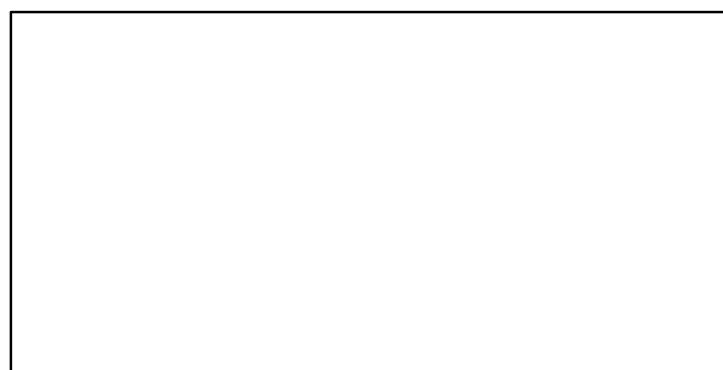
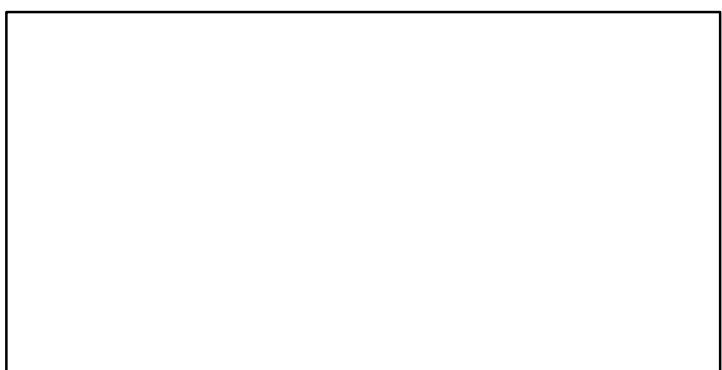
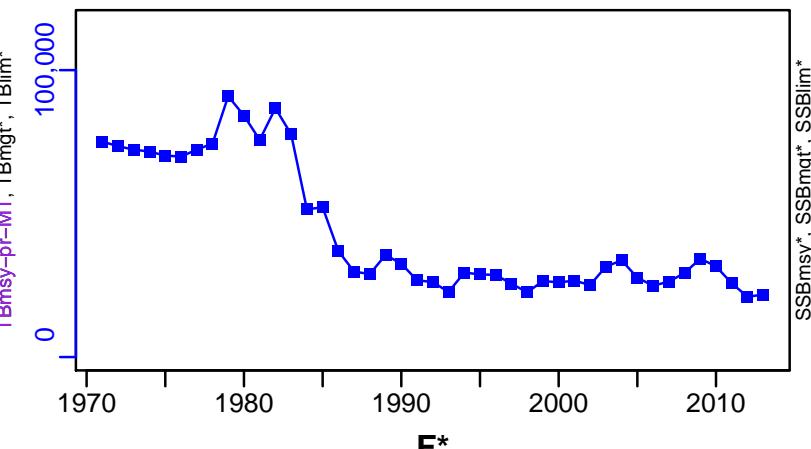
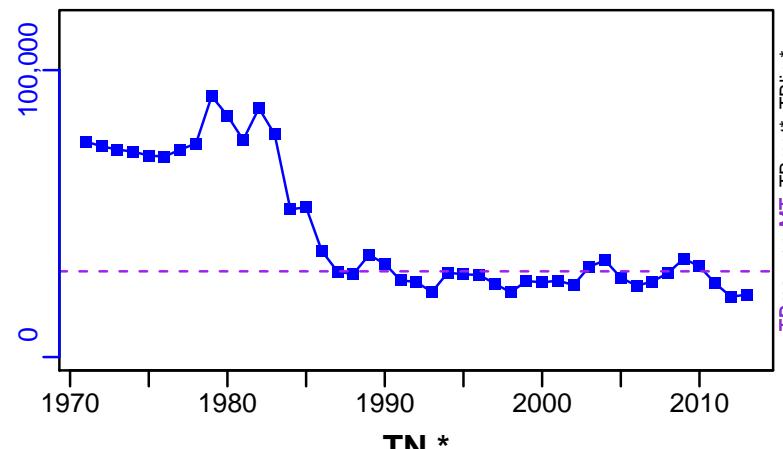
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2013	18,700	-	-	
<b>SSB</b>	SSB-MT	2013	18,700	Both	1	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-MT	2013	17,000	-	-	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2013	0.369	-	-	
<b>TC</b>	TC-MT	2013	6690			
<b>TL</b>	TL-MT	2013	6690			
<b>TB/TBmsy</b>	TB-MT/TBmsy-pr-MT	2013	0.728			
<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\***

Cape Hope squid South Africa [CHSQUIDSA]

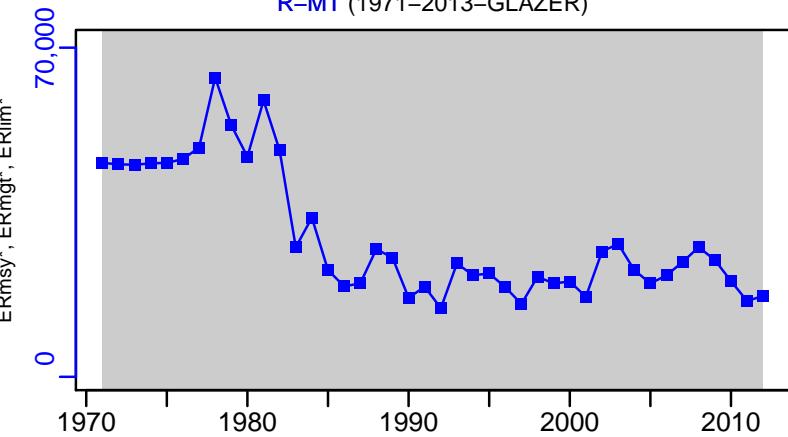
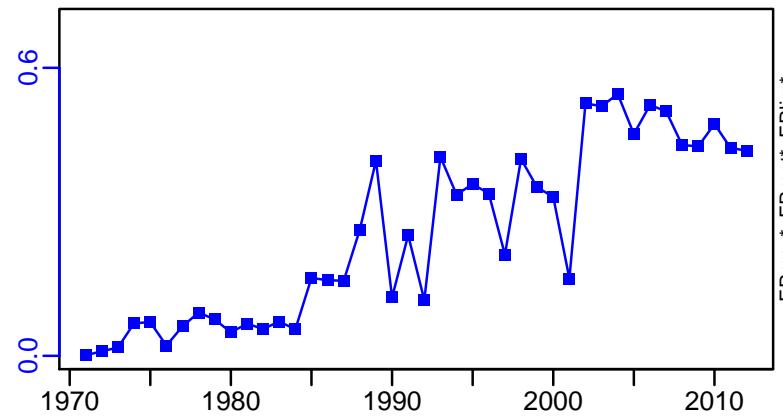
TB-MT (1971–2013–GLAZER)

SSB-MT (1971–2013–GLAZER)



ER-ratio (1971–2013–GLAZER)

R-MT (1971–2013–GLAZER)

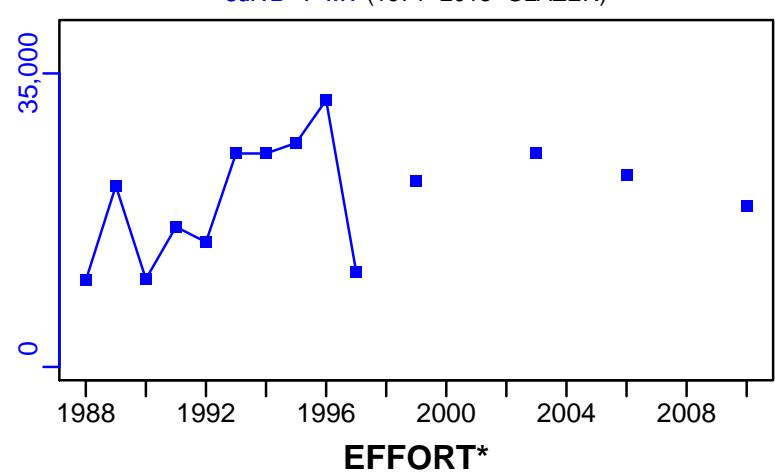
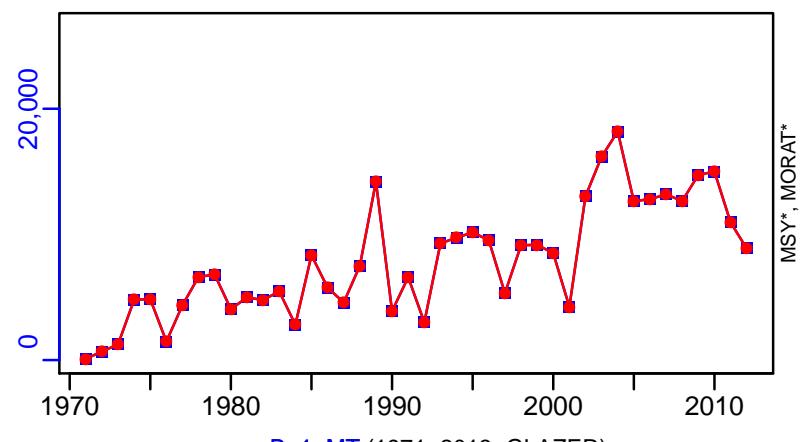


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - - MSY-based BRP  | ··· Lim BRP  | ■ No Data |

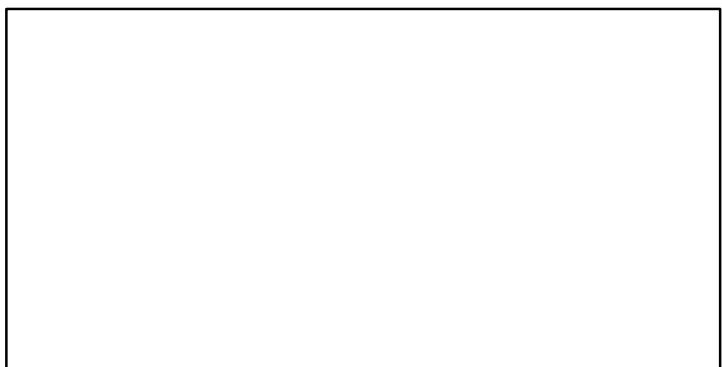
Cape Hope squid South Africa [CHSQUIDSA]

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

TAC\*, Cpair\*, Cadv\*



CPUE\*



- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 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]

<b>Metadata</b>	
<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

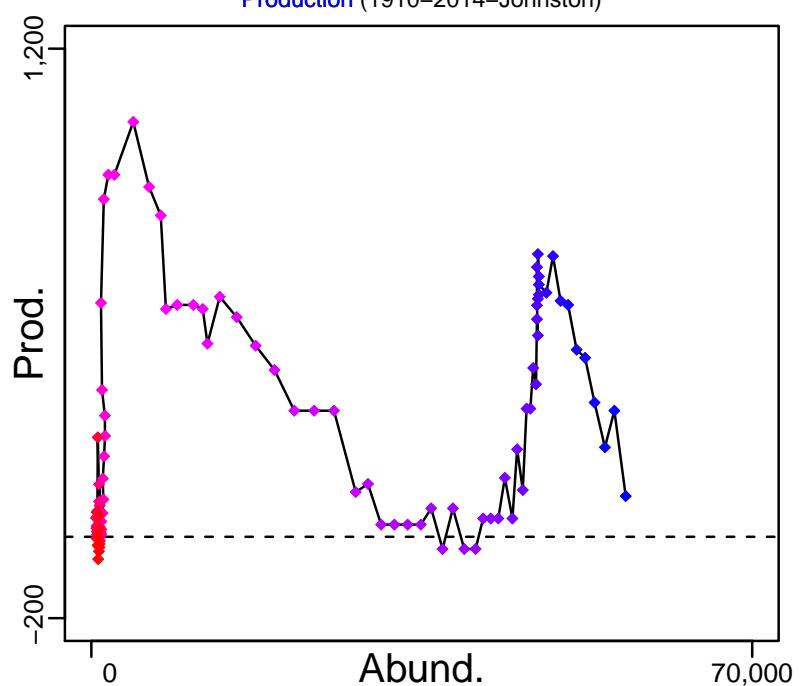
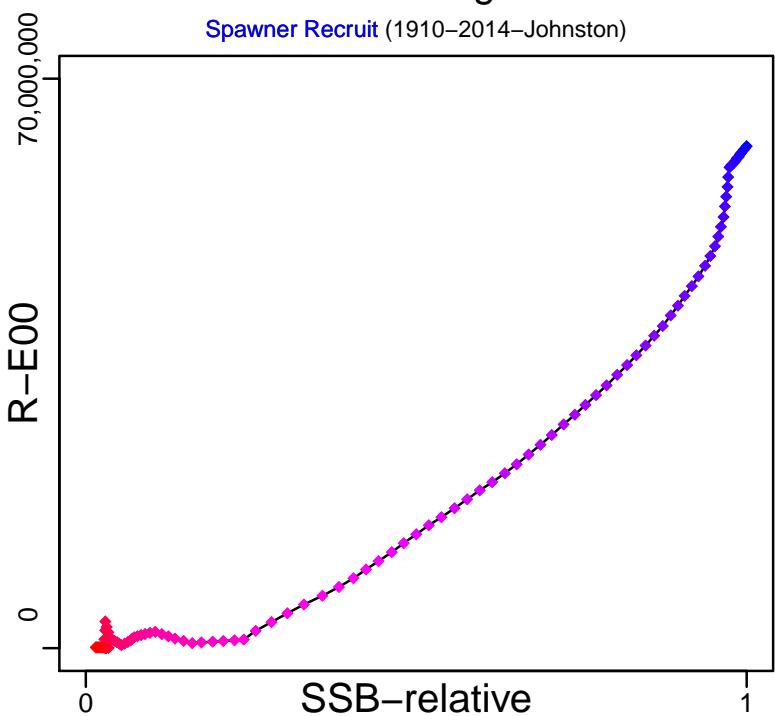
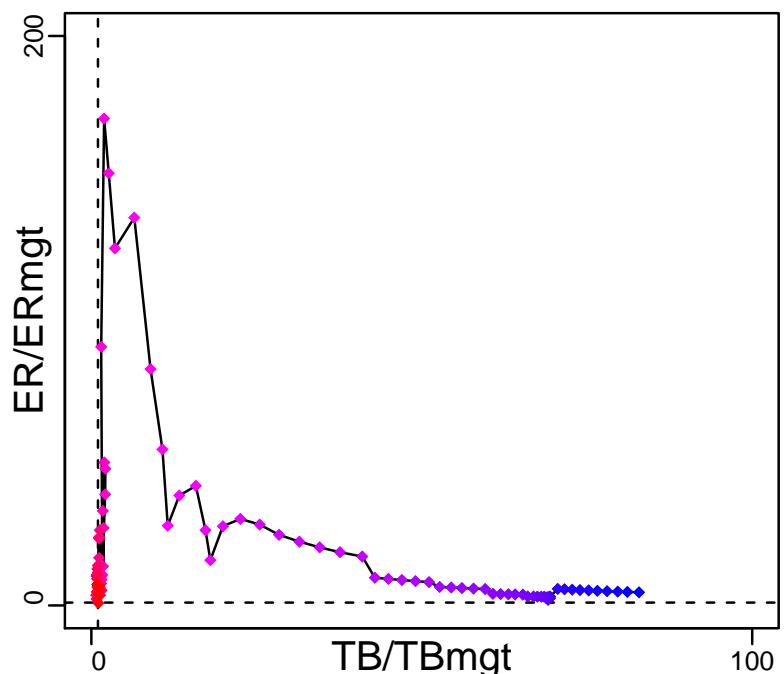
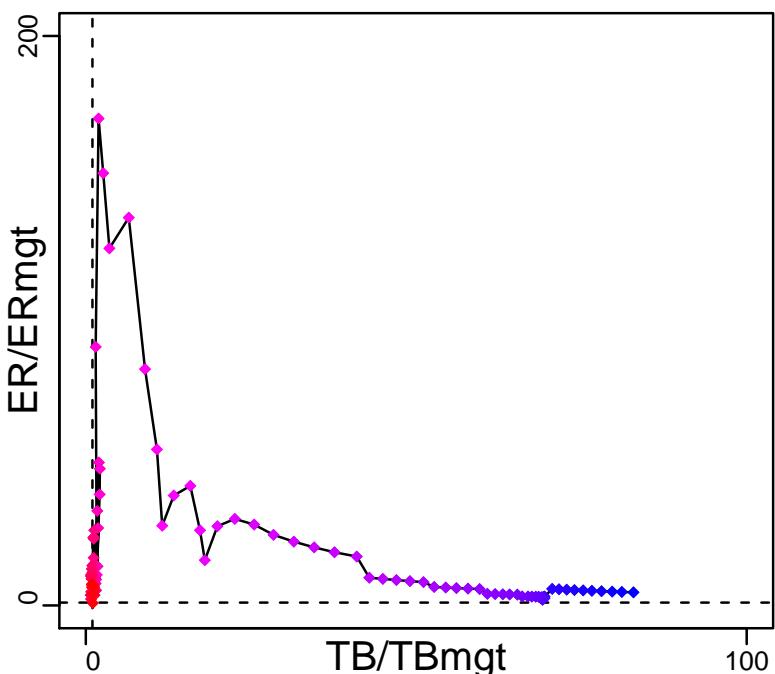
<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	TBmgt-MT	2014	683
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	ERmgt-ratio	2014	0.005
<b>TB0</b>	TB0-MT	2014	56,583
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2014	0.11
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	621	Males	-
<b>SSB</b>	SSB-relative	2014	0.015	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	96,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0.037	-	-
<b>TC</b>	TC-MT	2014	23		
<b>TL</b>	TL-MT	2014	23		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	TB-MT/TBmgt-MT	2014	0.909		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

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

Kobe MSYpref (1910–2014–Johnston)

Kobe MGTpref (1910–2014–Johnston)

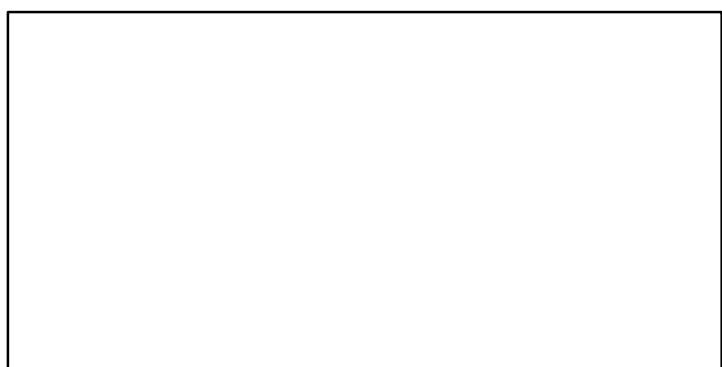
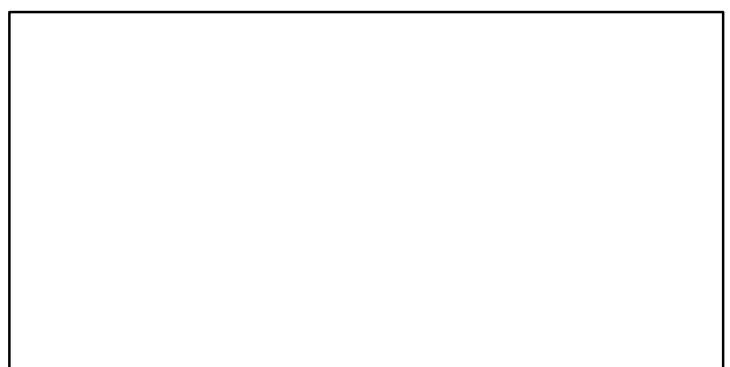
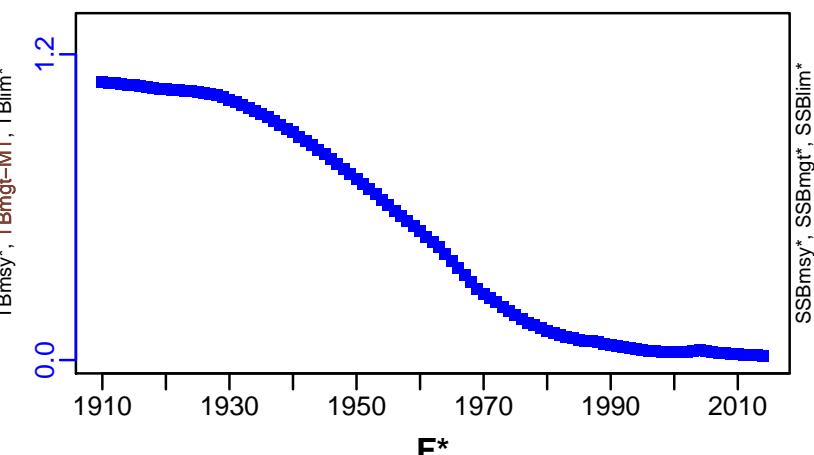
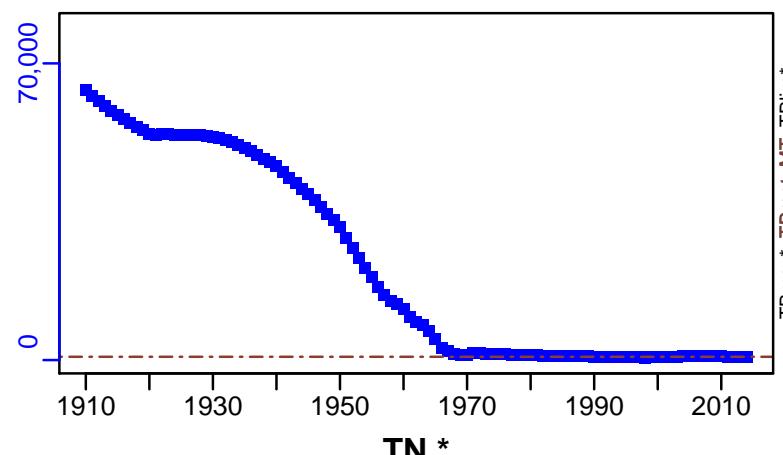


◆ Start Year	◆ End Year	*	No Data
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West coast rock lobster South Africa Areas 1–2 [CRLOBSTERSA12]

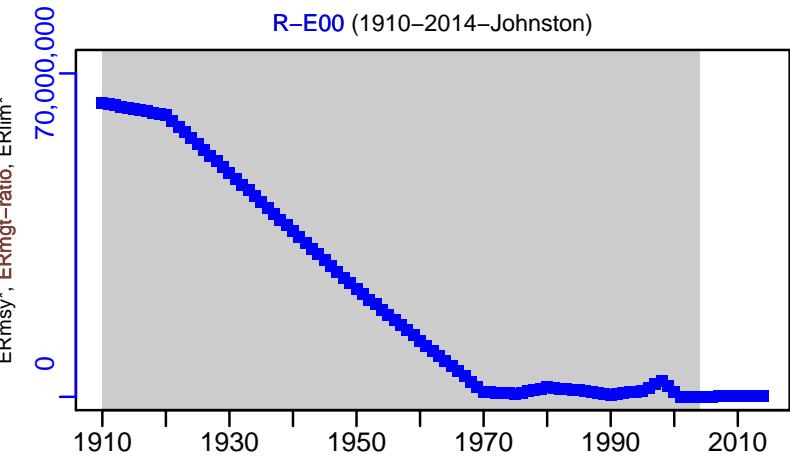
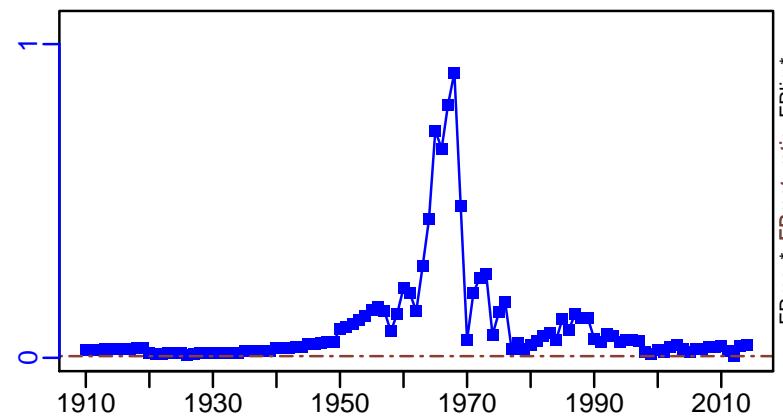
TB-MT (1910–2014–Johnston)

SSB-relative (1910–2014–Johnston)



ER-ratio (1910–2014–Johnston)

R-E00 (1910–2014–Johnston)



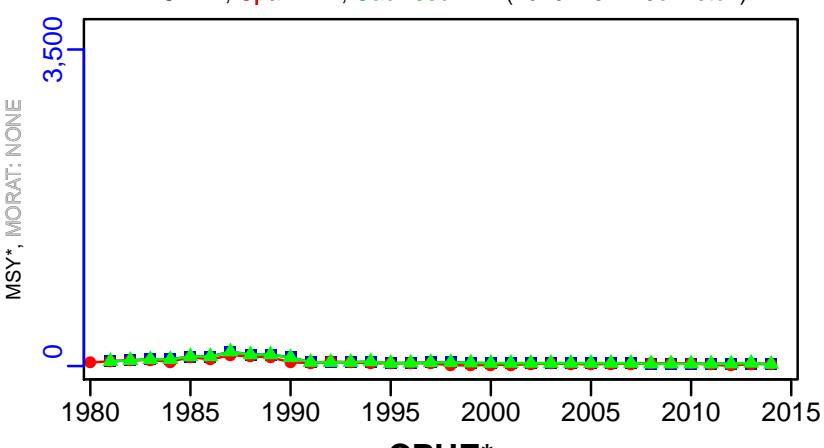
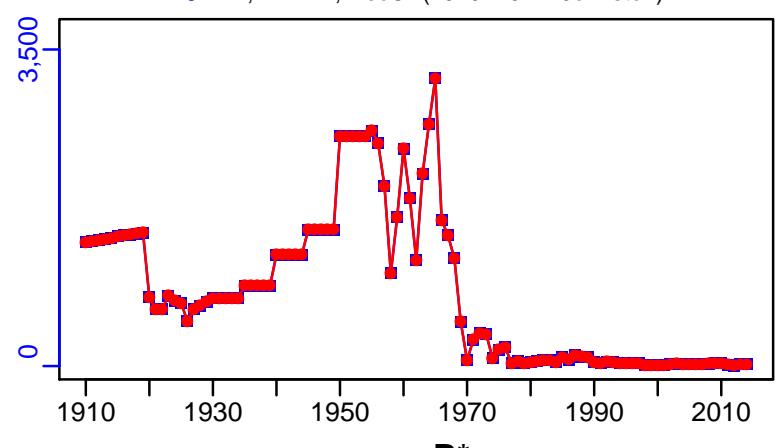
REC-EST: 1910–2004

■ Listed time series	— Target BRP	— Rec-Est
— MSY-based BRP	··· Lim BRP	■ No Data

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

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

TAC-MT, Cpair-MT, Cadvised-MT (1910–2014–Johnston)



EFFORT\*

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

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

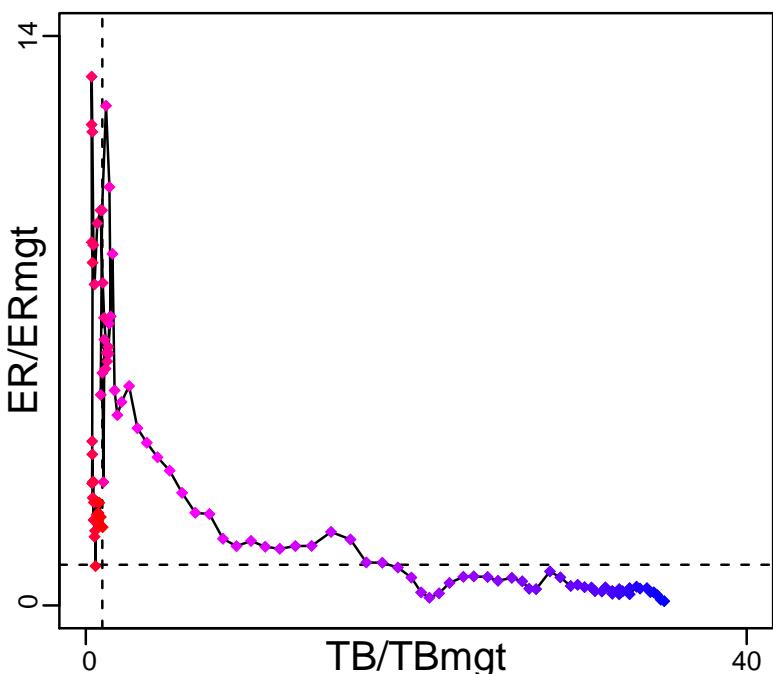
<b>Metadata</b>	
<b>Scientific Name</b>	Jasus lalandii
<b>Current Assess ID</b>	MARAM-CRLOBSTERSA34-1910-2014-Johnston
<b>Area</b>	South Africa Areas 3-4
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	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

<b>Reference Points</b>			
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	0.028
<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>	-	-	-

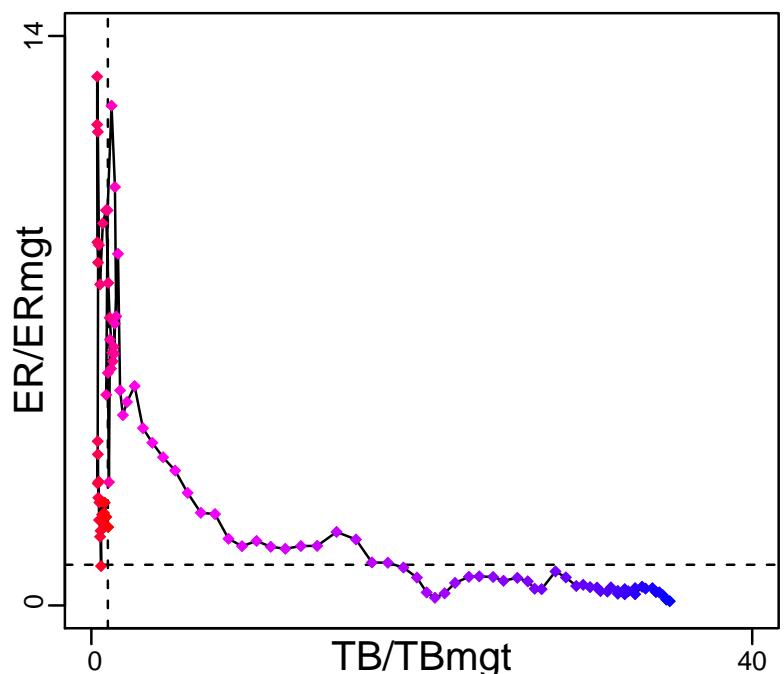
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	4860	Males	-
<b>SSB</b>	SSB-relative	2014	0.067	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	31,200,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0.054	-	-
<b>TC</b>	TC-MT	2014	262		
<b>TL</b>	TL-MT	2014	254		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	TB-MT/TBmgt-MT	2014	1.019		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

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

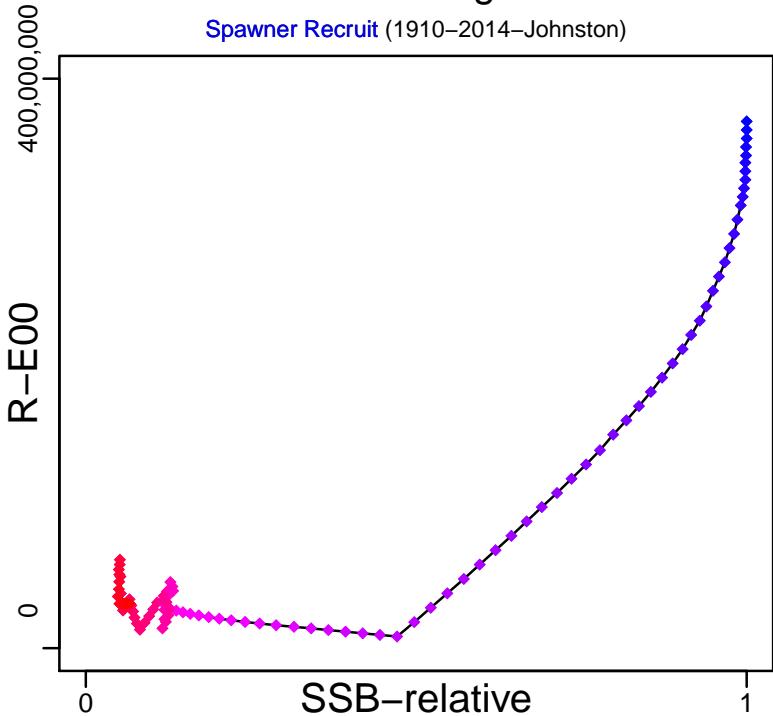
Kobe MSYpref (1910–2014–Johnston)



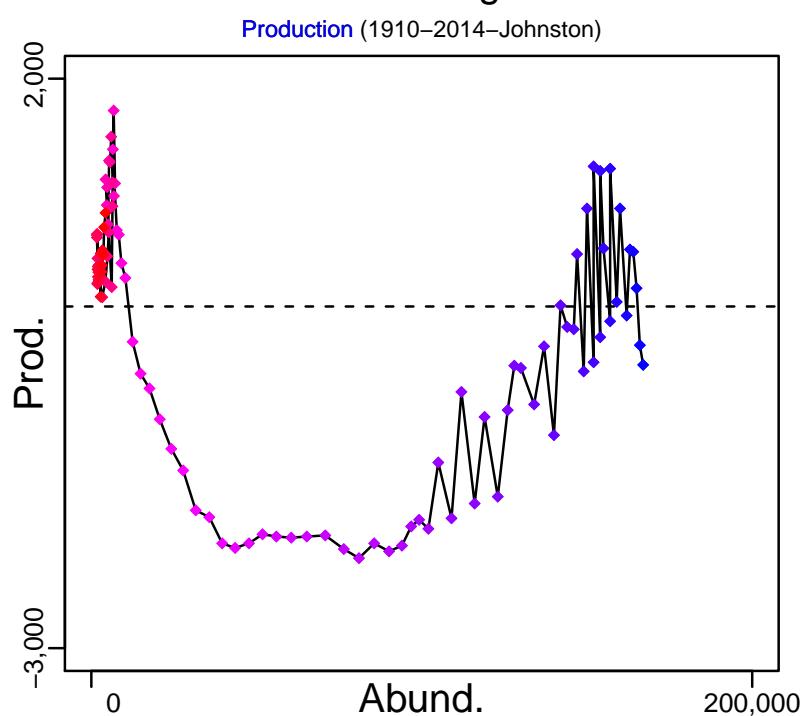
Kobe MGTpref (1910–2014–Johnston)



Spawner Recruit (1910–2014–Johnston)



Production (1910–2014–Johnston)

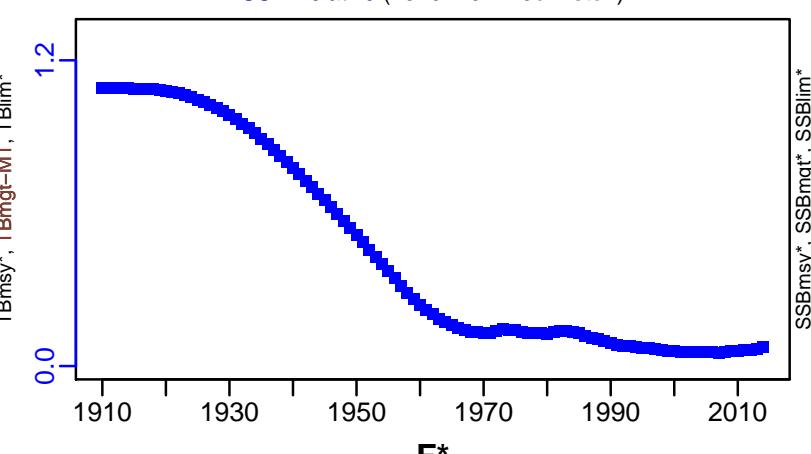
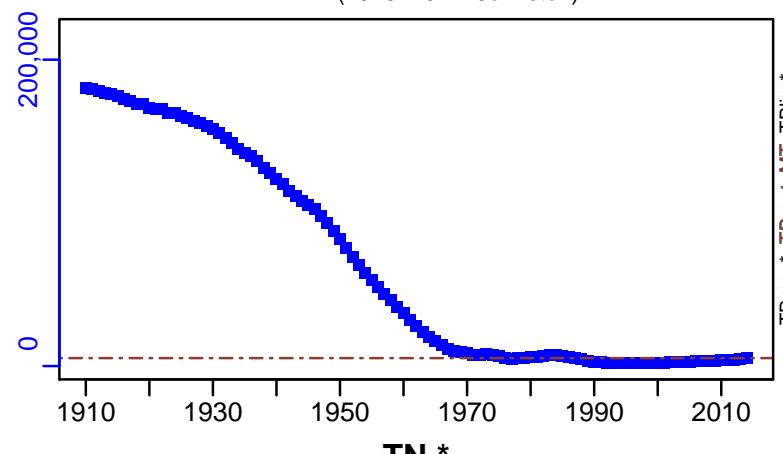


- ◆ Start Year
- ◆ End Year
- \* No Data

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

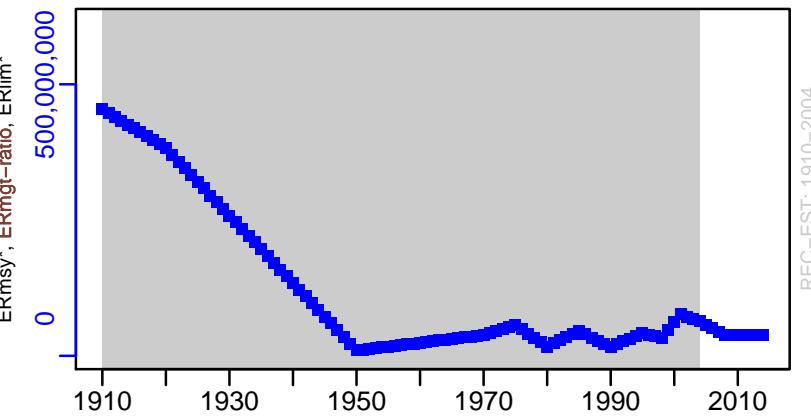
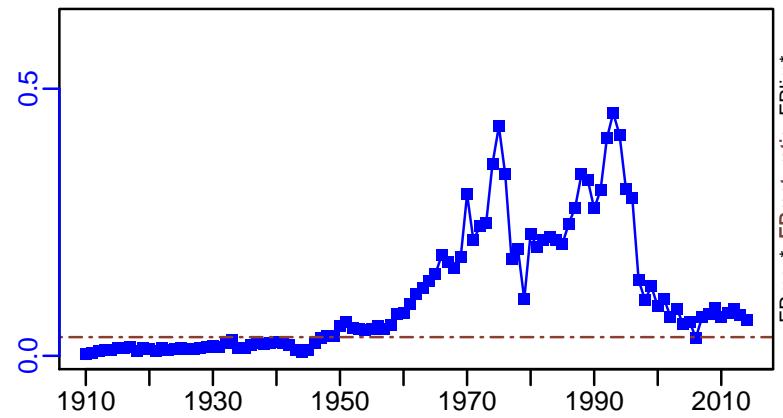
TB-MT (1910–2014–Johnston)

SSB-relative (1910–2014–Johnston)



ER-ratio (1910–2014–Johnston)

R-E00 (1910–2014–Johnston)

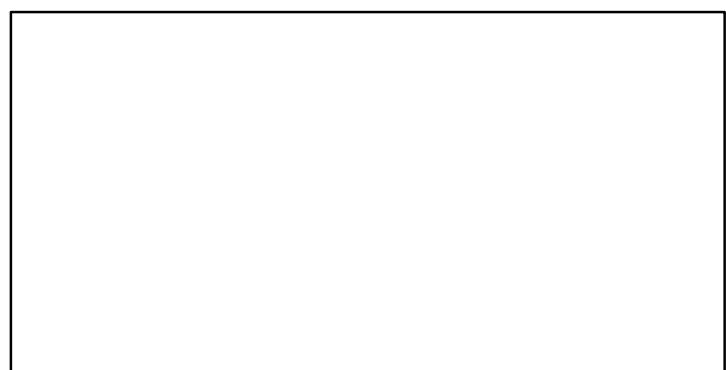
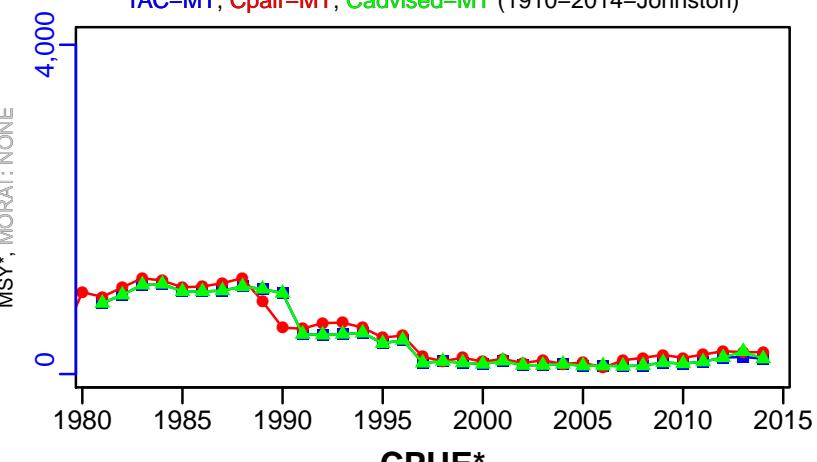
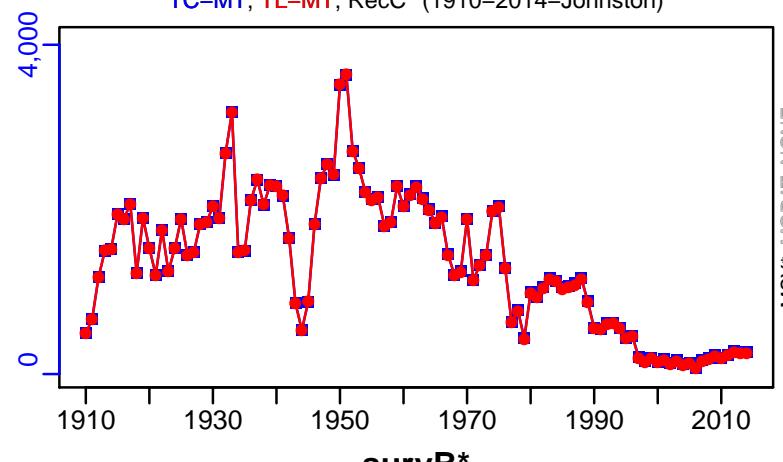


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | - - Lim BRP  | ■ No Data |

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

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

TAC-MT, Cpair-MT, Cadvised-MT (1910–2014–Johnston)



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

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

<b>Metadata</b>	
<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

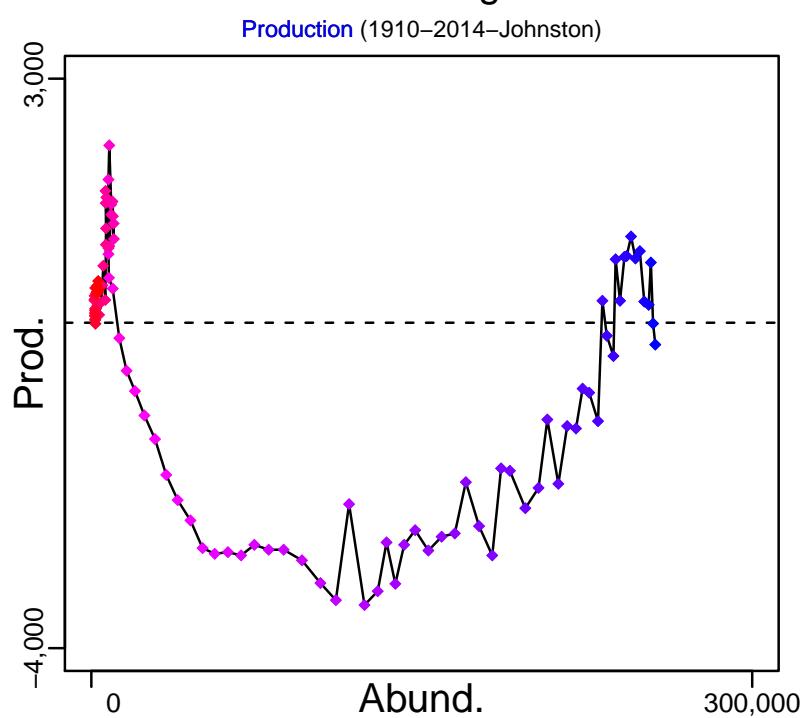
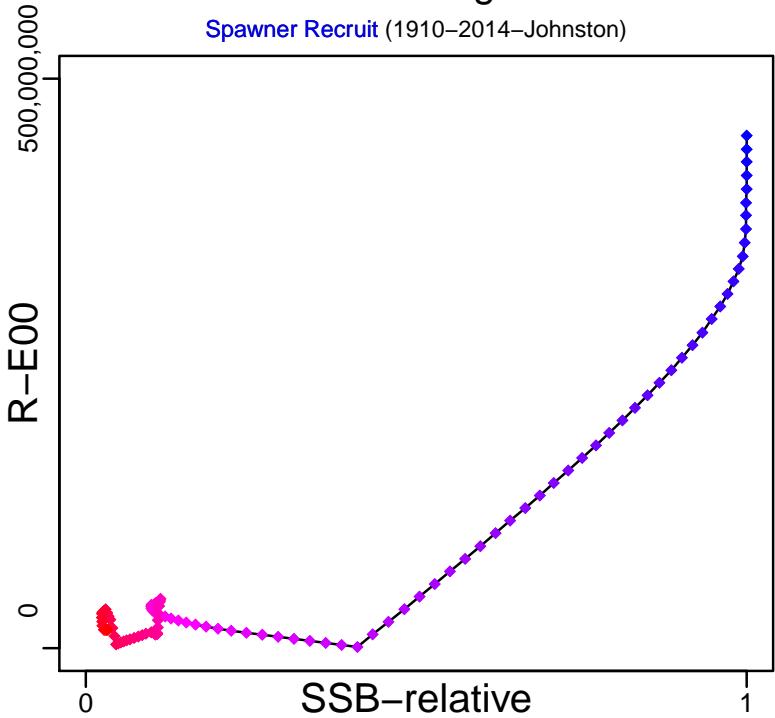
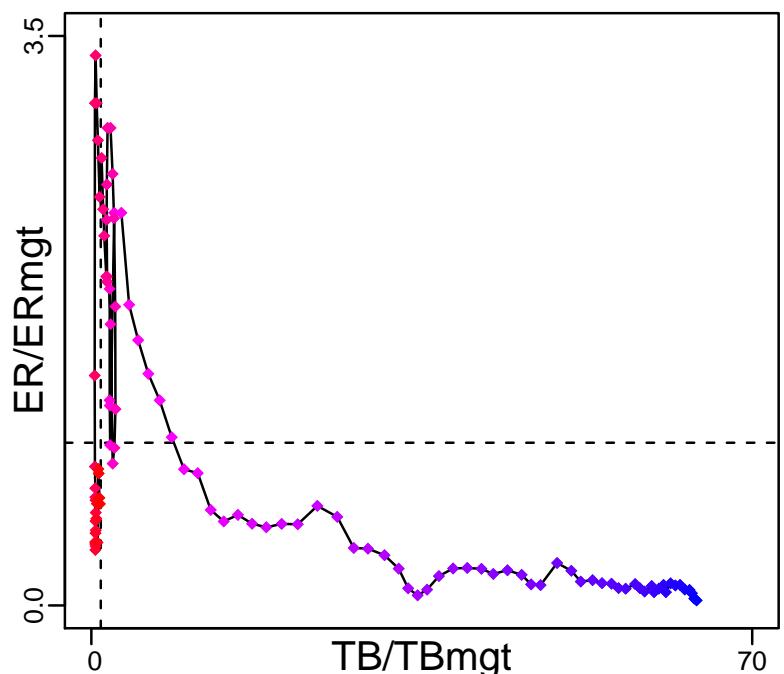
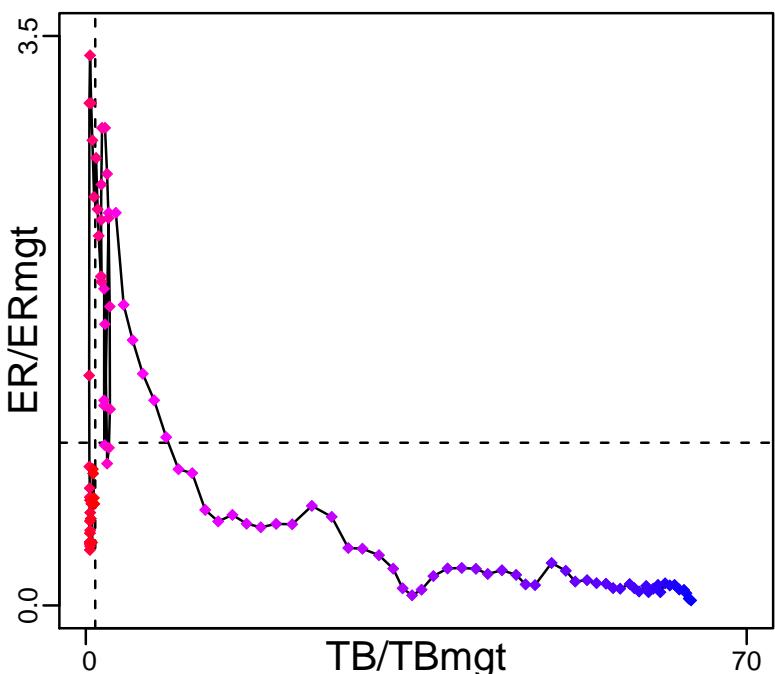
<b>Reference Points</b>			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	TBmgt-MT	2014	3993
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	ERmgt-ratio	2014	0.092
<b>TB0</b>	TB0-MT	2014	255,837
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2014	0.11
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	3590	Males	-
<b>SSB</b>	SSB-relative	2014	0.034	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	16,200,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0.057	-	-
<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>	TB-MT/TBmgt-MT	2014	0.899		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

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

Kobe MSYpref (1910–2014–Johnston)

Kobe MGTpref (1910–2014–Johnston)

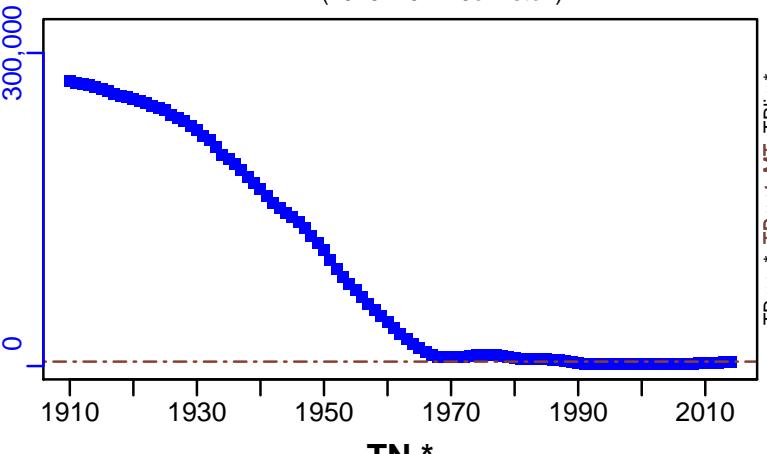


◆ Start Year	◆ End Year	*	No Data
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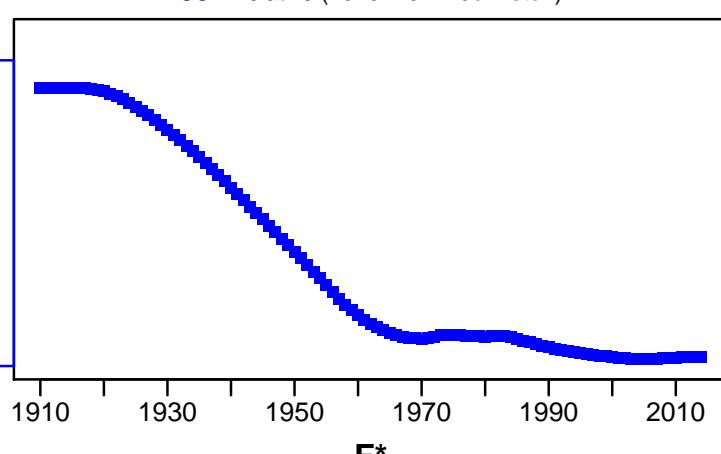
West coast rock lobster South Africa Areas 5–6 [CRLOBSTERSA56]

TB-MT (1910–2014–Johnston)

SSB-relative (1910–2014–Johnston)



TB<sub>mgt</sub>\* , TB<sub>mgt</sub>-MT, TB<sub>lim\*</sub>



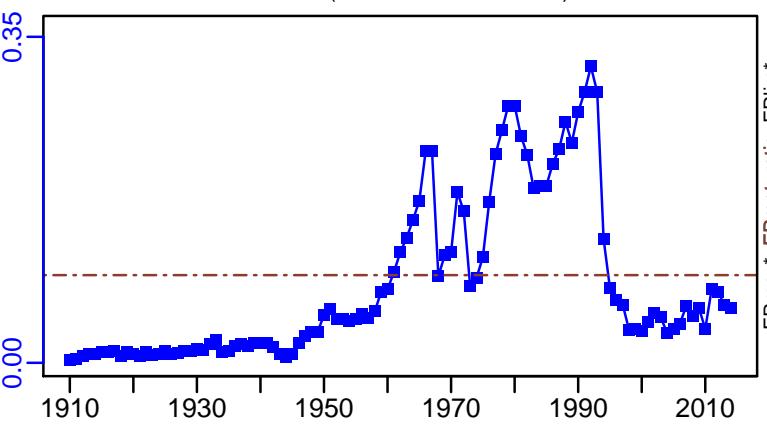
SSB<sub>mgt</sub>\* , SSB<sub>mgt</sub>, SSB<sub>lim\*</sub>

TN \*

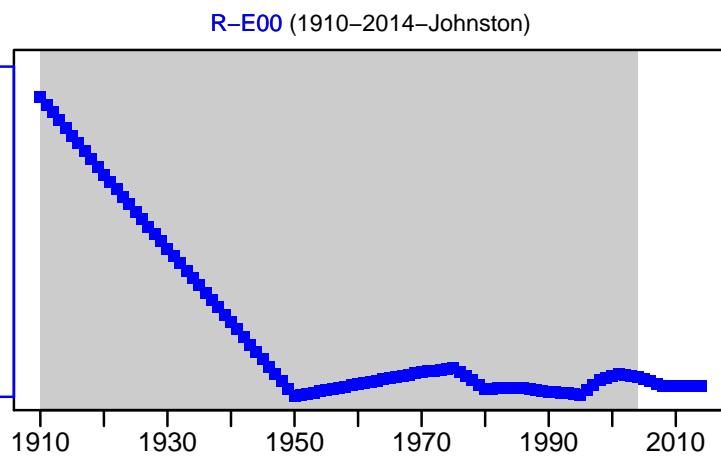
F\*

ER-ratio (1910–2014–Johnston)

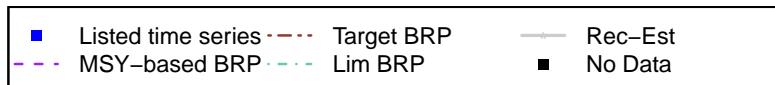
R-E00 (1910–2014–Johnston)



ER<sub>mgt</sub>\* , ER<sub>mgt</sub>-ratio, ER<sub>lim\*</sub>



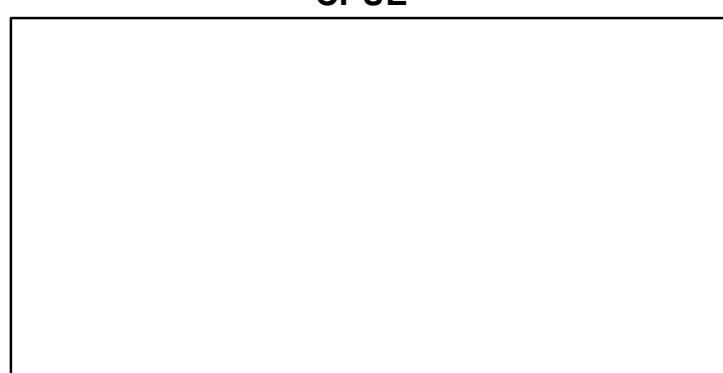
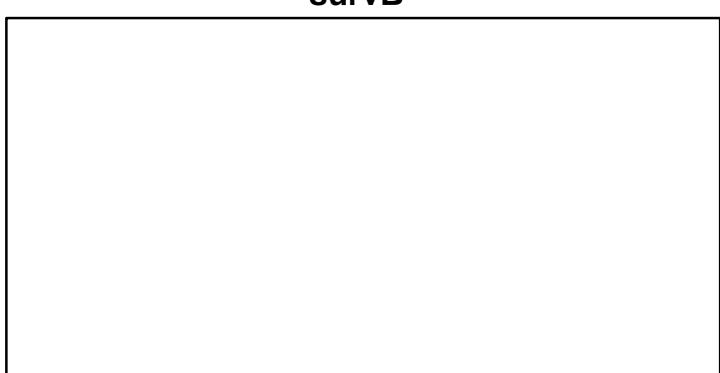
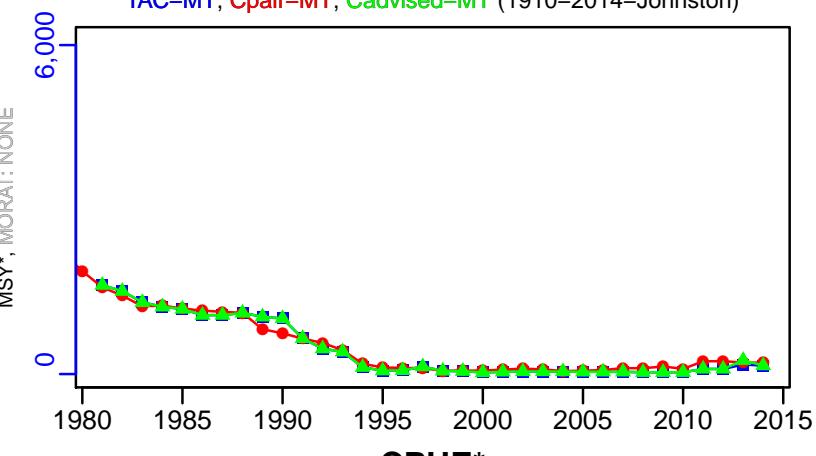
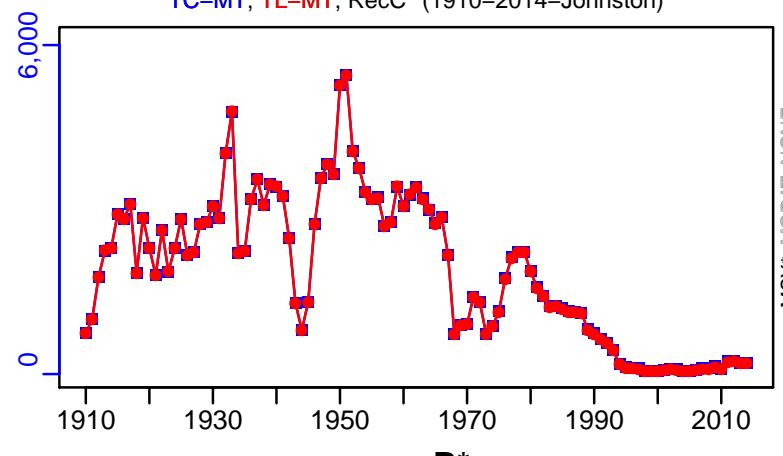
REC-EST: 1910–2004



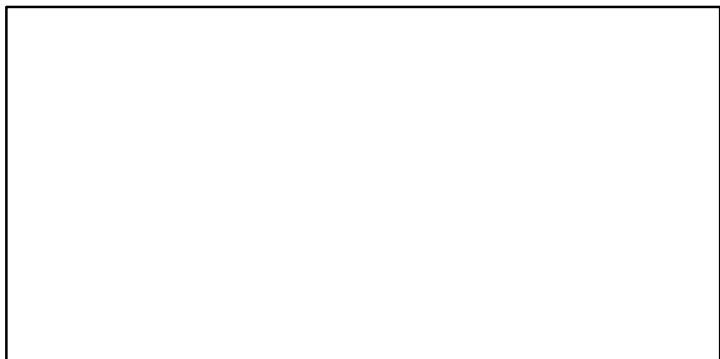
**West coast rock lobster South Africa Areas 5–6 [CRLOBSTERSA56]**

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

TAC-MT, Cpair-MT, Cadvised-MT (1910–2014–Johnston)



**EFFORT\***



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

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

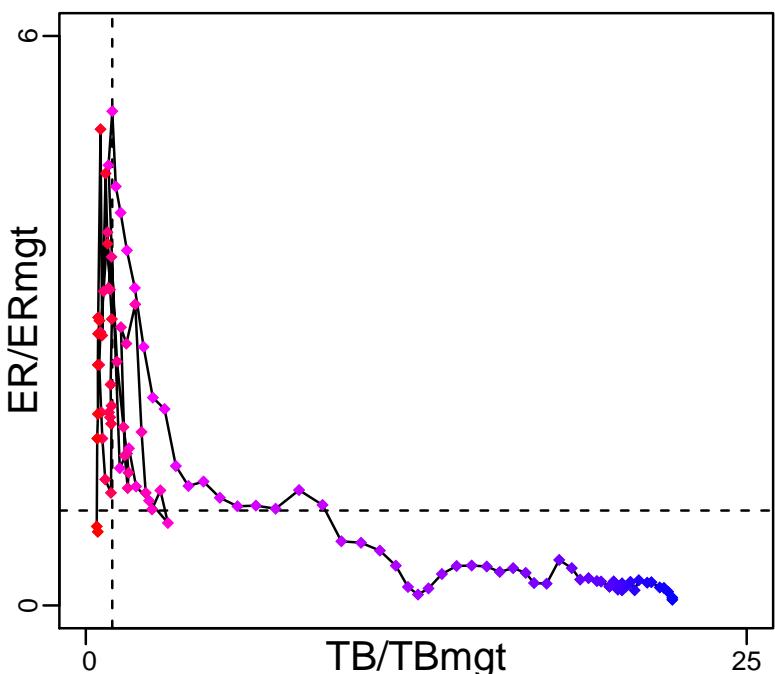
<b>Metadata</b>	
<b>Scientific Name</b>	Jasus lalandii
<b>Current Assess ID</b>	MARAM-CRLOBSTERSA7-1910-2014-Johnston
<b>Area</b>	South Africa Area 7
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine 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

<b>Reference Points</b>			
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	0.058
<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>	-	-	-

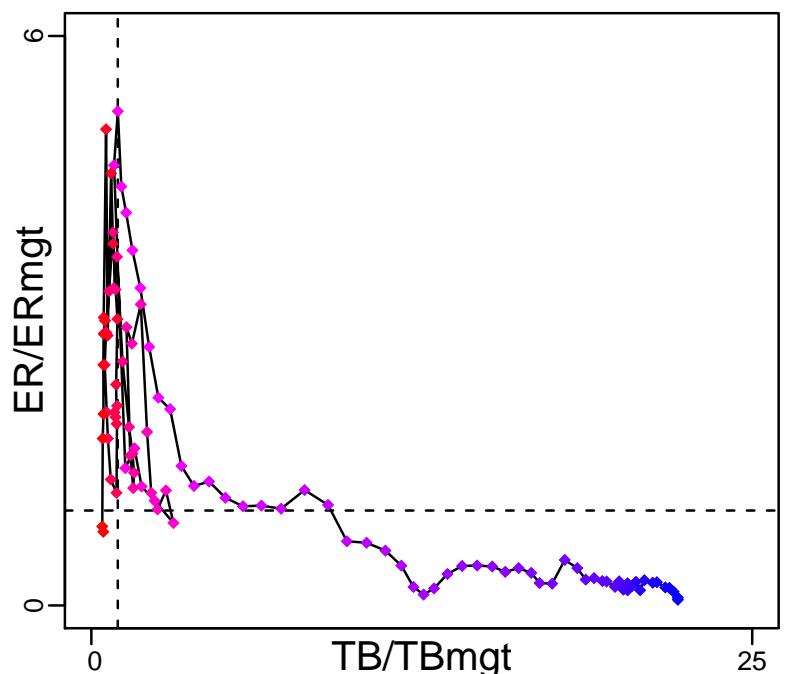
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	2860	Males	-
<b>SSB</b>	SSB-relative	2014	0.074	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	4,590,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0.045	-	-
<b>TC</b>	TC-MT	2014	129		
<b>TL</b>	TL-MT	2014	80		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	TB-MT/TBmgt-MT	2014	0.453		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

West coast rock lobster South Africa Area 7 [CRLOBSTERSA7]

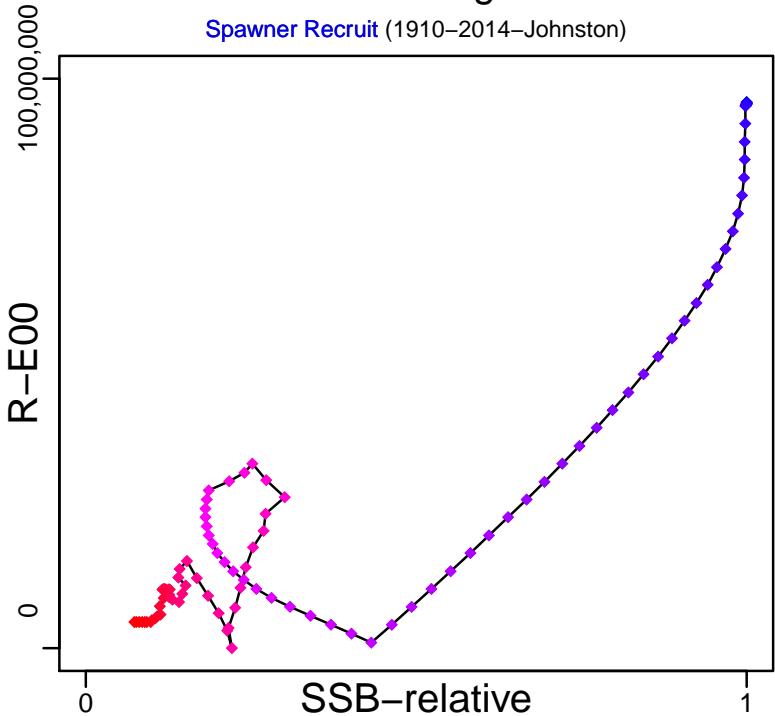
Kobe MSYpref (1910–2014–Johnston)



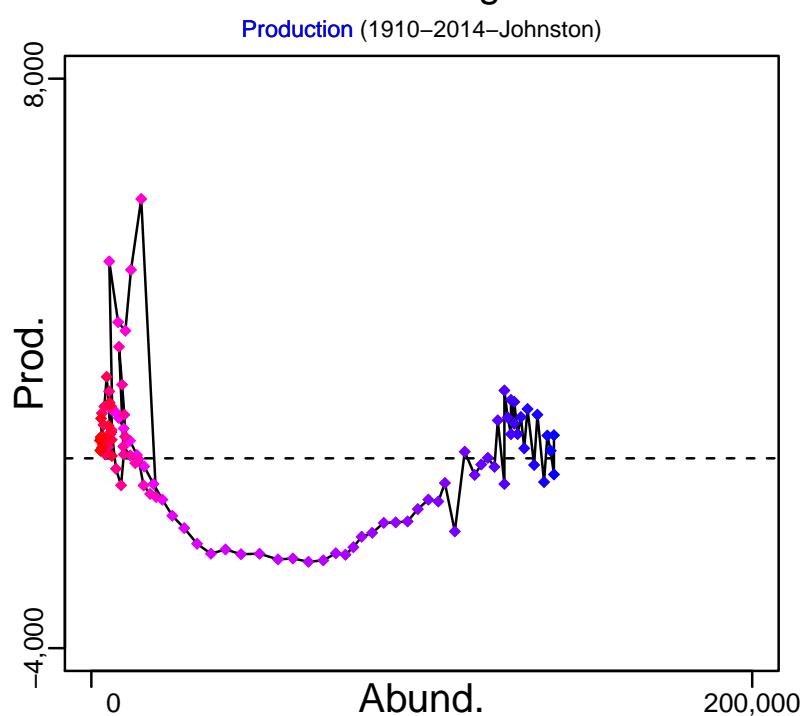
Kobe MGTpref (1910–2014–Johnston)



Spawner Recruit (1910–2014–Johnston)



Production (1910–2014–Johnston)

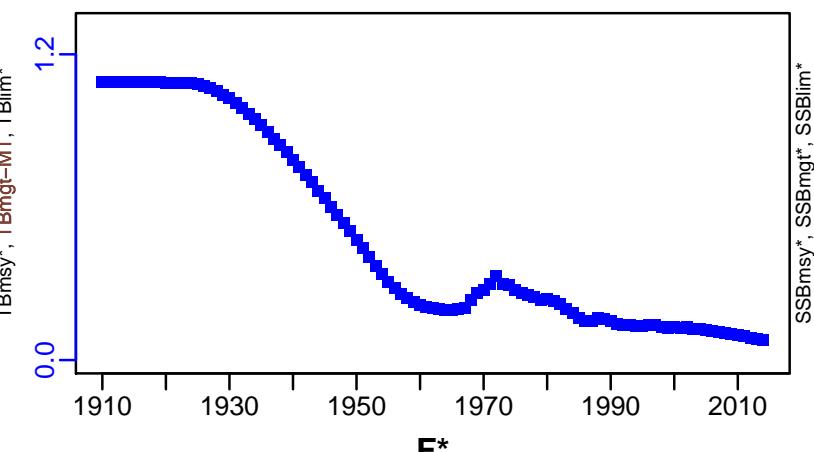
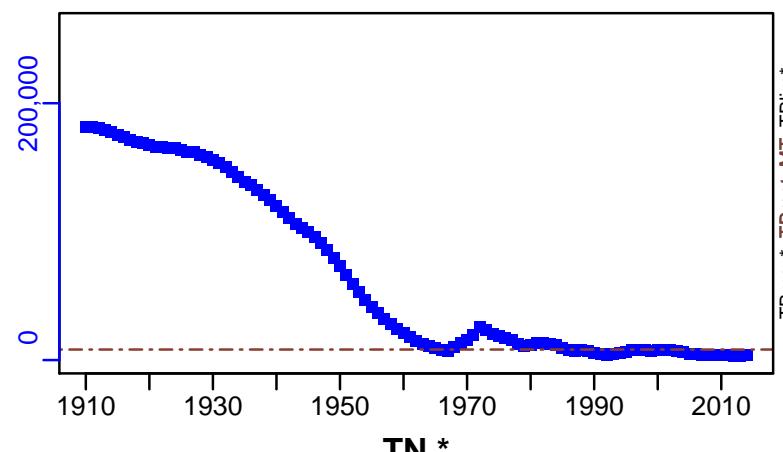


◆ Start Year	◆ End Year	*	No Data
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West coast rock lobster South Africa Area 7 [CRLOBSTERSA7]

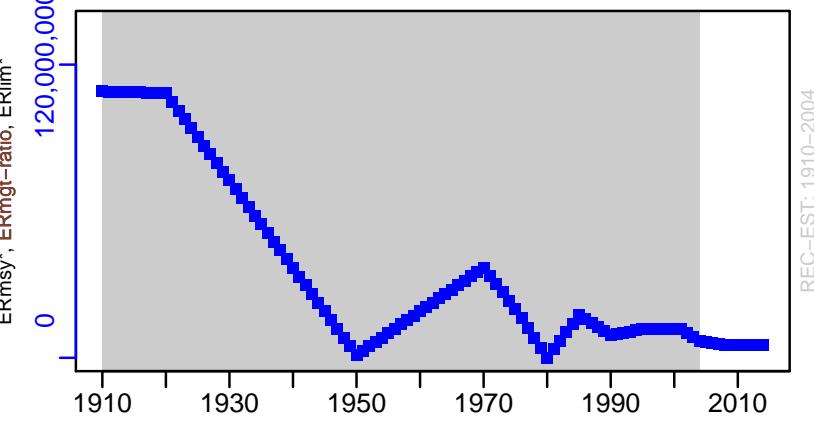
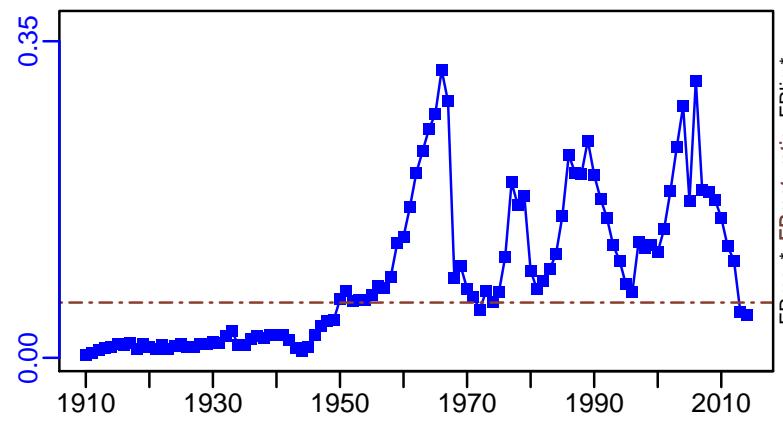
TB-MT (1910–2014–Johnston)

SSB-relative (1910–2014–Johnston)



ER-ratio (1910–2014–Johnston)

R-E00 (1910–2014–Johnston)

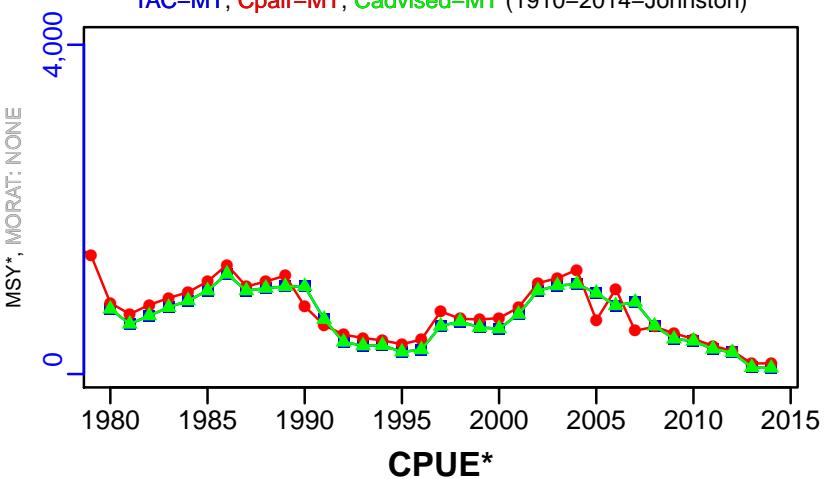
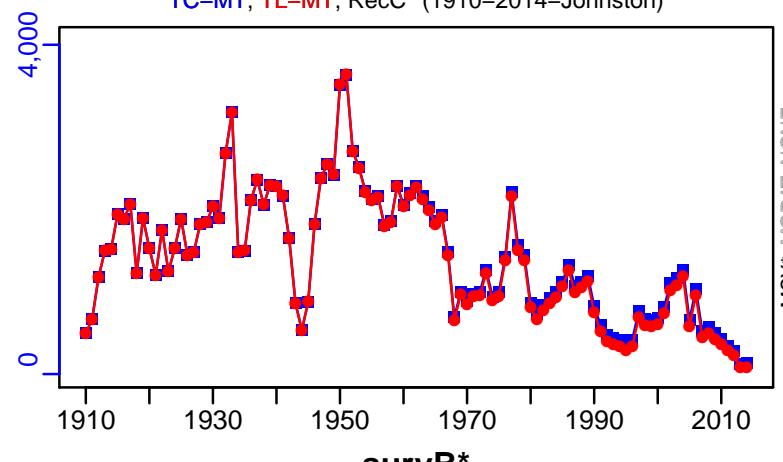


■ Listed time series	— Target BRP	— Rec-Est
- - MSY-based BRP	--- Lim BRP	■ No Data

West coast rock lobster South Africa Area 7 [CRLOBSTERSA7]

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

TAC-MT, Cpair-MT, Cadvised-MT (1910–2014–Johnston)



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]

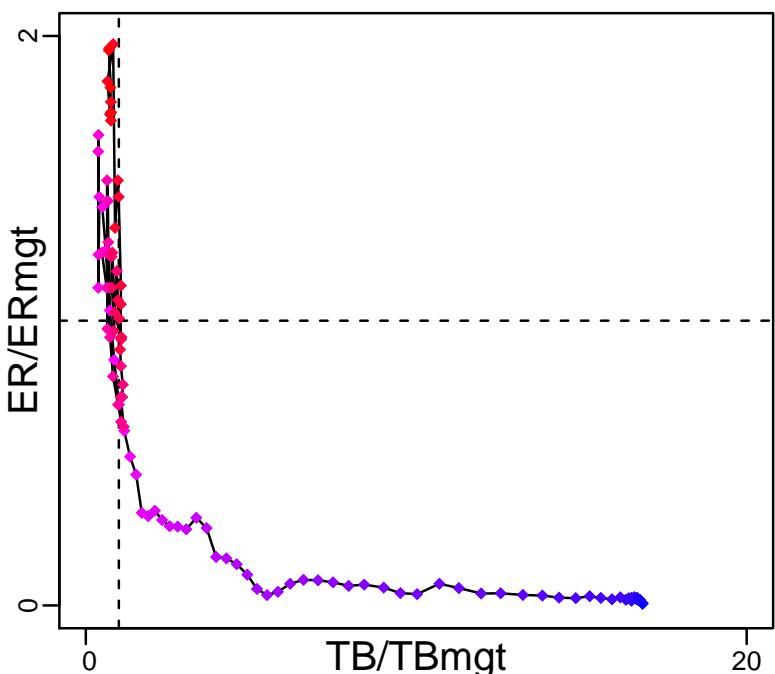
<b>Metadata</b>	
<b>Scientific Name</b>	Jasus lalandii
<b>Current Assess ID</b>	MARAM-CRLOBSTERSA8-1910-2014-Johnston
<b>Area</b>	South Africa Area 8
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine 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

<b>Reference Points</b>			
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	0.138
<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>	-	-	-

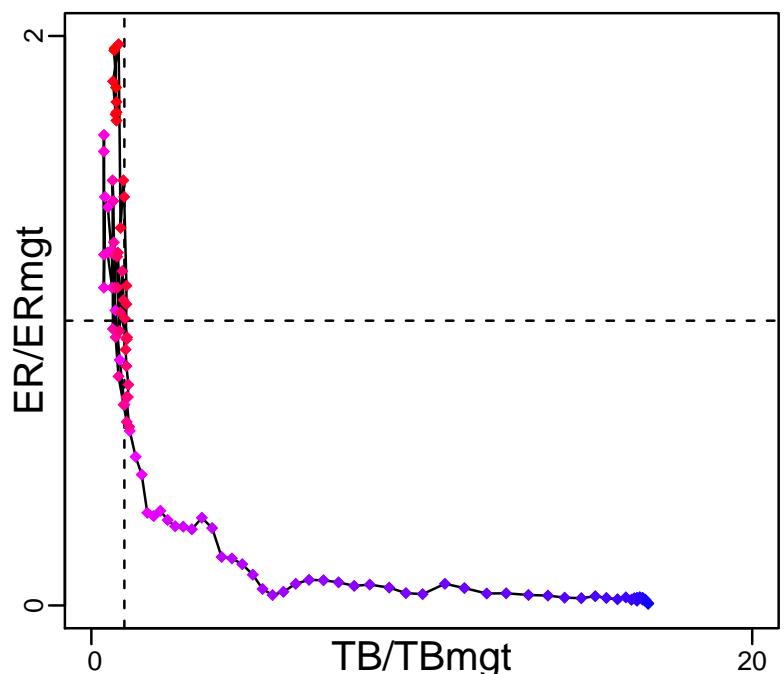
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	8860	Males	-
<b>SSB</b>	SSB-relative	2014	0.223	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	$2.05 \times 10^8$	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0.251	-	-
<b>TC</b>	TC-MT	2014	2220		
<b>TL</b>	TL-MT	2014	1500		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	TB-MT/TBmgt-MT	2014	0.746		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

West coast rock lobster South Africa Area 8 [CRLOBSTERSA8]

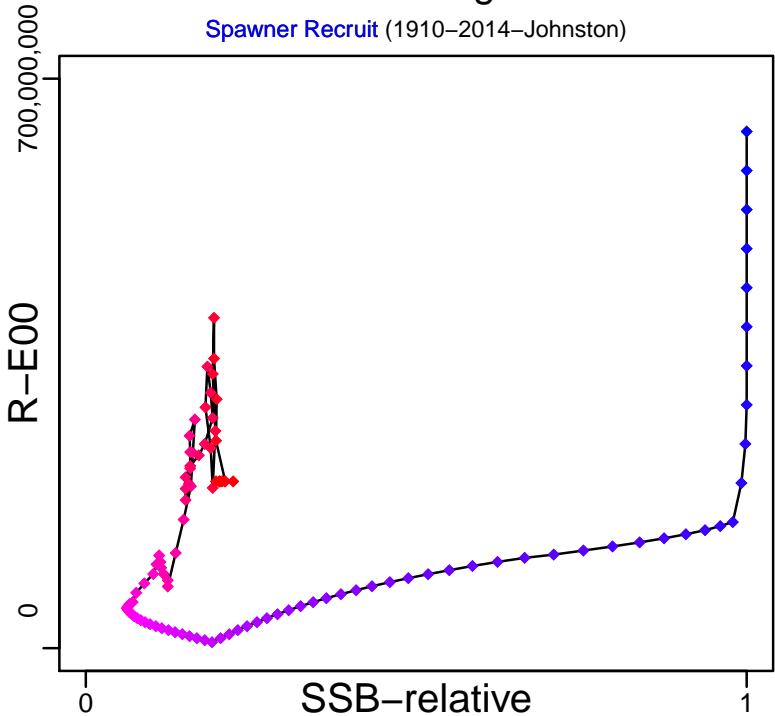
Kobe MSYpref (1910–2014–Johnston)



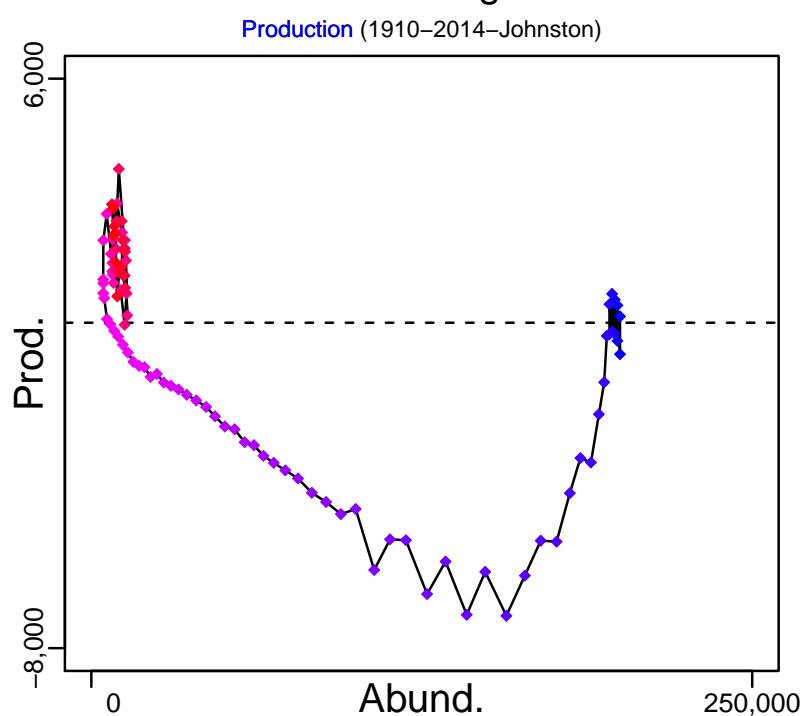
Kobe MGTpref (1910–2014–Johnston)



Spawner Recruit (1910–2014–Johnston)



Production (1910–2014–Johnston)

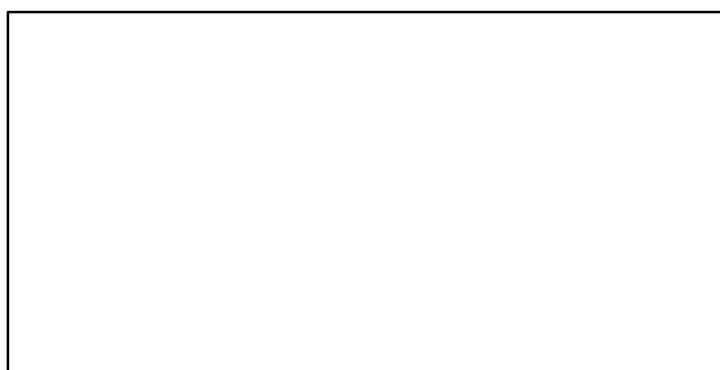
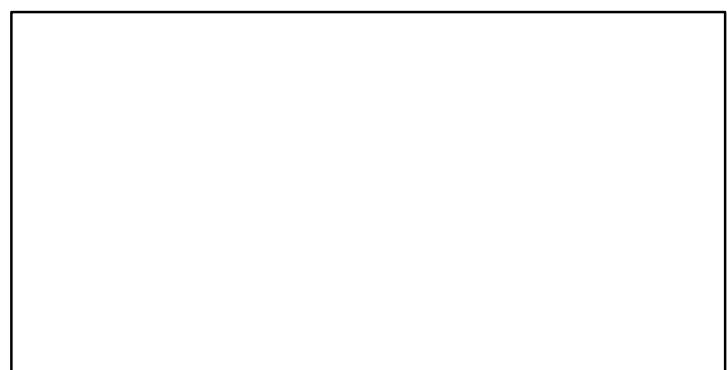
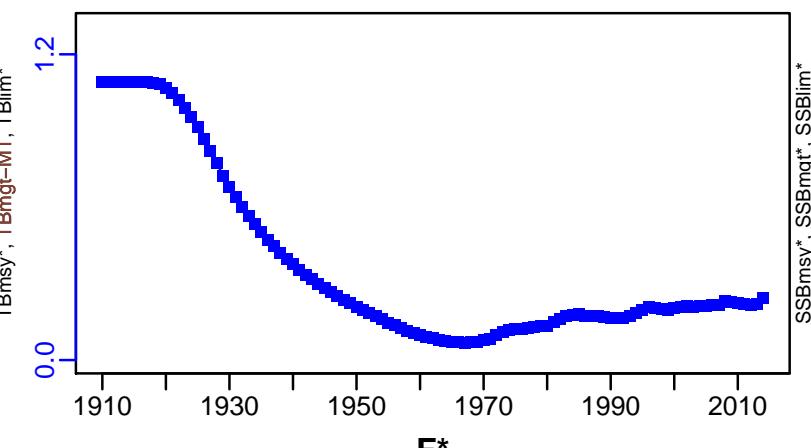
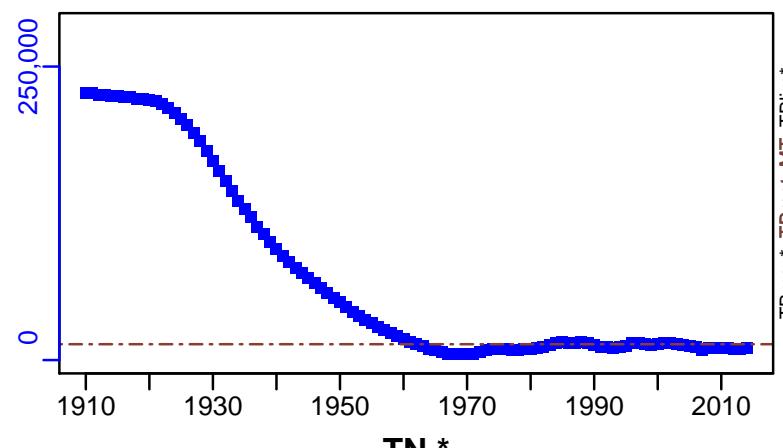


◆ Start Year	◆ End Year	*	No Data
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West coast rock lobster South Africa Area 8 [CRLOBSTERSA8]

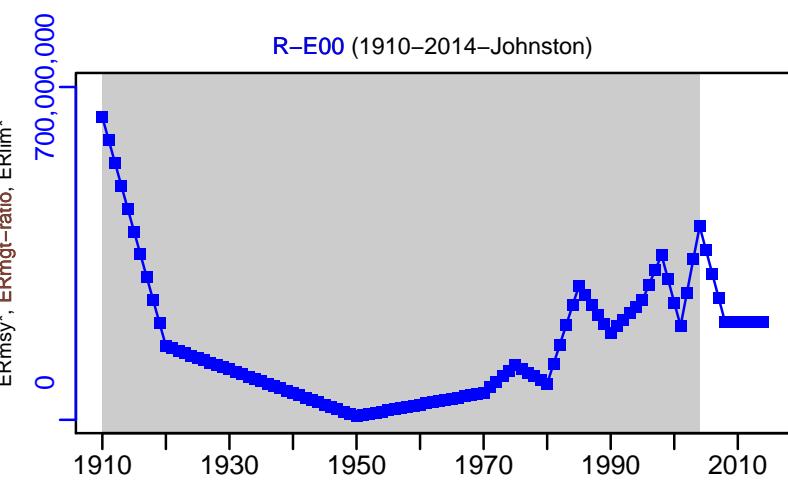
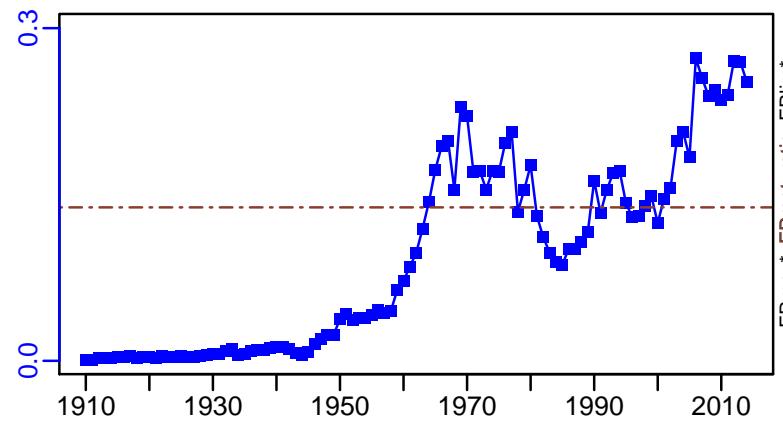
TB-MT (1910–2014–Johnston)

SSB-relative (1910–2014–Johnston)



ER-ratio (1910–2014–Johnston)

R-E00 (1910–2014–Johnston)

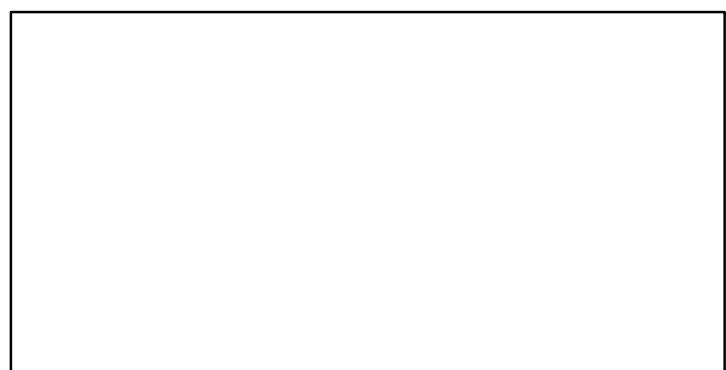
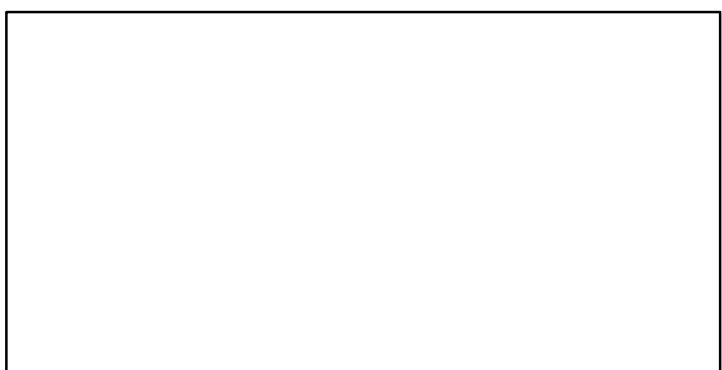
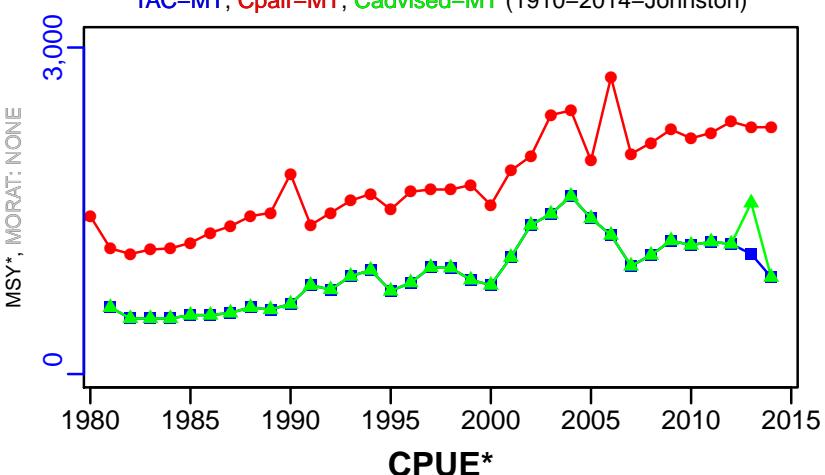
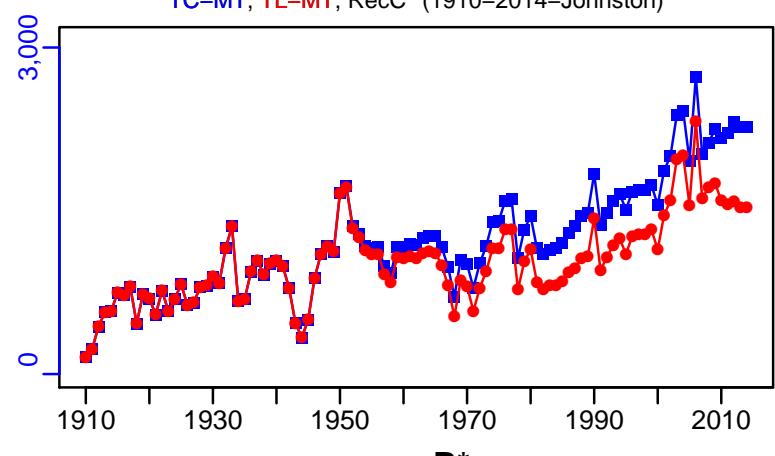


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | ·· Lim BRP   | ■ No Data |

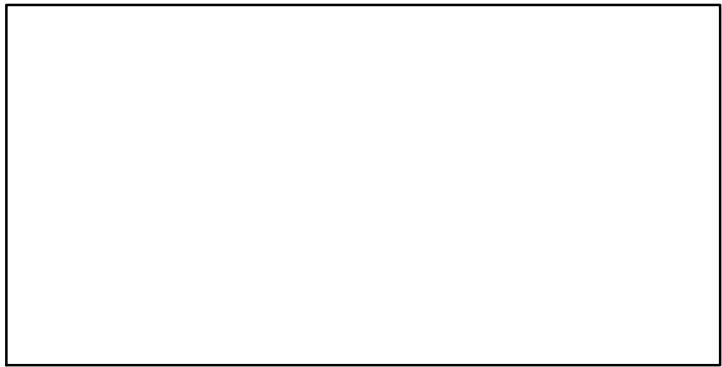
**West coast rock lobster South Africa Area 8 [CRLOBSTERSA8]**

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

TAC-MT, Cpair-MT, Cadvised-MT (1910–2014–Johnston)



**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]

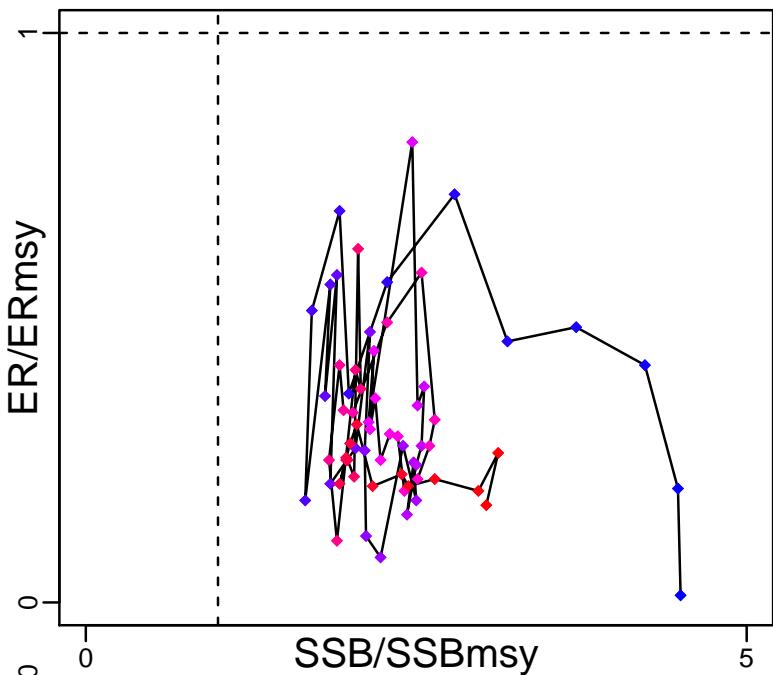
Metadata	
<b>Scientific Name</b>	Trachurus capensis
<b>Current Assess ID</b>	MARAM-CTRACSA-1949-2013-Furman
<b>Area</b>	South Africa South coast
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine 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>TB<sub>msy</sub></b>	TB <sub>msy</sub> -MT	2013	307,654	
<b>SSB<sub>msy</sub></b>	SSB <sub>msy</sub> -MT	2013	234,635	
<b>F<sub>msy</sub></b>	F <sub>msy</sub> -1/yr	2013	0.19	
<b>ER<sub>msy</sub></b>	ER <sub>msy</sub> -ratio	2013	0.24	
<b>TB<sub>mgt</sub></b>	-	-	-	
<b>SSB<sub>mgt</sub></b>	-	-	-	
<b>F<sub>mgt</sub></b>	-	-	-	
<b>ER<sub>mgt</sub></b>	-	-	-	
<b>TB<sub>0</sub></b>	TB <sub>0</sub> -MT	2013	1,052,609	
<b>SSB<sub>0</sub></b>	SSB <sub>0</sub> -MT	2013	960,562	
<b>MSY</b>	MSY-MT	2013	72,924	
<b>M</b>	M-1/yr	2013	0.3	
<b>TB<sub>lim</sub></b>	TB <sub>lim</sub> -MT	2013	366,474	
<b>SSB<sub>lim</sub></b>	-	-	-	
<b>F<sub>lim</sub></b>	-	-	-	
<b>ER<sub>lim</sub></b>	-	-	-	

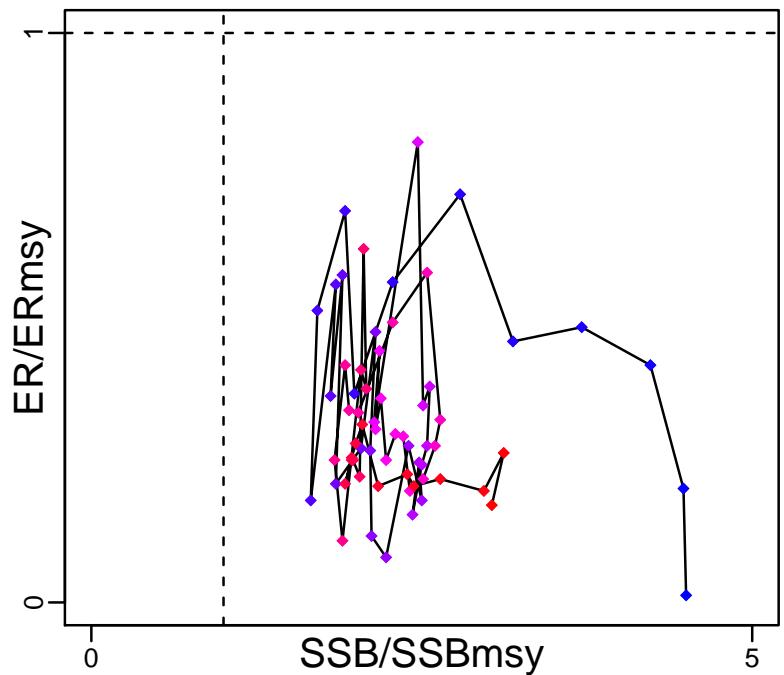
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2013	731,000	-	0+
<b>SSB</b>	SSB-MT	2013	606,000	Both	3+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2013	$1.46 \times 10^9$	-	0
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2013	0.041	-	-
<b>TC</b>	TC-MT	2013	29,700		
<b>TL</b>	TL-MT	2013	29,700		
<b>TB/TB<sub>msy</sub></b>	TB <sub>div</sub> TB <sub>msy</sub> -dimensionless	2013	2.48		
<b>SSB/SSB<sub>msy</sub></b>	SSB <sub>div</sub> SSB <sub>msy</sub> -dimensionless	2013	2.85		
<b>F/F<sub>msy</sub></b>	-	-	-		
<b>ER/ER<sub>msy</sub></b>	ER-ratio/ER <sub>msy</sub> -ratio	2013	0.171		
<b>TB/TB<sub>mgt</sub></b>	-	-	-		
<b>SSB/SSB<sub>mgt</sub></b>	-	-	-		
<b>F/F<sub>mgt</sub></b>	-	-	-		
<b>ER/ER<sub>mgt</sub></b>	-	-	-		

Cape horse mackerel South Africa South coast [CTRACSA]

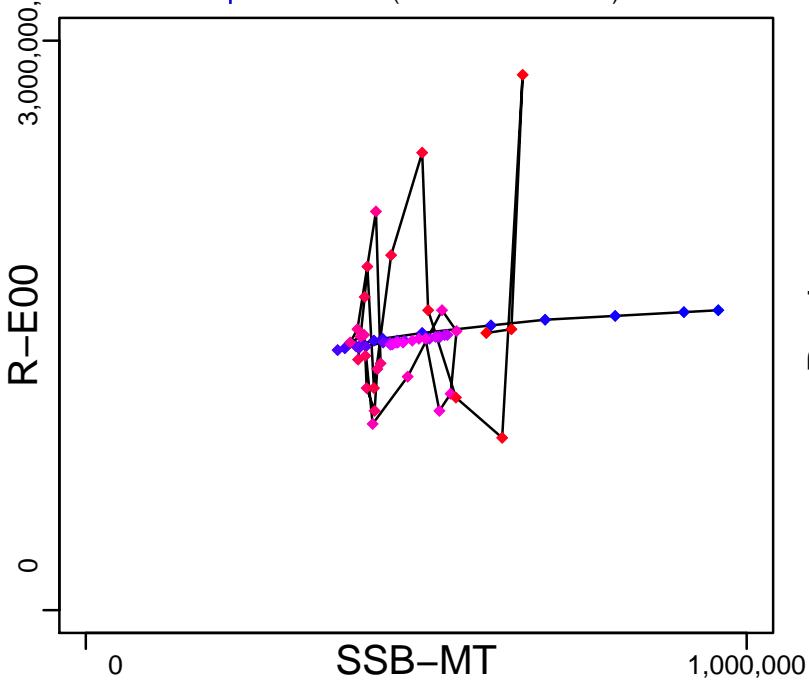
Kobe MSYref (1949–2013–Furman)



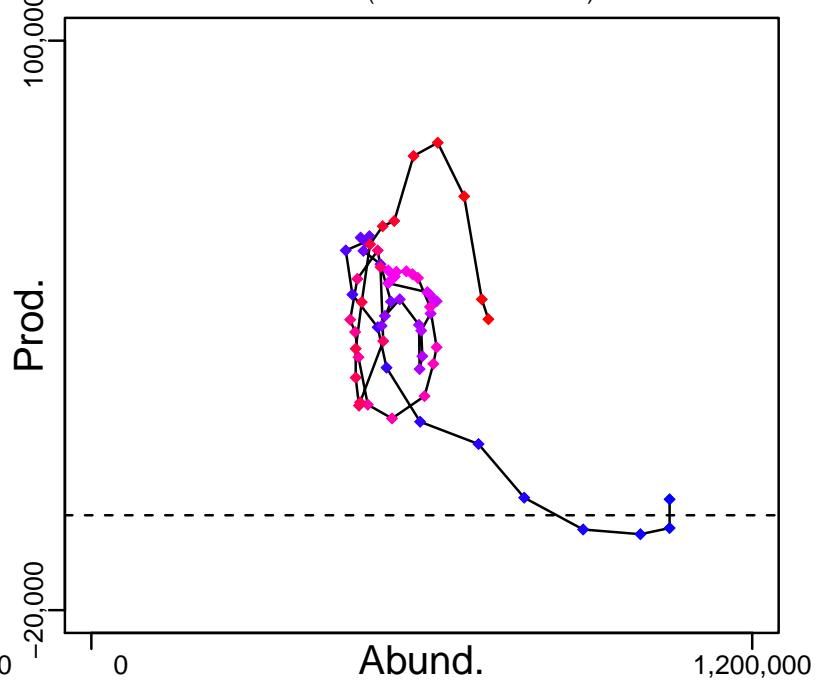
Kobe MGTPref (1949–2013–Furman)



Spawner Recruit (1949–2013–Furman)



Production (1949–2013–Furman)

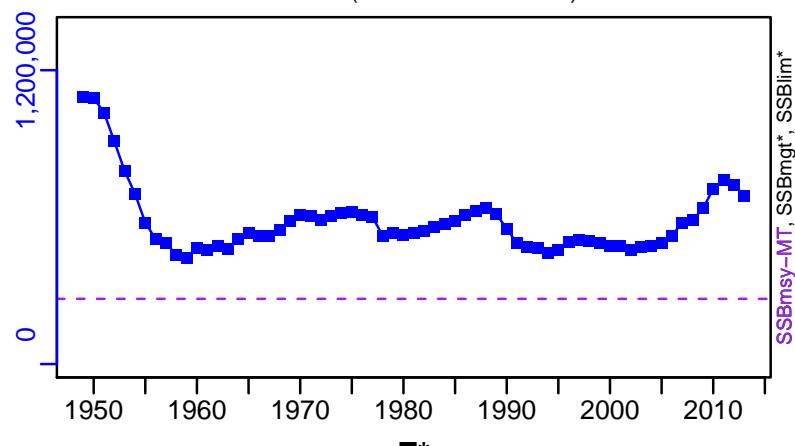
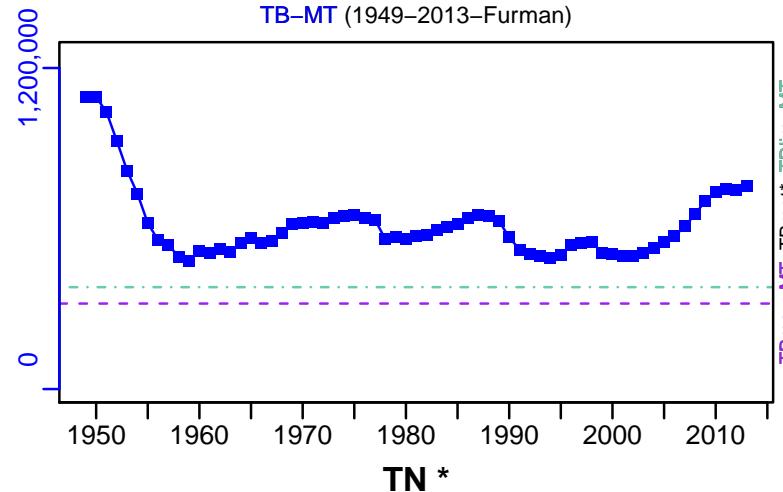


◆ Start Year ◆ End Year \* No Data

Cape horse mackerel South Africa South coast [CTRACSA]

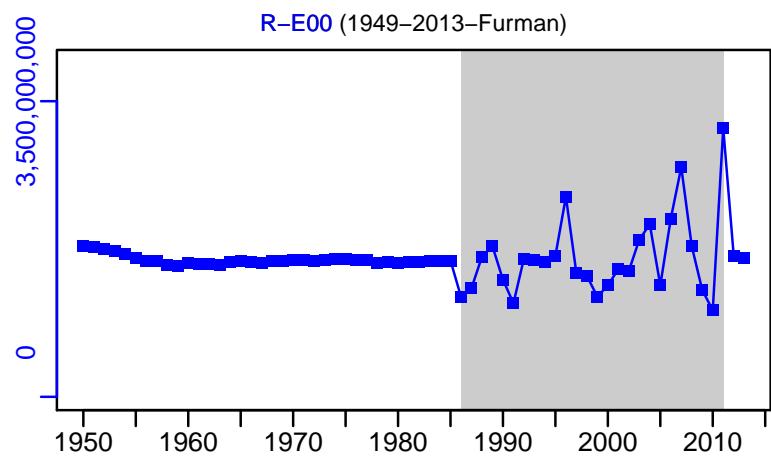
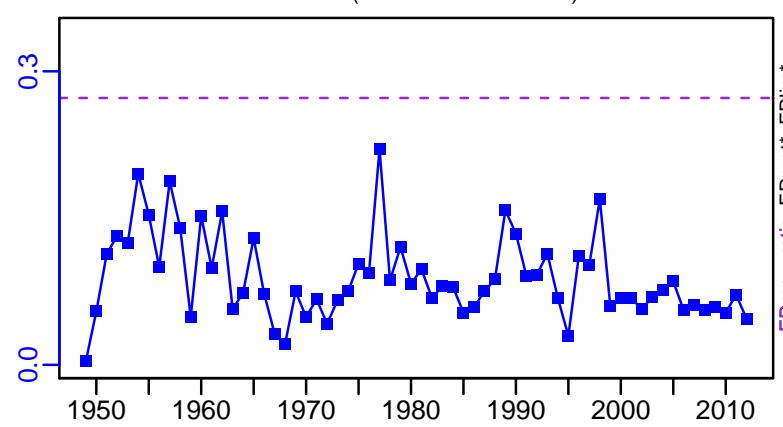
TB-MT (1949–2013–Furman)

SSB-MT (1949–2013–Furman)



ER-ratio (1949–2013–Furman)

R-E00 (1949–2013–Furman)



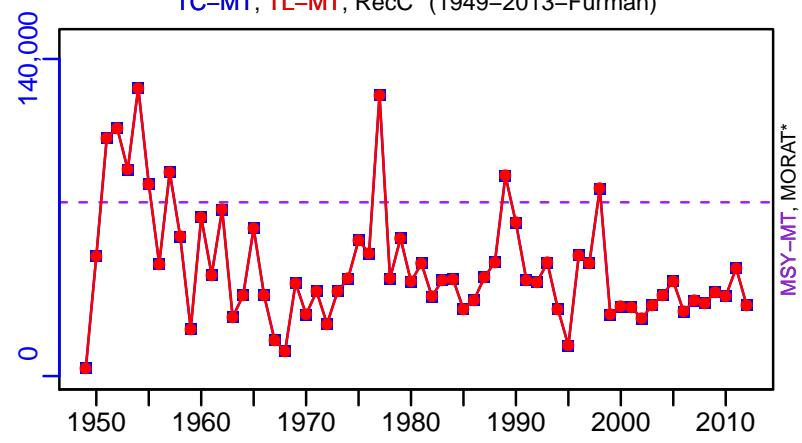
- |                      |               |           |
|----------------------|---------------|-----------|
| ■ Listed time series | — Target BRP  | — Rec-Est |
| - - - MSY-based BRP  | - - - Lim BRP | ■ No Data |

REC-EST: 1986–2011

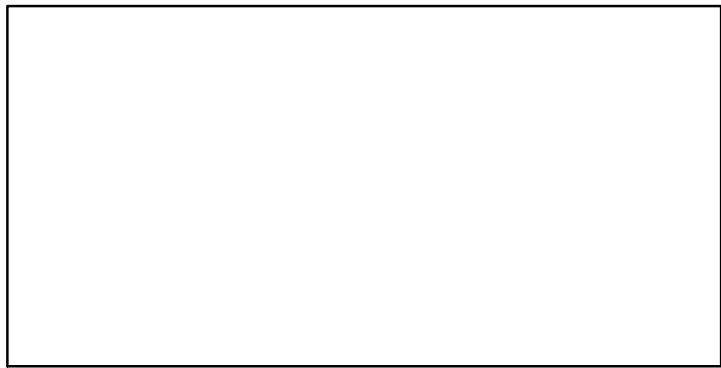
Cape horse mackerel South Africa South coast [CTRACSA]

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

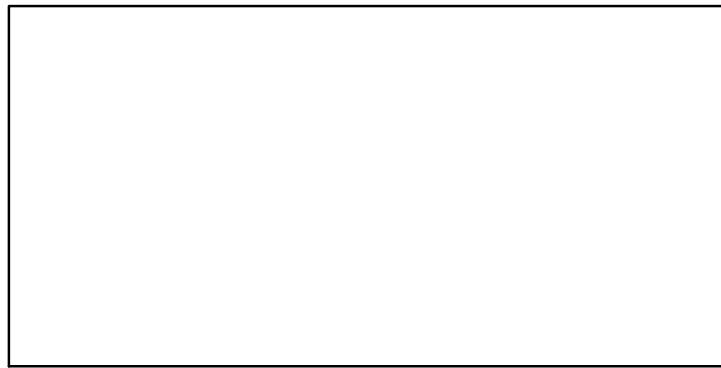
TAC\*, Cpair\*, Cadv\*



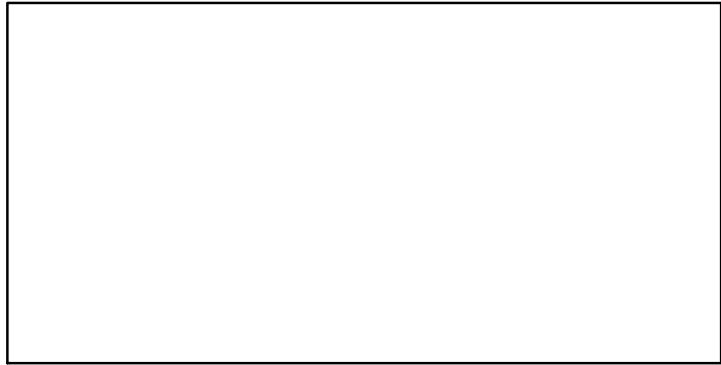
survB\*



CPUE\*



EFFORT\*



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

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

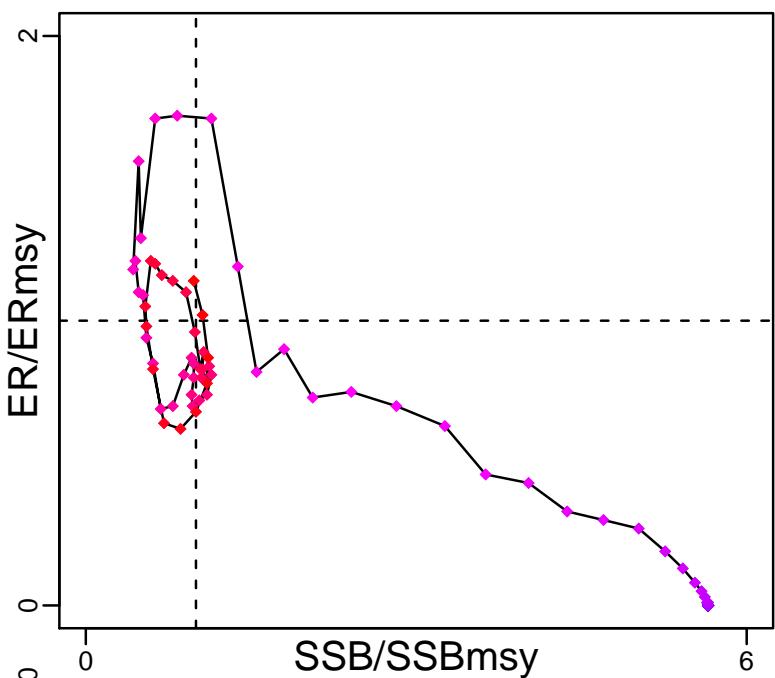
<b>Metadata</b>	
<b>Scientific Name</b>	Merluccius paradoxus
<b>Current Assess ID</b>	MARAM-DEEPCHAKESA-1917-2015-Rademeyer
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine 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

<b>Reference Points</b>				
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Value</b>	
<b>TBm sy</b>	-	-	-	
<b>SSBm sy</b>	SSBm sy-MT	2015	181,000	
<b>Fm sy</b>	-	-	-	
<b>ERm sy</b>	ERm sy-ratio	2015	0.41	
<b>TBm gt</b>	-	-	-	
<b>SSBm gt</b>	SSBm gt-MT	2015	181,000	
<b>Fm gt</b>	-	-	-	
<b>ERm gt</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	0.717	
<b>TBlim</b>	TBlim-MT	2013	60,000	
<b>SSBlim</b>	SSBlim-MT	2015	77,200	
<b>Flim</b>	-	-	-	
<b>ERlim</b>	-	-	-	

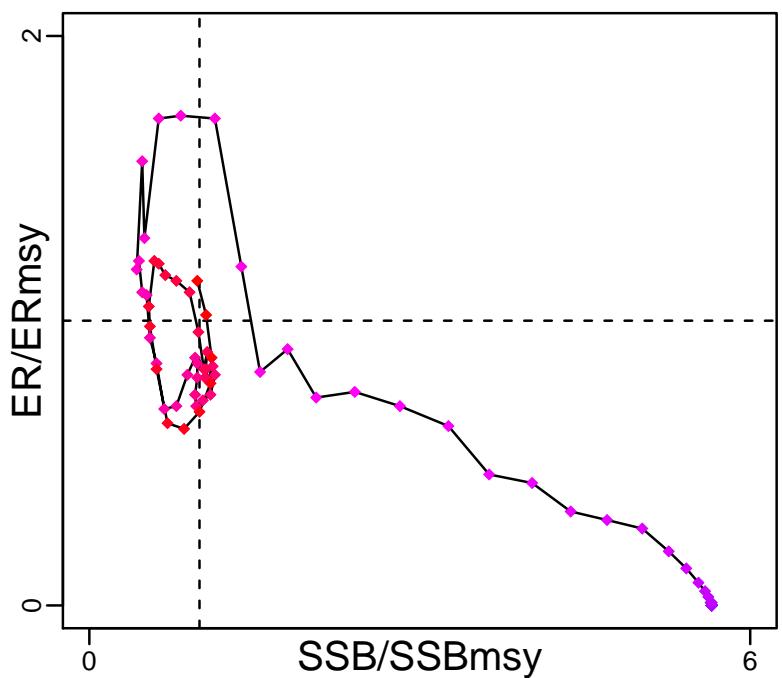
<b>Time Series</b>						
<b>Type</b>	<b>ID</b>	<b>Asmt Year</b>	<b>Curr Value</b>	<b>Sex</b>	<b>Age</b>	
<b>TB</b>	TB-MT	2015	517,000	-	0+	
<b>SSB</b>	SSB-MT	2015	178,000	Females	4	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2015	$3.86 \times 10^9$	-	0	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-ratio	2015	0.47	-	-	
<b>TC</b>	TC-MT	2015	133,000			
<b>TL</b>	TL-MT	2015	133,000			
<b>TB/TBm sy</b>	-	-	-			
<b>SSB/SSBm sy</b>	SSBdivSSBm sy-dimensionless	2015	0.98			
<b>F/Fm sy</b>	-	-	-			
<b>ER/ERm sy</b>	ERdivERm sy-dimensionless	2015	1.14			
<b>TB/TBm gt</b>	-	-	-			
<b>SSB/SSBm gt</b>	SSB-MT/SSBm gt-MT	2015	0.983			
<b>F/Fm gt</b>	-	-	-			
<b>ER/ERm gt</b>	-	-	-			

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

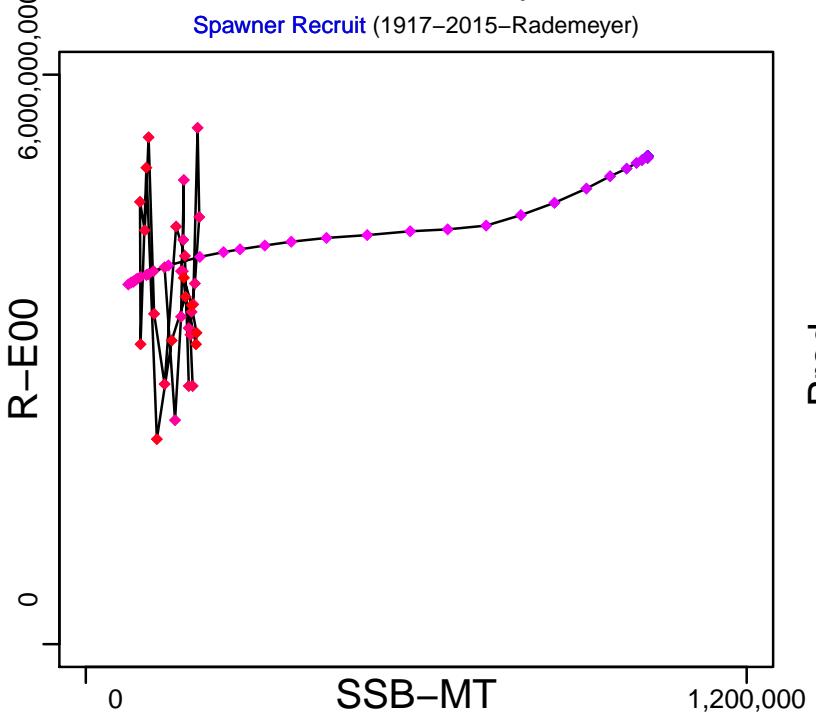
Kobe MSYpref (1917–2015–Rademeyer)



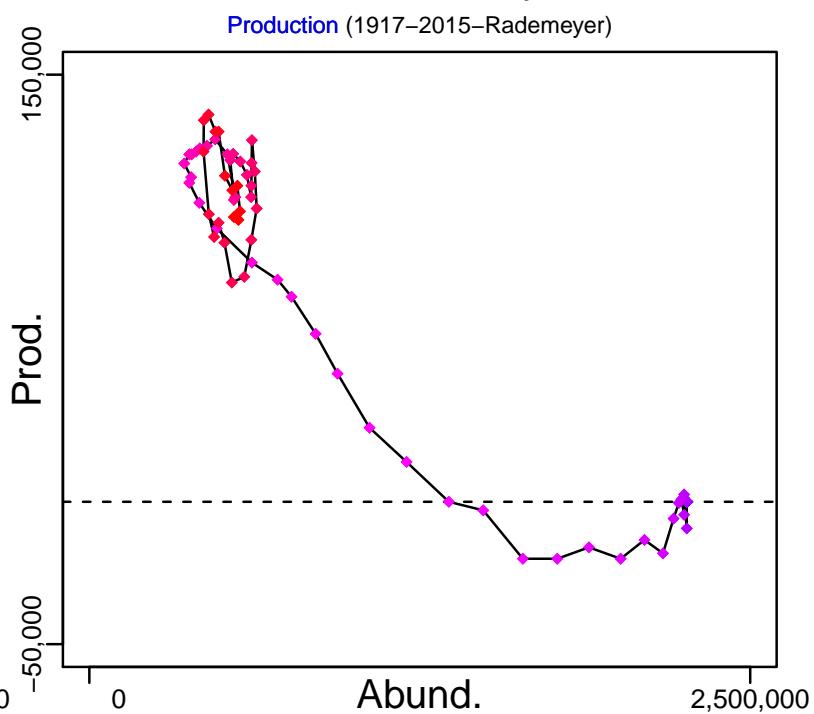
Kobe MGTpref (1917–2015–Rademeyer)



Spawner Recruit (1917–2015–Rademeyer)



Production (1917–2015–Rademeyer)

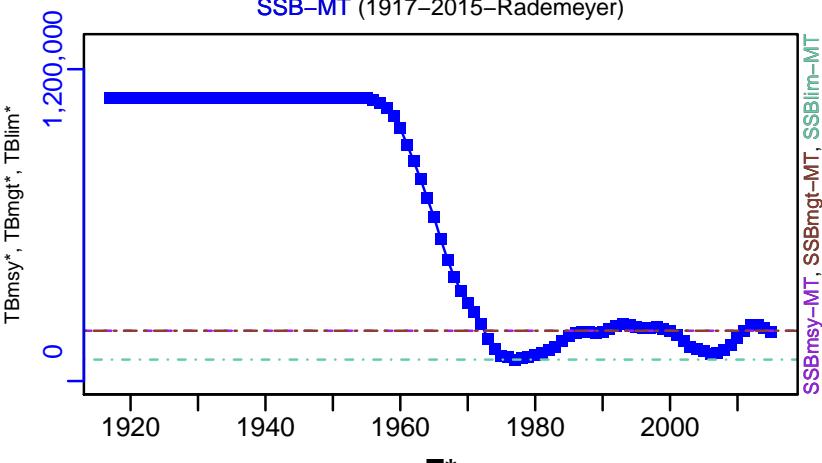
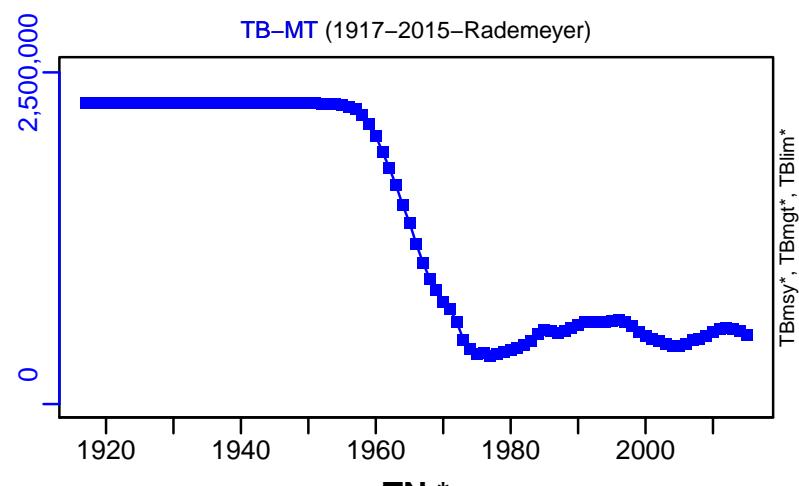


◆ Start Year	◆ End Year	*	No Data
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### Deep-water cape hake South Africa [DEEPCHAKESA]

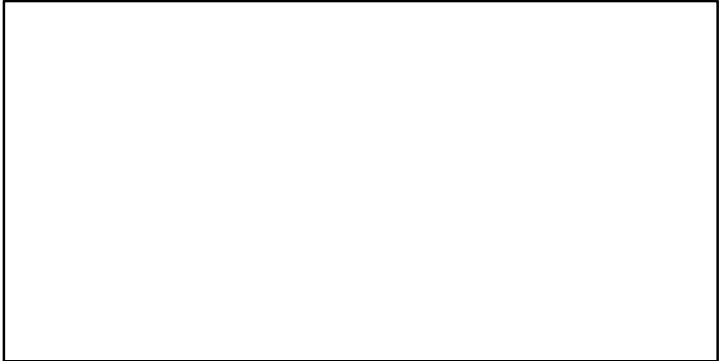
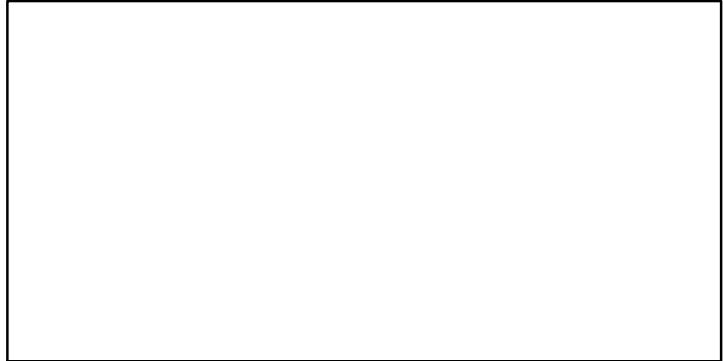
TB-MT (1917–2015–Rademeyer)

SSB-MT (1917–2015–Rademeyer)



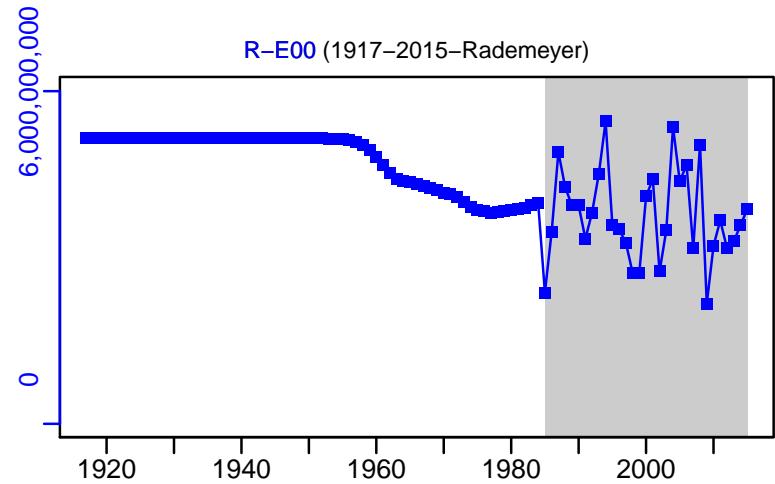
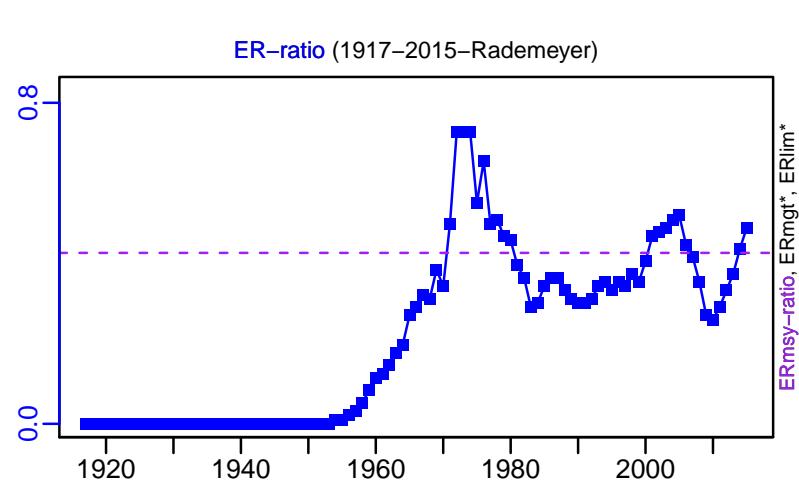
$TN^*$

$F^*$



ER-ratio (1917–2015–Rademeyer)

R-E00 (1917–2015–Rademeyer)

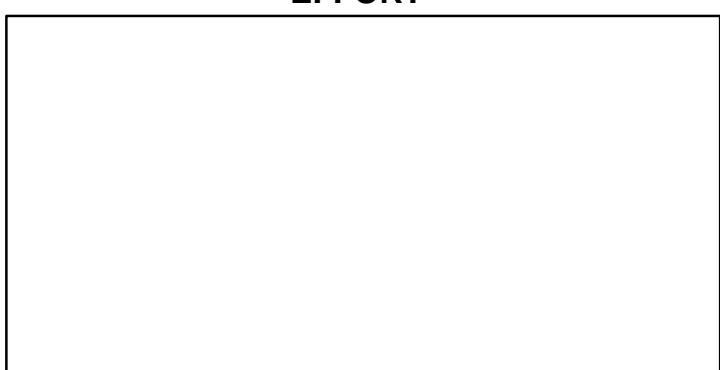
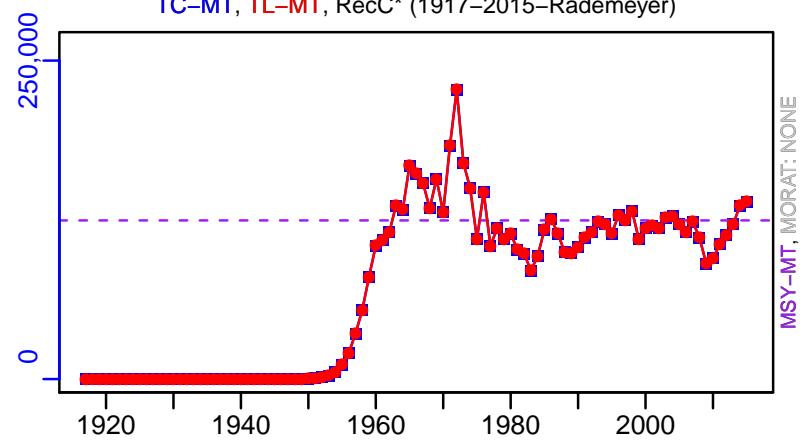


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | - - Lim BRP  | ■ No Data |

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

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

TAC\*, Cpair\*, Cadv\*



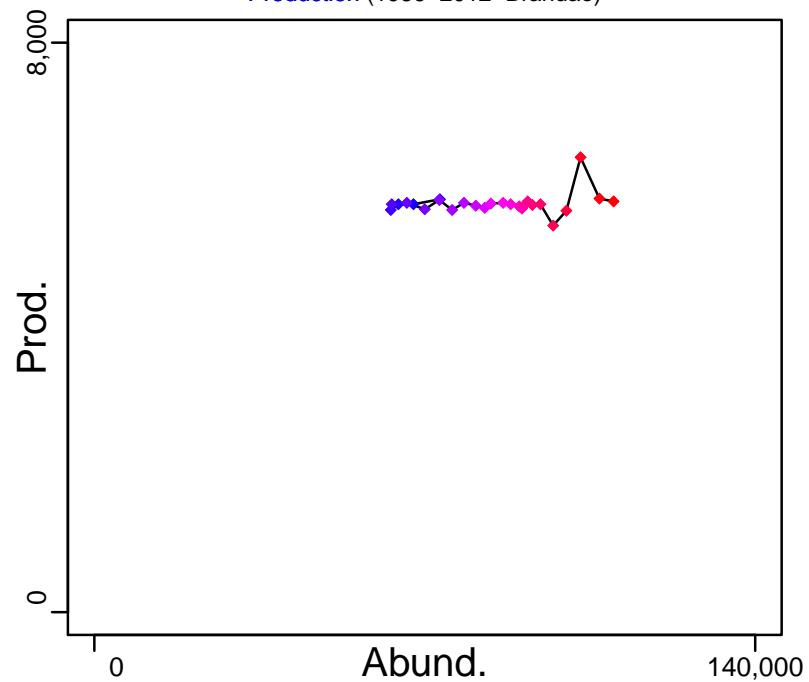
- |                          |                          |           |
|--------------------------|--------------------------|-----------|
| ■ 1st listed time series | ▲ 3rd listed time series | — MORAT   |
| ● 2nd listed time series | - - MSY                  | * No Data |

## Kingklip South Africa [KINGKLIPSA]

<b>Metadata</b>	
<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

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

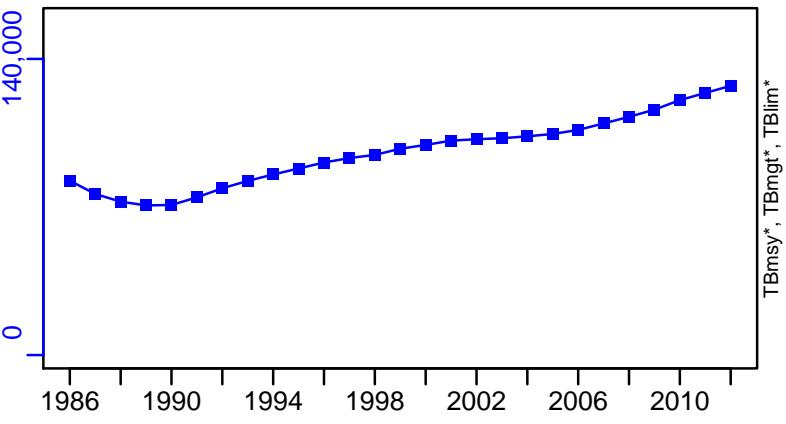
<b>Time Series</b>					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2012	113,000	-	0+
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-calc-ratio	2012	0.031	-	-
<b>TC</b>	TC-MT	2012	3520		
<b>TL</b>	TL-MT	2012	3520		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</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\*****Production (1986–2012–Brandao)**

◆ Start Year   ◆ End Year   \* No Data

**Kingklip South Africa [KINGKLIPSA]**

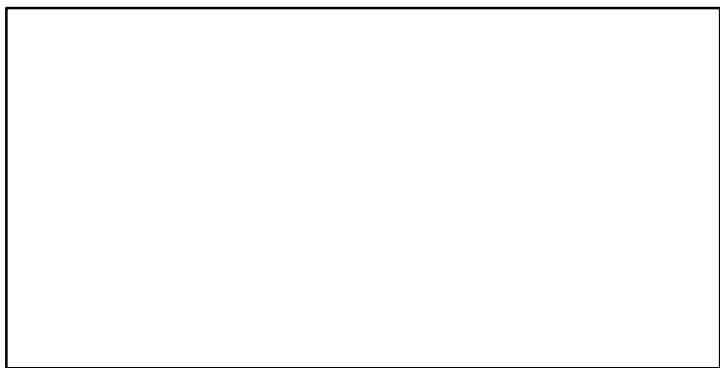
TB-MT (1986–2012–Brandao)



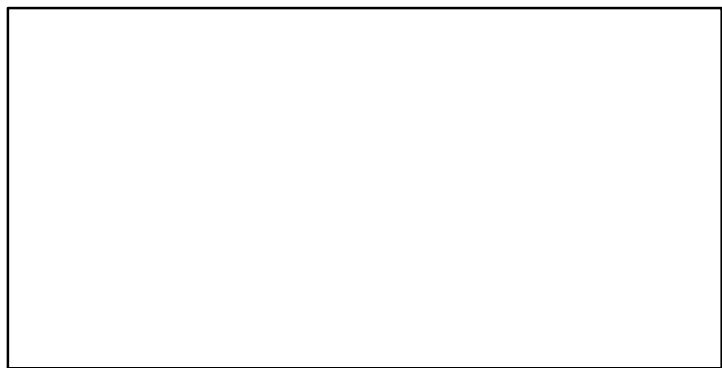
**SSB\***



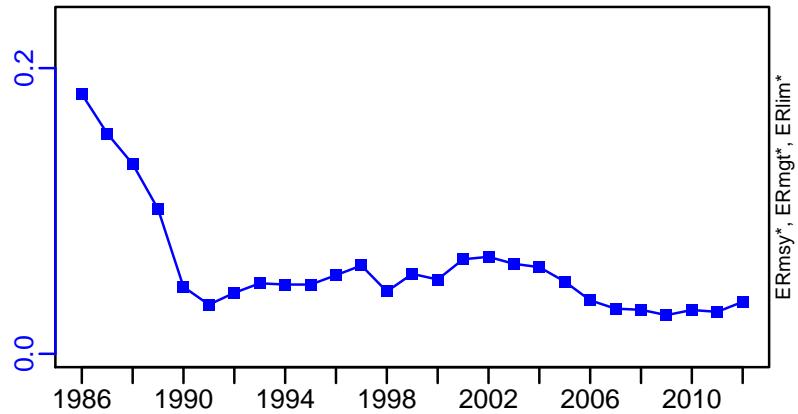
**TN \***



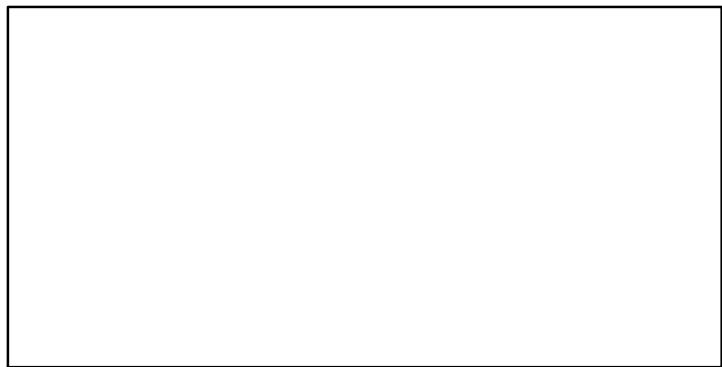
**F\***



ER-calc-ratio (1986–2012–Brandao)



**Recruits\***

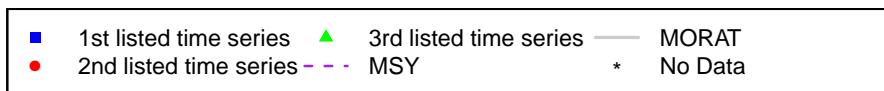
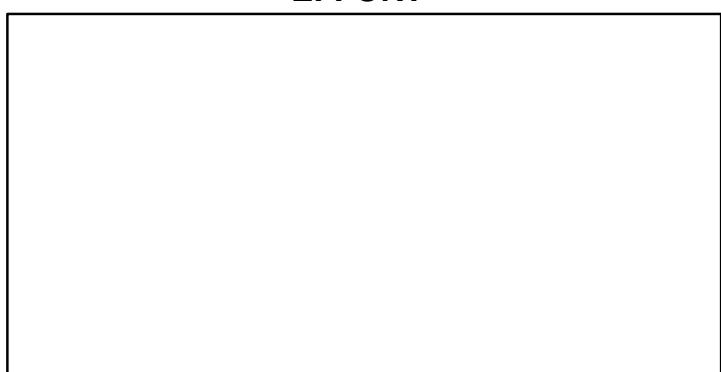
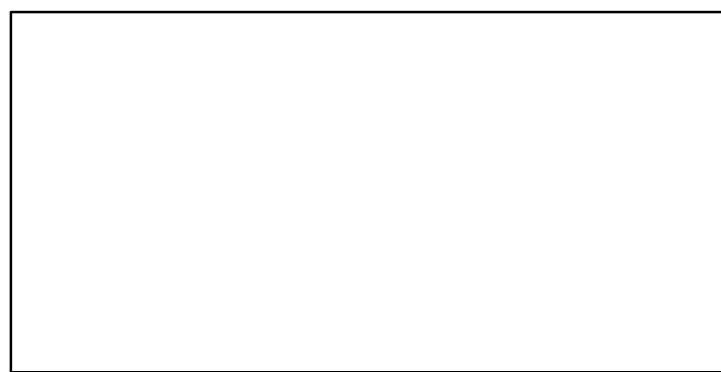
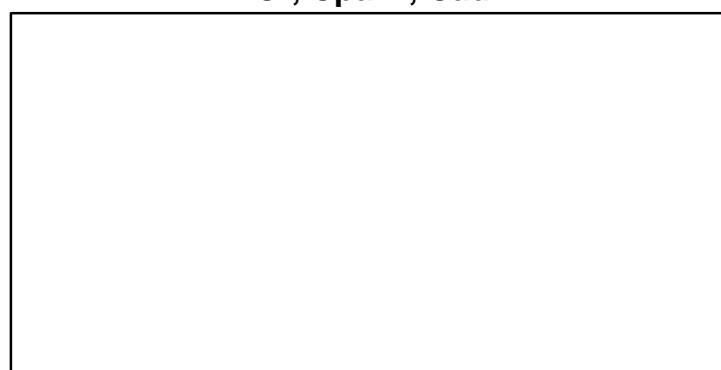
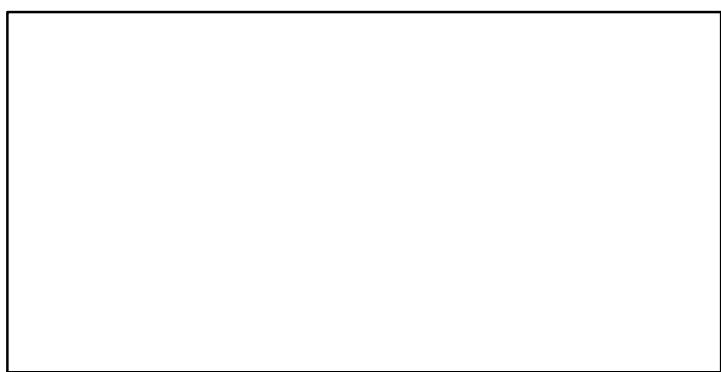
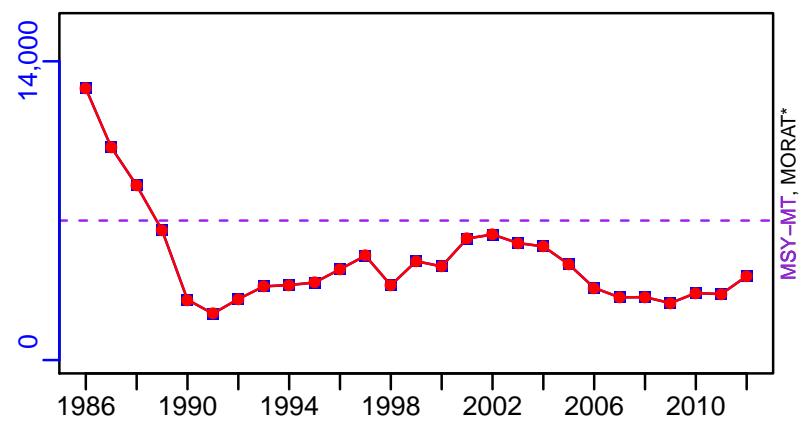


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | ··· Lim BRP  | ■ No Data |

Kingklip South Africa [KINGKLIPSA]

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

TAC\*, Cpair\*, Cadv\*



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

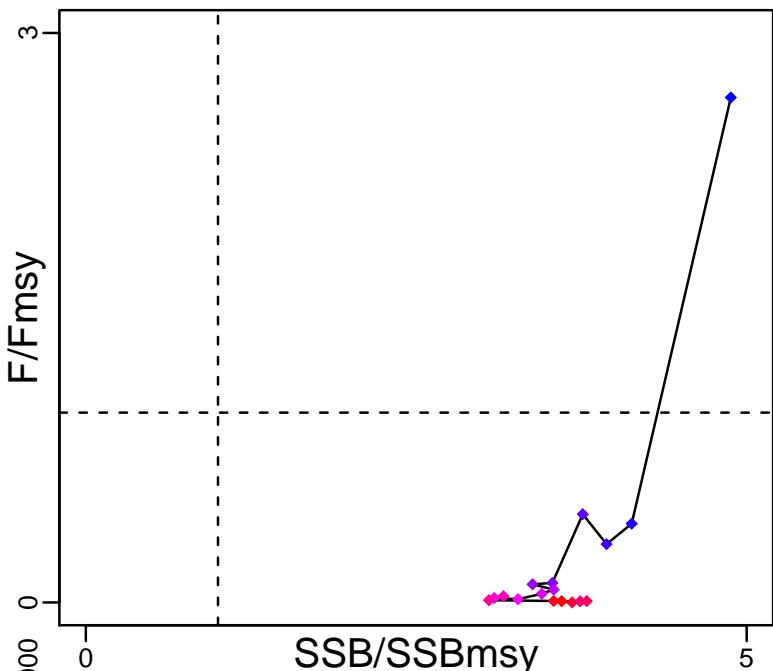
Metadata	
<b>Scientific Name</b>	Dissostichus eleginoides
<b>Current Assess ID</b>	MARAM-PTOOTHFISHPEI-1960-2015-Brandao
<b>Area</b>	South Africa Subantarctic Prince Edward Islands
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and 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>	-	-	-

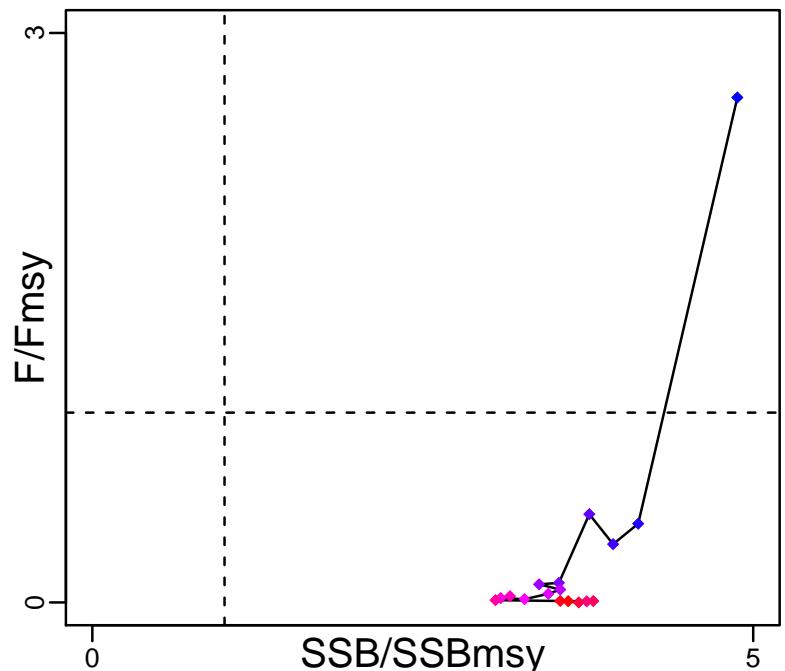
Time Series						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2015	34,100	-	0+	
<b>SSB</b>	SSB-MT	2015	21,700	-	13+	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2015	$1.41 \times 10^{12}$	-	6	
<b>F</b>	-	-	-	-	-	
<b>ER</b>	ER-calc-ratio	2015	0.017	-	-	
<b>TC</b>	TC-MT	2015	575			
<b>TL</b>	TL-MT	2015	575			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSBdivSSBmsy-dimensionless	2015	2.36			
<b>F/Fmsy</b>	FdivFmsy-dimensionless	2013	0.006			
<b>ER/ERmsy</b>	-	-	-			
<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]**

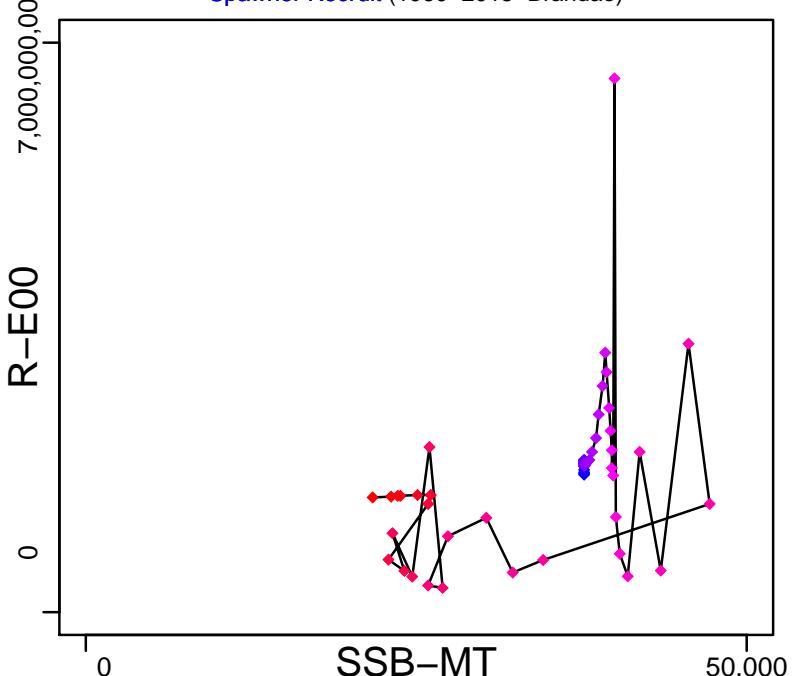
Kobe MSYpref (1960–2013–Brandao)



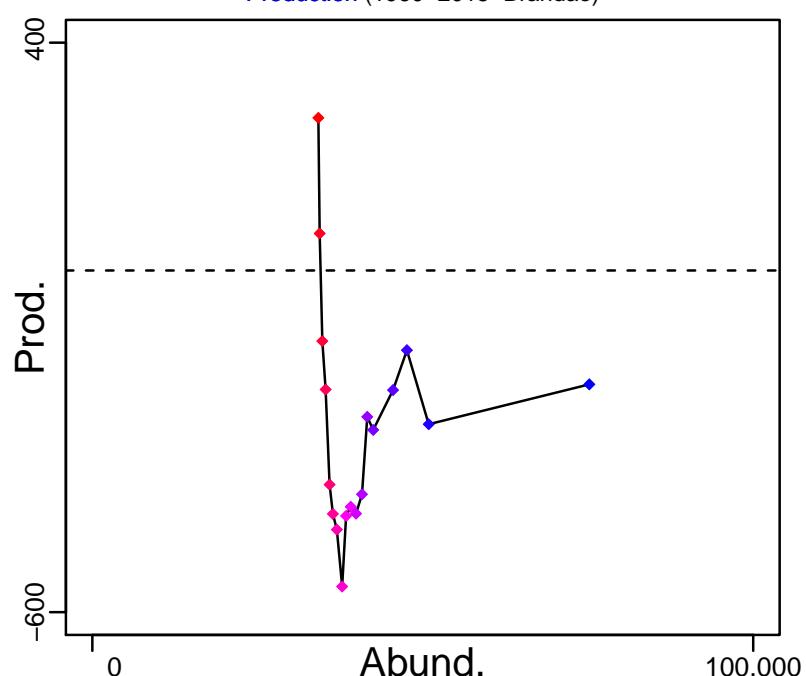
Kobe MGTpref (1960–2013–Brandao)



Spawner Recruit (1960–2015–Brandao)



Production (1960–2015–Brandao)

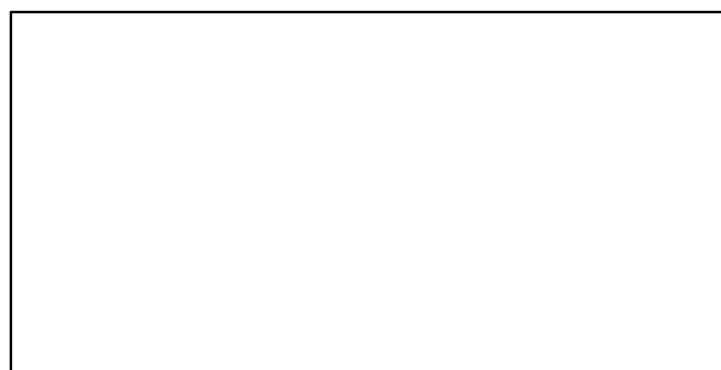
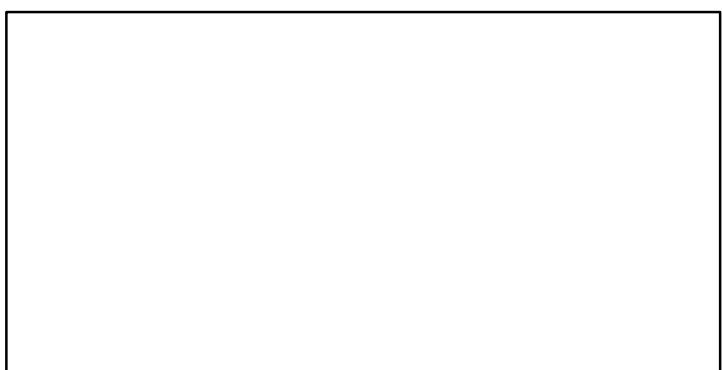
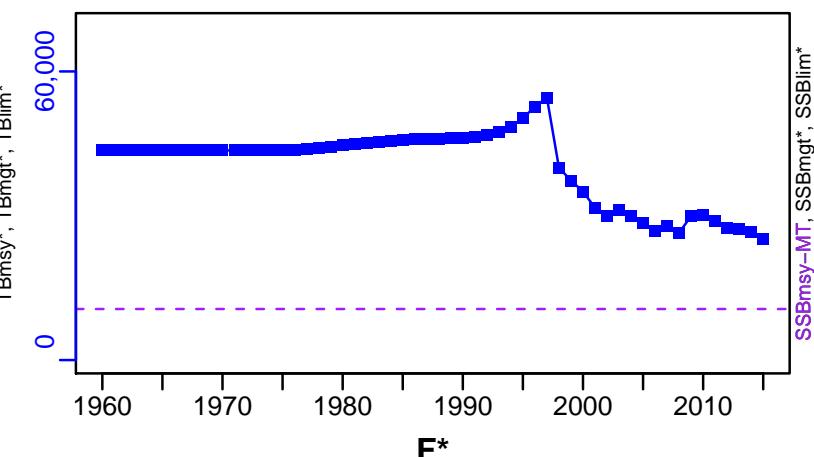
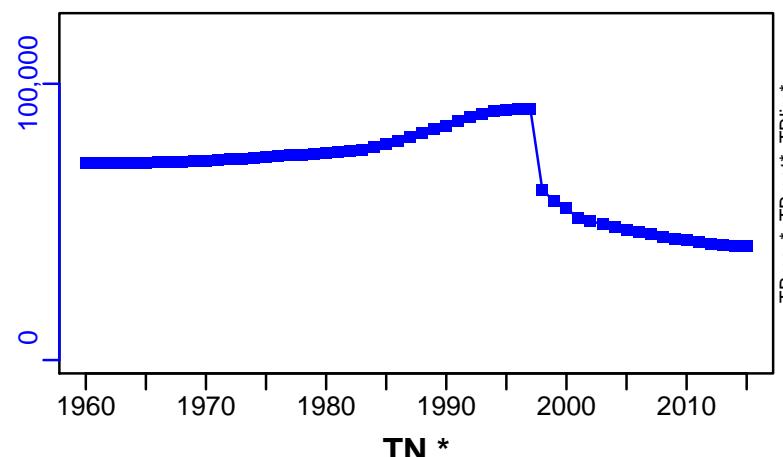


◆ Start Year   ◆ End Year   \* No Data

Patagonian toothfish South Africa Subantarctic Prince Edward Islands [PTOOTHFISHPEI]

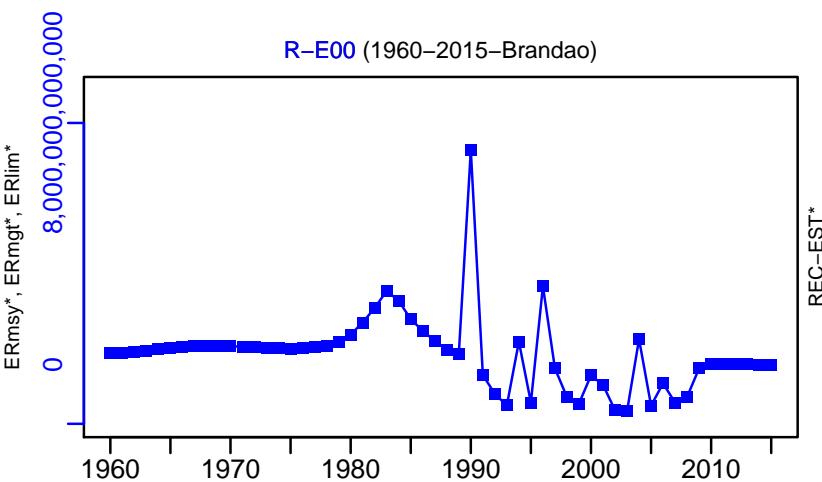
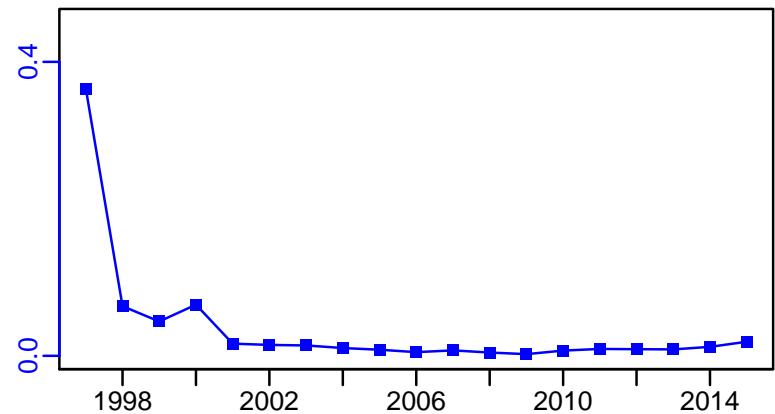
TB-MT (1960–2015–Brandao)

SSB-MT (1960–2015–Brandao)



ER-calc-ratio (1960–2015–Brandao)

R-E00 (1960–2015–Brandao)

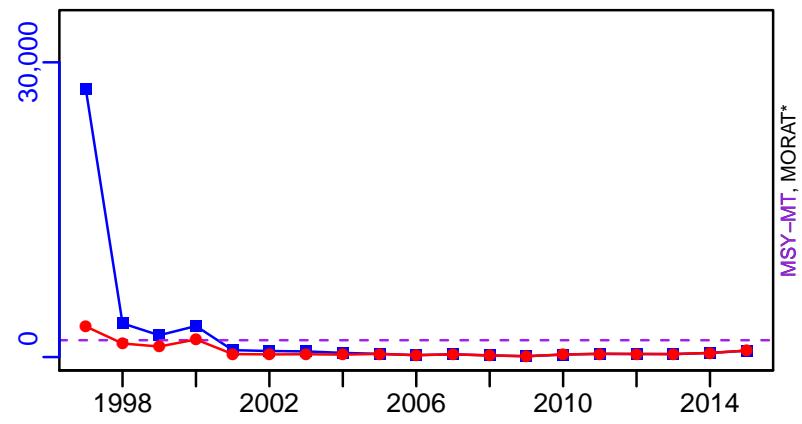


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | ·· Lim BRP   | ■ No Data |

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

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

TAC\*, Cpair\*, Cadv\*



**survB\***

MSY-MT, MORAT\*

**CPUE\***

**EFFORT\***

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

## Abalone South Africa [SAABALONESA]

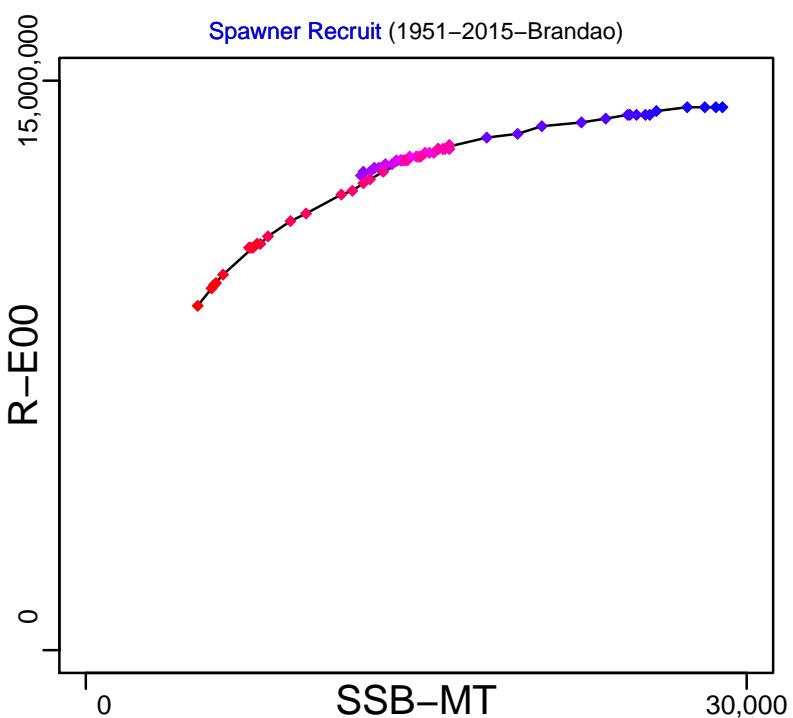
<b>Metadata</b>			
<b>Scientific Name</b>	Haliotis midae		
<b>Current Assess ID</b>	MARAM-SAABALONESA-1951-2015-Brandao		
<b>Area</b>	South Africa		
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries		
<b>Assessor</b>	Marine 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		

<b>Reference Points</b>			
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>	-	-	-

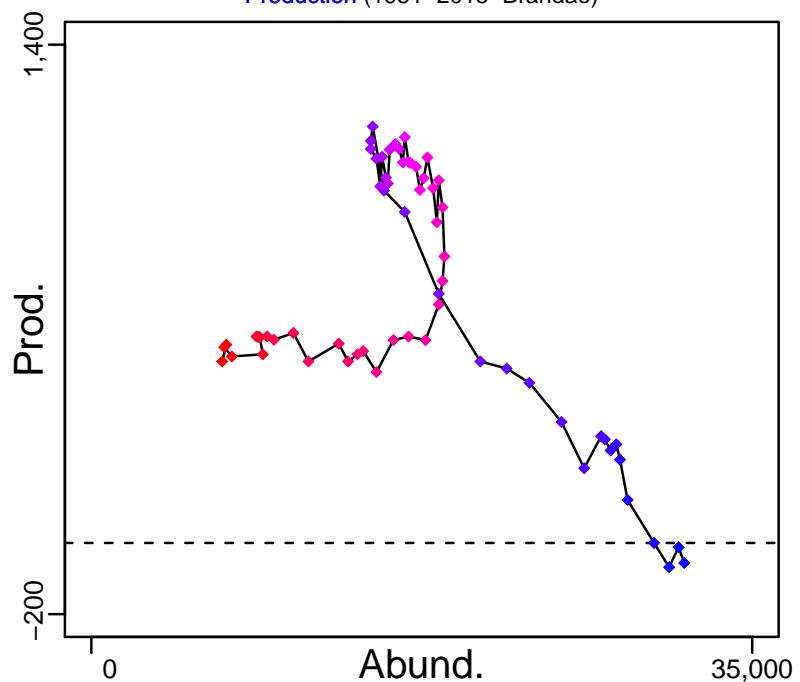
<b>Time Series</b>						
Type	ID	Asmt Year	Curr Value	Sex	Age	
<b>TB</b>	TB-MT	2015	6210	-	1+	
<b>SSB</b>	SSB-MT	2015	5080	-	7+	
<b>TN</b>	-	-	-	-	-	
<b>R</b>	R-E00	2015	9,070,000	-	8	
<b>F</b>	F-1/yr	2015	0.035	-	-	
<b>ER</b>	ER-ratio	2015	0.16	-	-	
<b>TC</b>	TC-MT	2015	985			
<b>TL</b>	TL-MT	2015	50			
<b>TB/TBmsy</b>	-	-	-			
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-pr-MT	2015	0.439			
<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 (1951–2015–Brandao)



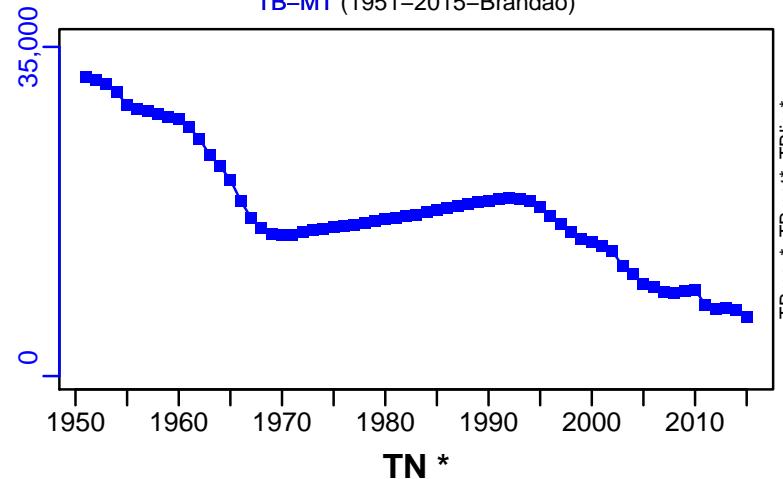
Production (1951–2015–Brandao)



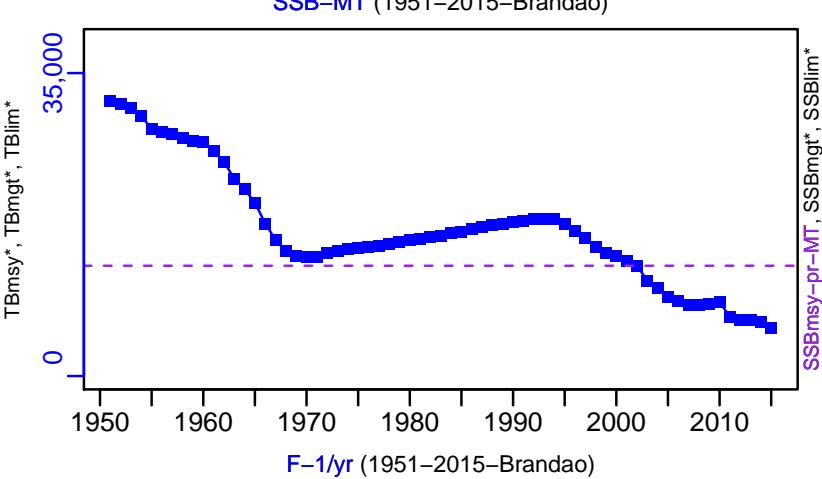
◆ Start Year   ◆ End Year   \* No Data

**Abalone South Africa [SAABALONESA]**

**TB-MT (1951–2015–Brandao)**



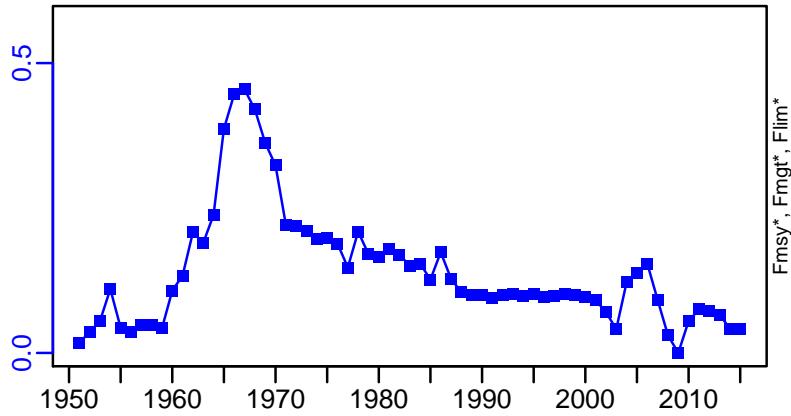
**SSB-MT (1951–2015–Brandao)**



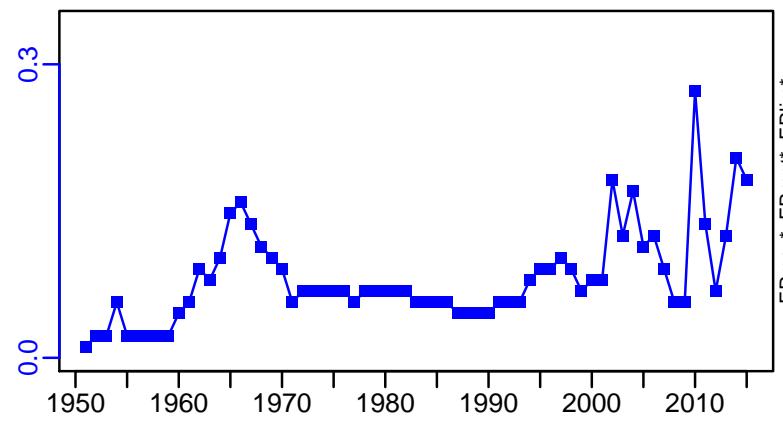
**TN \***



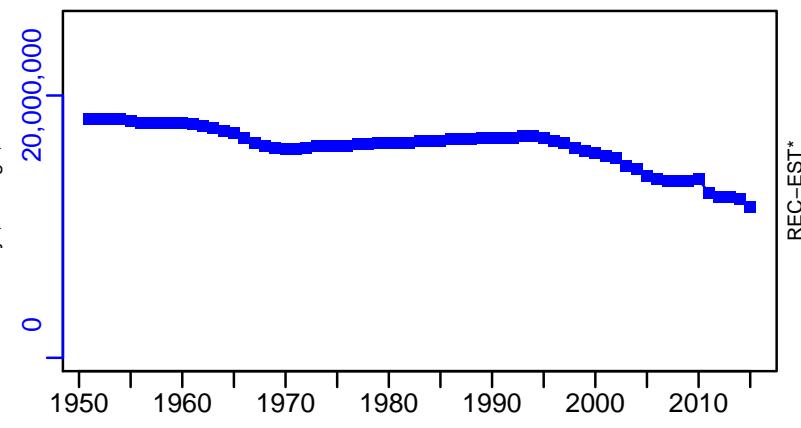
**F-1/yr (1951–2015–Brandao)**



**ER-ratio (1951–2015–Brandao)**



**R-E00 (1951–2015–Brandao)**



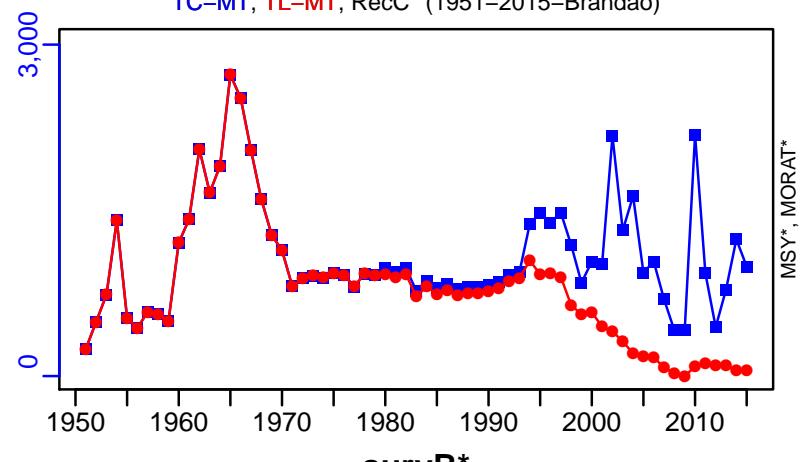
**REC-EST\***

- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| - - MSY-based BRP    | ·· Lim BRP   | ■ No Data |

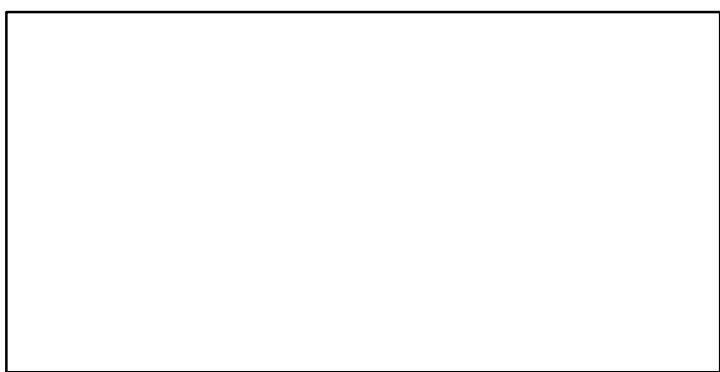
Abalone South Africa [SAABALONESA]

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

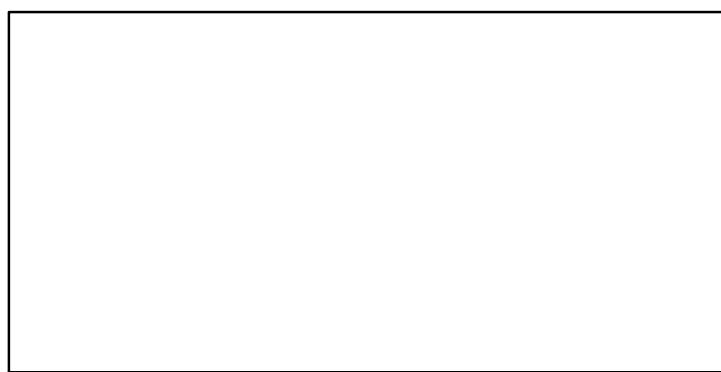
TAC\*, Cpair\*, Cadv\*



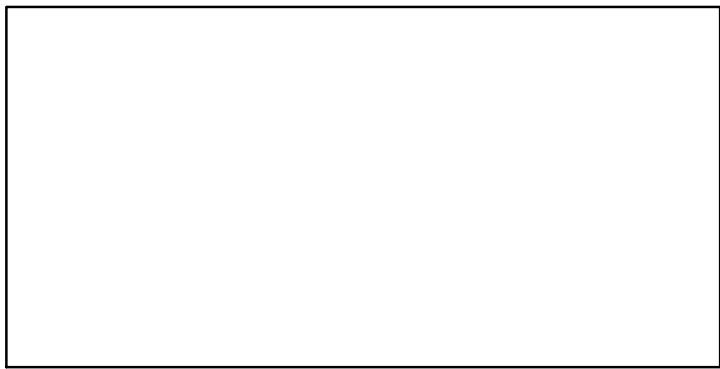
MSY\*, MORAT\*



CPUE\*



EFFORT\*



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

## 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

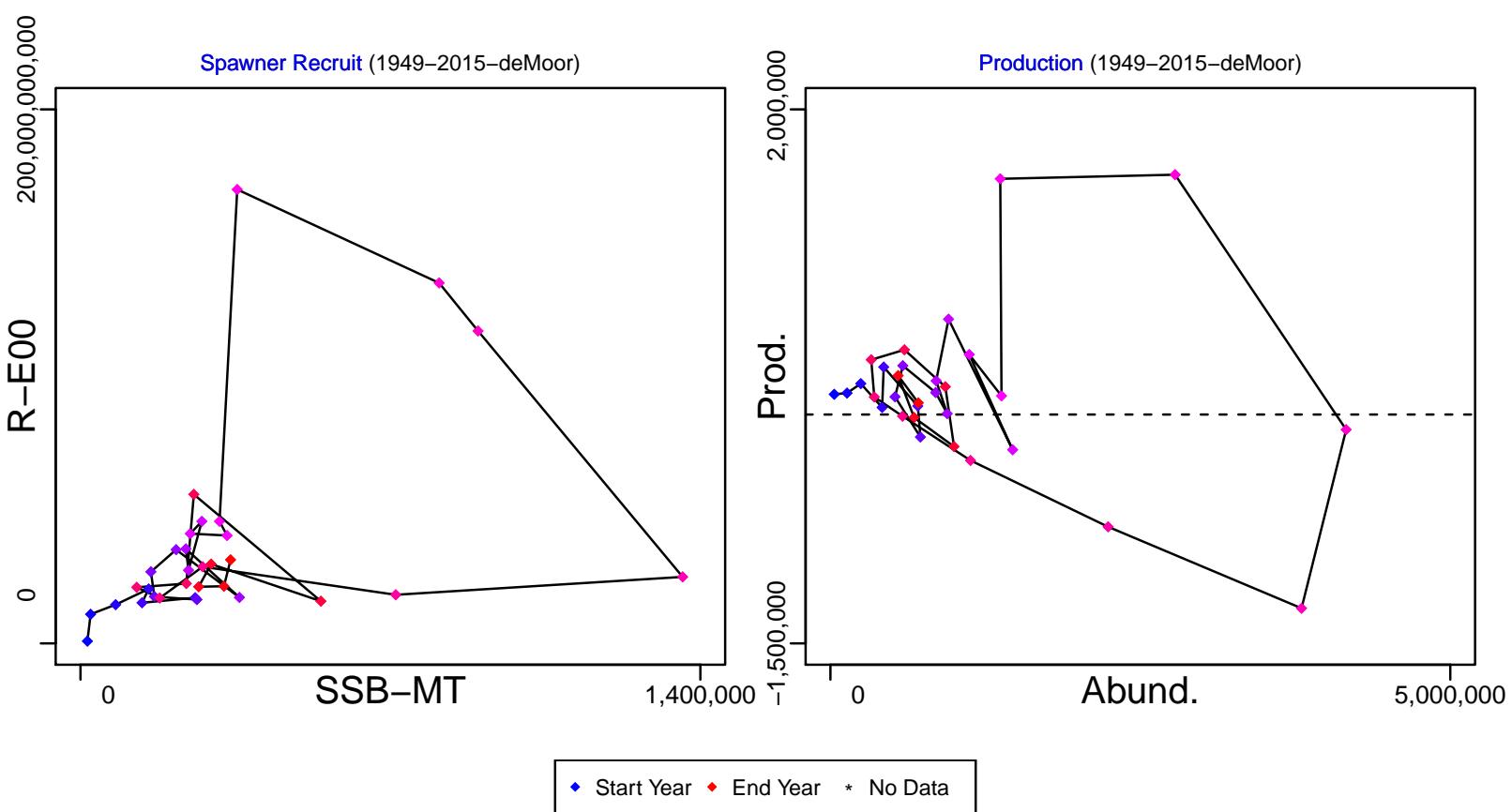
Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	-	-	-
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	-	-	-
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2015	1,122,314
<b>SSB0</b>	-	-	-
<b>MSY</b>	-	-	-
<b>M</b>	M-1/yr	2015	0.9
<b>TBlim</b>	TBlim-MT	2015	361,990
<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	688,000	Both	0+
<b>SSB</b>	SSB-MT	2015	339,000	Both	0+
<b>TN</b>	TN-E00	2015	$4.47 \times 10^{10}$	Both	0+
<b>R</b>	R-E00	2015	$3.13 \times 10^{10}$	Both	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2015	0.12	Both	0+
<b>TC</b>	TC-MT	2015	96,300		
<b>TL</b>	TL-MT	2015	96,300		
<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>	-	-	-		

Sardine South Africa [SARDSA]

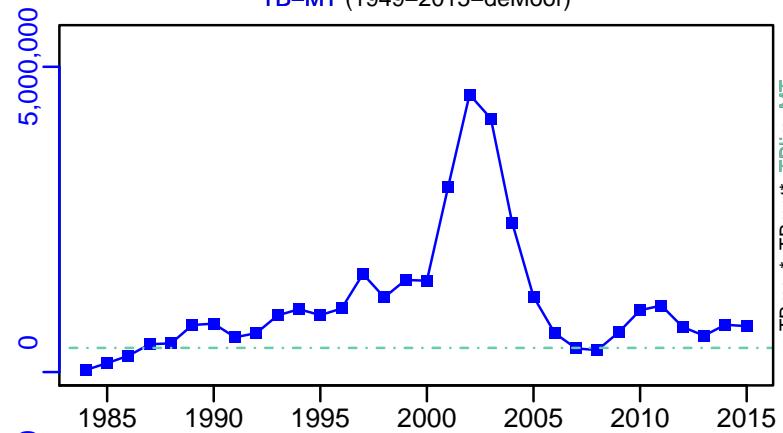
**Kobe MSY\***

**Kobe MGT\***

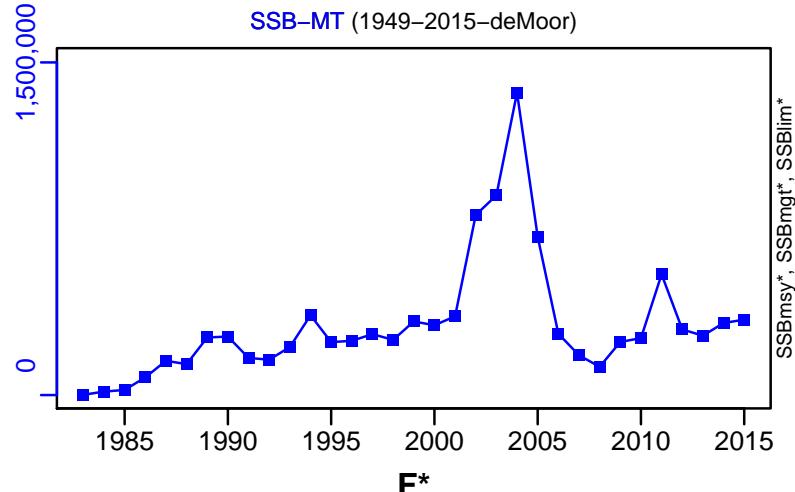


### Sardine South Africa [SARDSA]

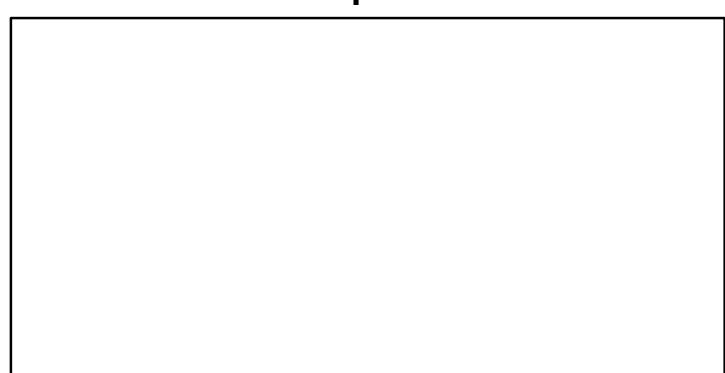
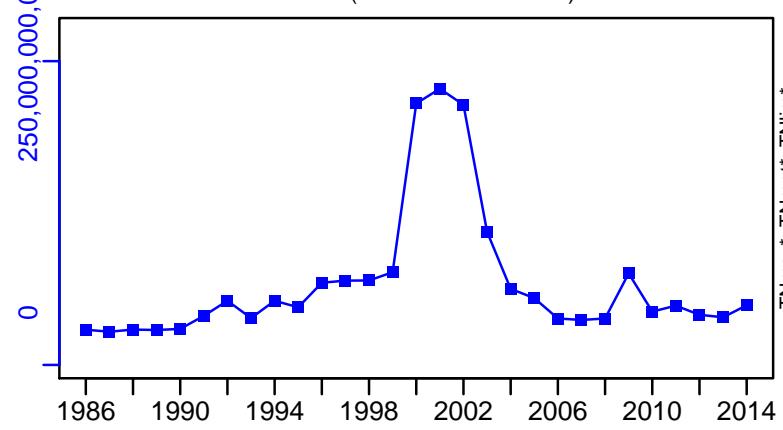
TB-MT (1949–2015–deMoor)



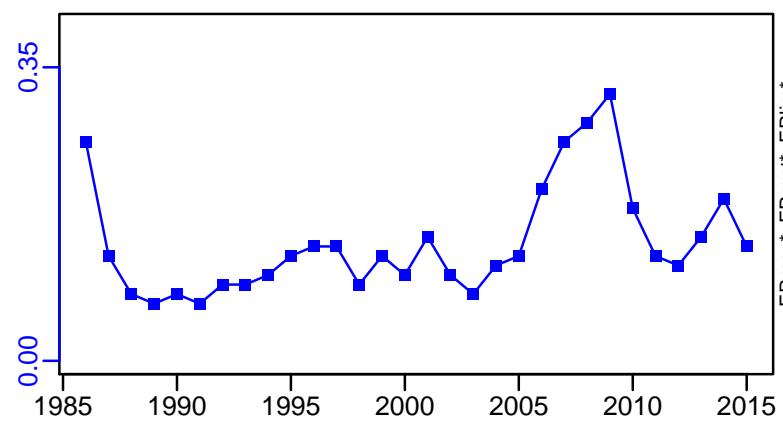
SSB-MT (1949–2015–deMoor)



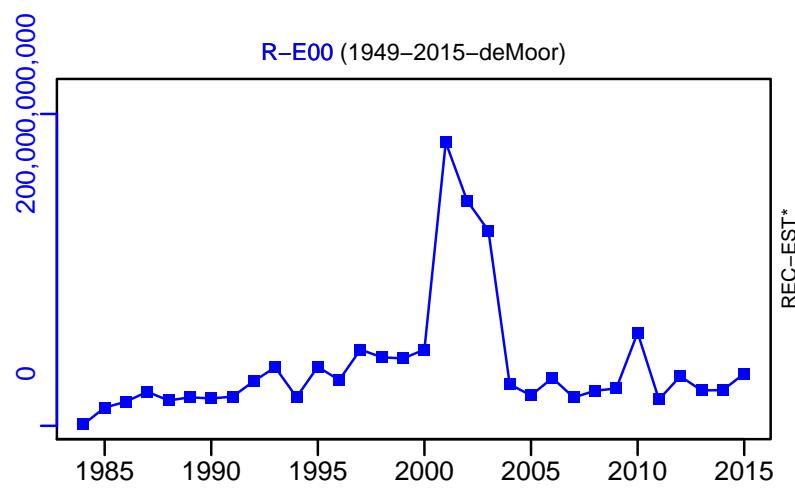
TN-E00 (1949–2015–deMoor)



ER-ratio (1949–2015–deMoor)



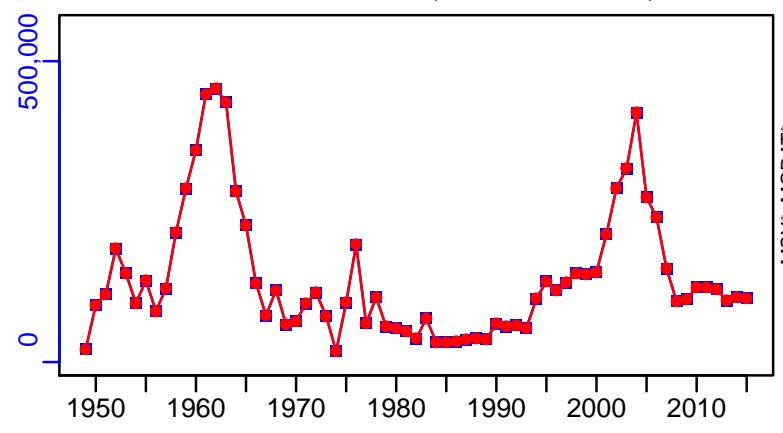
R-E00 (1949–2015–deMoor)



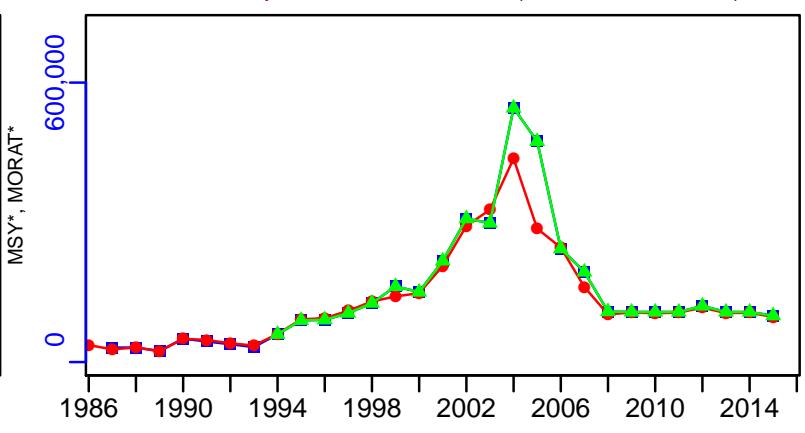
■ Listed time series	— Target BRP	— Rec-Est
- - - MSY-based BRP	- - Lim BRP	■ No Data

### Sardine South Africa [SARDSA]

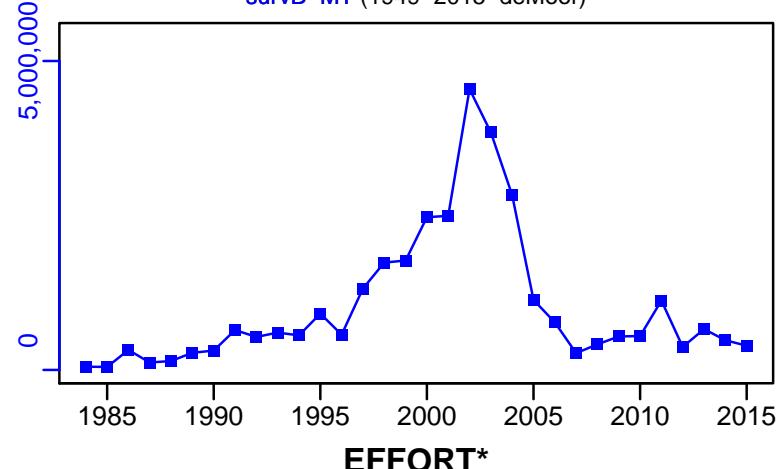
TC-MT, TL-MT, RecC\* (1949–2015–deMoor)



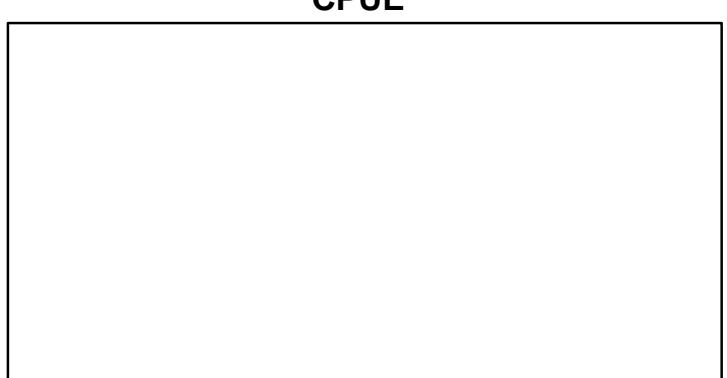
TAC-MT, Cpair-MT, Cadvised-MT (1949–2015–deMoor)



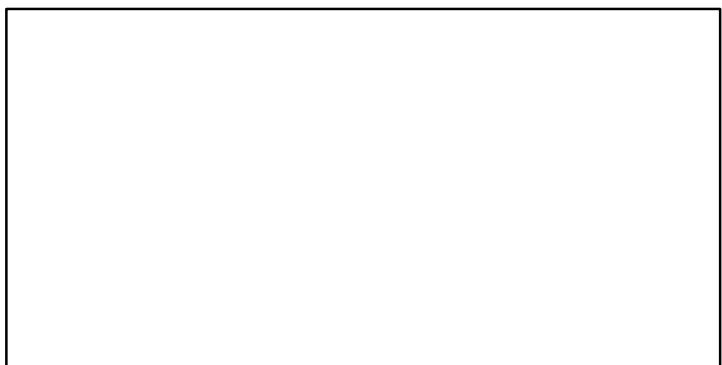
survB-MT (1949–2015–deMoor)



CPUE\*



EFFORT\*



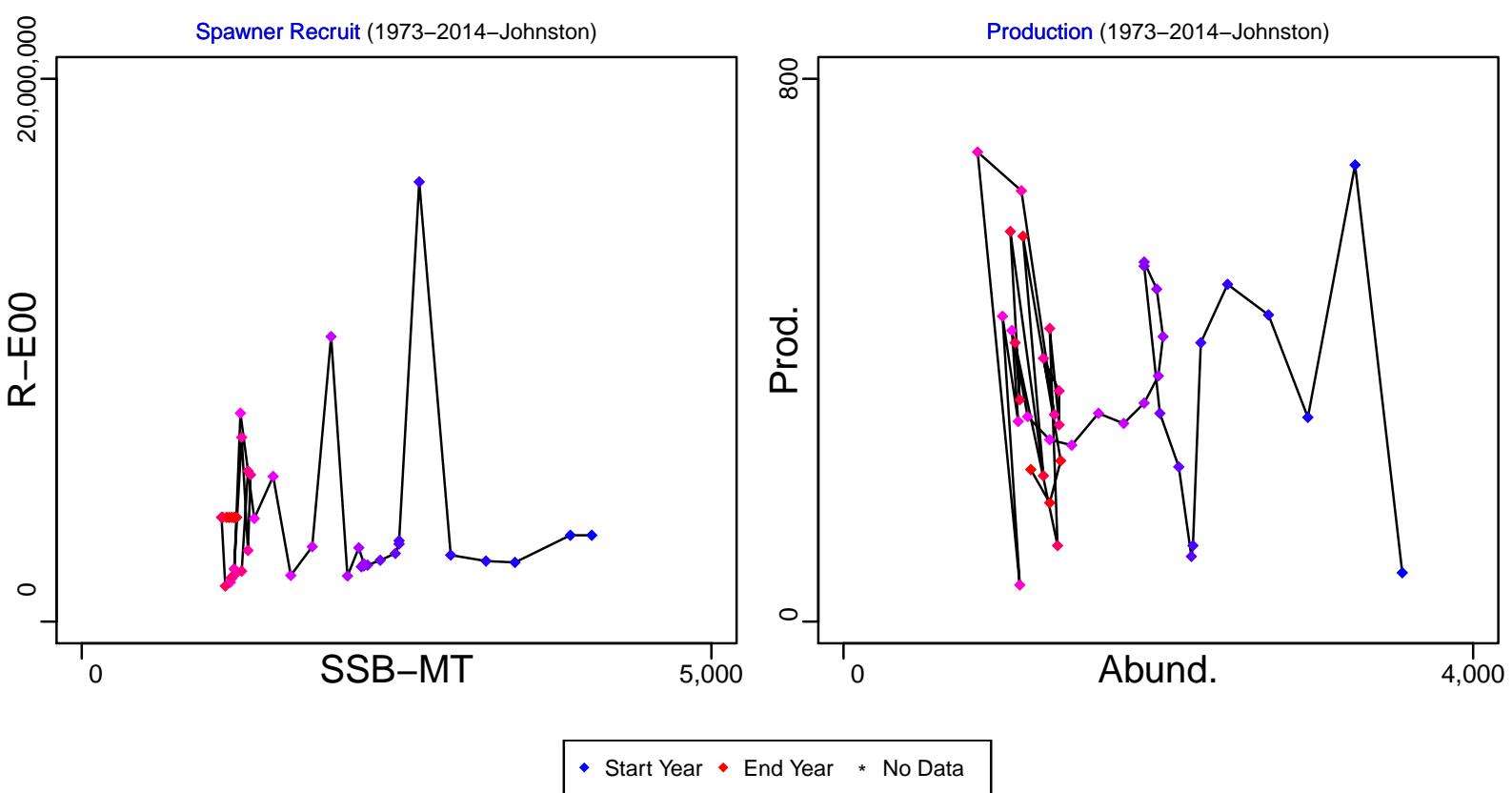
■ 1st listed time series	▲ 3rd listed time series	— MORAT
● 2nd listed time series	- - - MSY	* No Data

## 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	
<b>TBmsy</b>	-	-	-	
<b>SSBmsy</b>	-	-	-	
<b>Fmsy</b>	-	-	-	
<b>ERmsy</b>	-	-	-	
<b>TBmgt</b>	-	-	-	
<b>SSBmgt</b>	SSBmgt-MT	2014	1484	
<b>Fmgt</b>	-	-	-	
<b>ERmgt</b>	-	-	-	
<b>TB0</b>	-	-	-	
<b>SSB0</b>	SSB0-MT	2014	4047	
<b>MSY</b>	-	-	-	
<b>M</b>	M-1/yr	2014	0.1	
<b>TBlim</b>	-	-	-	
<b>SSBlim</b>	-	-	-	
<b>Flim</b>	-	-	-	
<b>ERlim</b>	-	-	-	

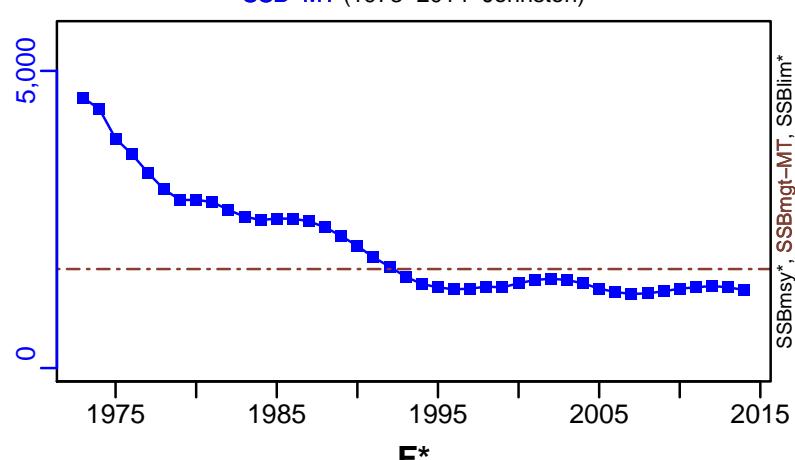
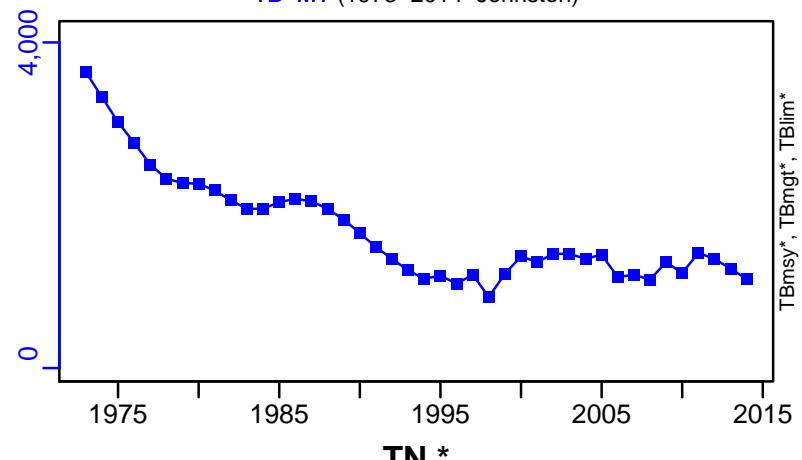
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	1070	-	-
<b>SSB</b>	SSB-MT	2014	1170	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	3,840,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0.336	-	-
<b>TC</b>	TC-MT	2014	359		
<b>TL</b>	TL-MT	2014	359		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	-	-	-		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2014	0.788		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

**Kobe MSY\*****Kobe MGT\***

Southern spiny lobster South Africa South coast [SSLOBSTERSASC]

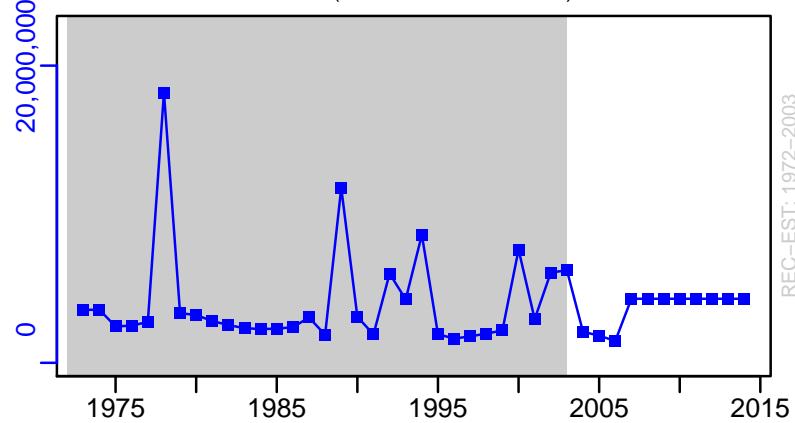
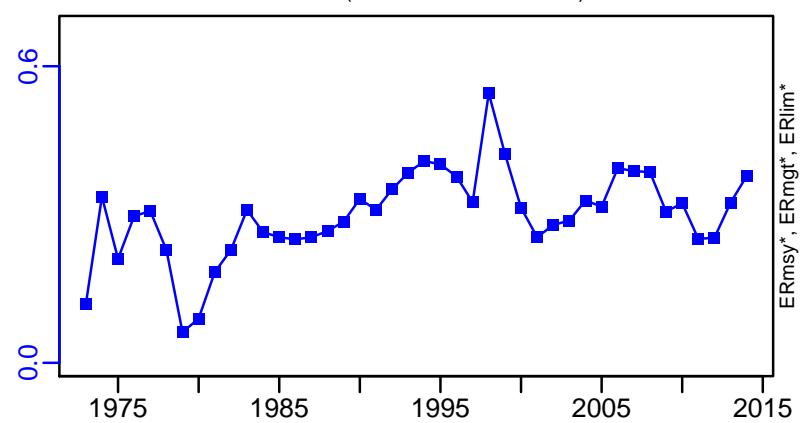
TB-MT (1973–2014–Johnston)

SSB-MT (1973–2014–Johnston)



ER-ratio (1973–2014–Johnston)

R-E00 (1973–2014–Johnston)

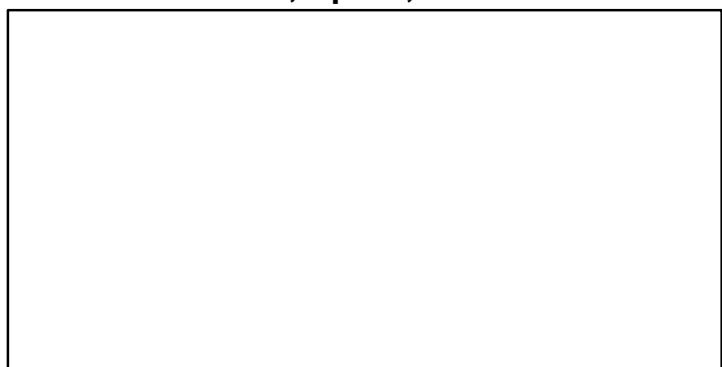
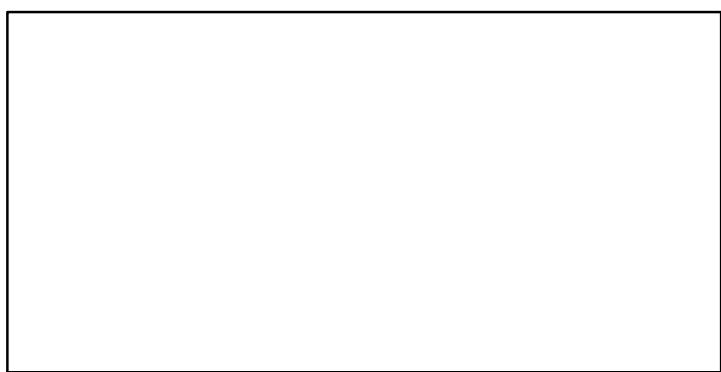
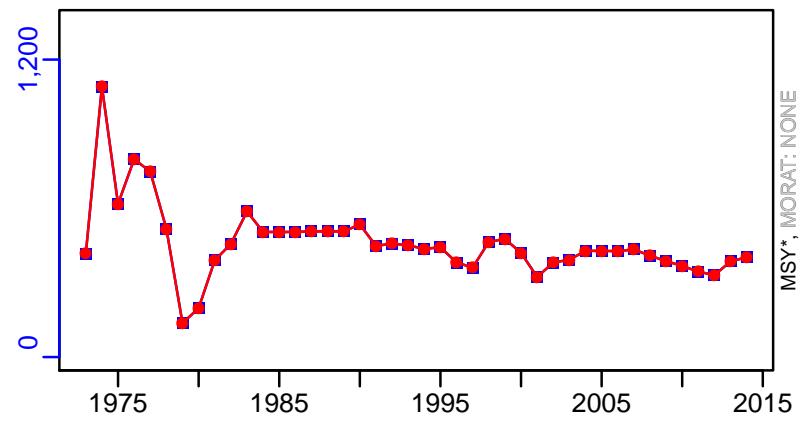


- |                      |              |           |
|----------------------|--------------|-----------|
| ■ Listed time series | — Target BRP | — Rec-Est |
| — MSY-based BRP      | ··· Lim BRP  | ■ No Data |

Southern spiny lobster South Africa South coast [SSLOBSTERSASC]

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

TAC\*, Cpair\*, Cadv\*



CPUE\*

