

# Southern Africa Stocks

## v4.495 (Apr-17-2021)

Not present Present Preferred

Stock	B/Bmsy	Time Series Types			
		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. ECSOLESASC [East coast sole South Africa South coast]	TB SSB	ER F	TB SSB	ER F	
12. HAKESPFAF [Hake spp Southern Africa]	TB SSB	ER F	TB SSB	ER F	
13. KINGKLIPSA [Kingklip South Africa]	TB SSB	ER F	TB SSB	ER F	
14. PTOOTHFISHPEI [Patagonian toothfish South Africa Subantarctic Prince Edward Islands]	TB SSB	ER F	TB SSB	ER F	
15. SAABALONESA [South African abalone South Africa]	TB SSB	ER F	TB SSB	ER F	
16. SARDSAS [Sardine South Africa (South Component)]	TB SSB	ER F	TB SSB	ER F	
17. SARDSAW [Sardine South Africa (West Component)]	TB SSB	ER F	TB SSB	ER F	
18. SSLOBSTERSASC [Southern spiny lobster South Africa South coast]	TB SSB	ER F	TB SSB	ER F	

## Anchovy South Africa [ANCHOSA]

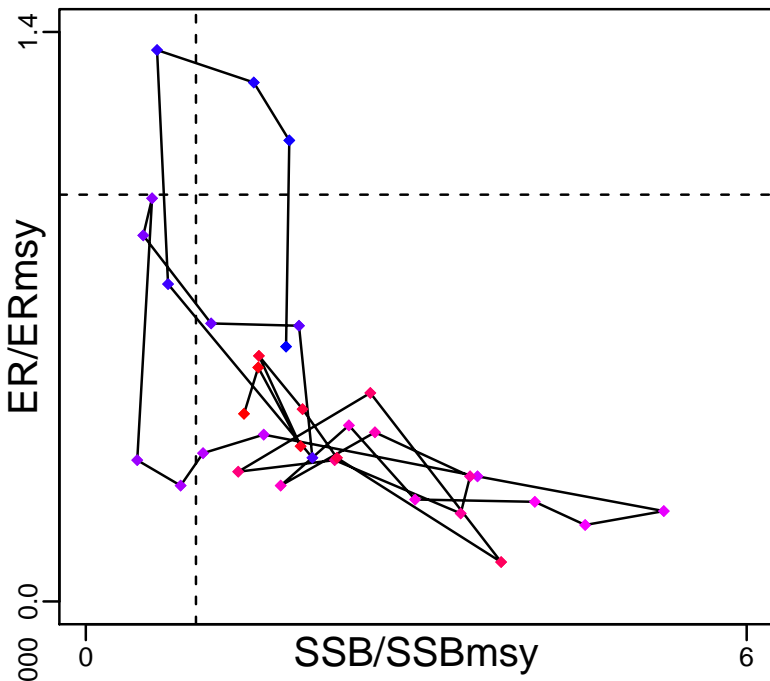
Metadata	
<b>Scientific Name</b>	Engraulis encrasicolus
<b>Current Assess ID</b>	MARAM-ANCHOSA-1949-2019-deMoor
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2015, 2019, 2011

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-est-MT	2019	1,786,081
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-est-ratio	2019	0.176
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	SSB0-MT	2019	2,754,300
<b>MSY</b>	MSY-est-MT	2019	313,598
<b>M</b>	M-1/yr	2019	1.2
<b>TBlim</b>	TBlim-MT	2019	536,000
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

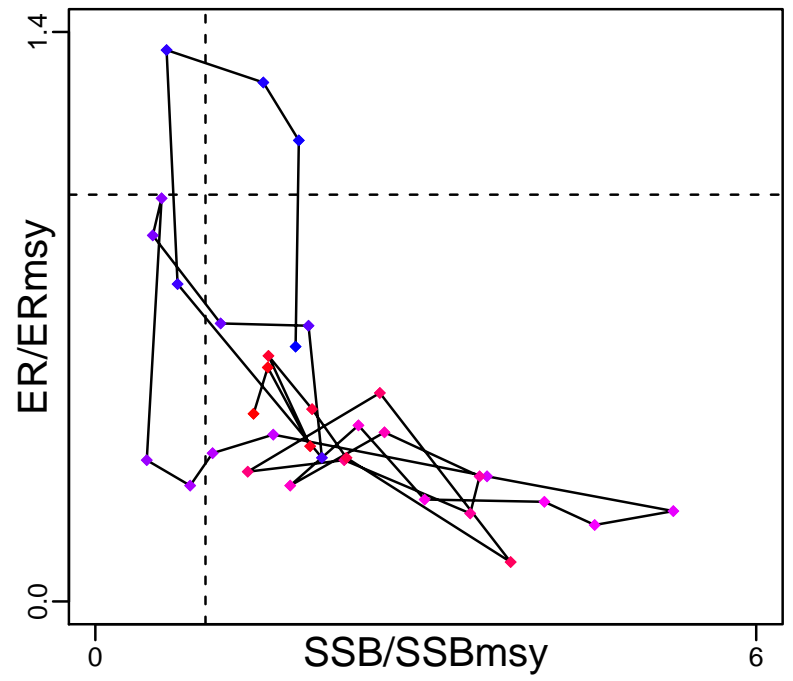
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2019	1,546,700	-	-
<b>SSB</b>	SSB-MT	2019	1,455,800	-	-
<b>TN</b>	TN-E00	2015	$9.94 \times 10^{11}$	Both	0+
<b>R</b>	R-E00	2019	$3.878 \times 10^{11}$	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2019	0.081	Both	-
<b>TC</b>	TC-MT	2019	164,400		
<b>TL</b>	TL-MT	2019	164,400		
<b>TB/TBmsy</b>	TB-MT/TBmsy-est-MT	2015	1.347		
<b>SSB/SSBmsy</b>	SSB-MT/(SSB0-MT*0.368)	2019	1.436		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-est-ratio	2019	0.461		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Anchovy South Africa [ANCHOSA]

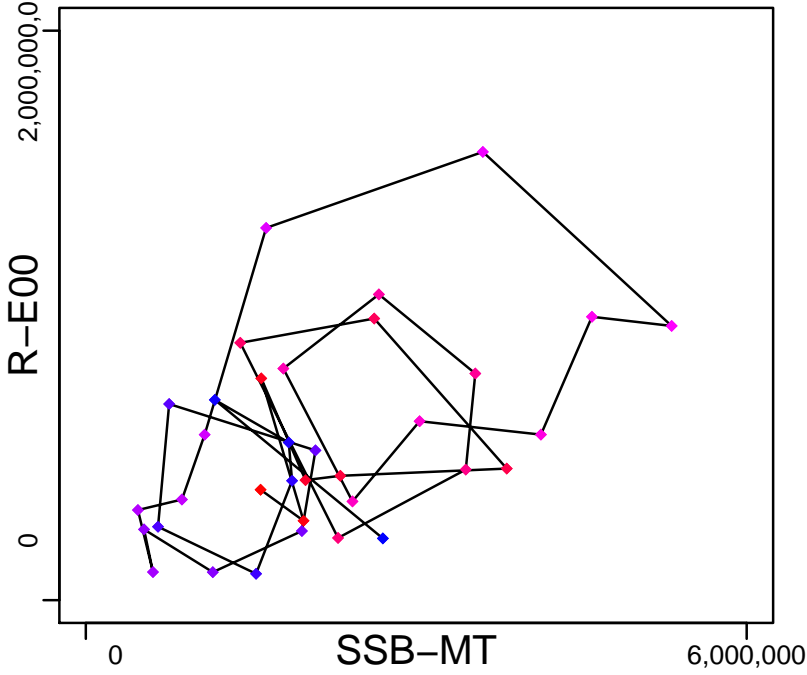
Kobe MSYpref (1949–2019–deMoor)



Kobe MGTpref (1949–2019–deMoor)



Spawner Recruit (1949–2019–deMoor)

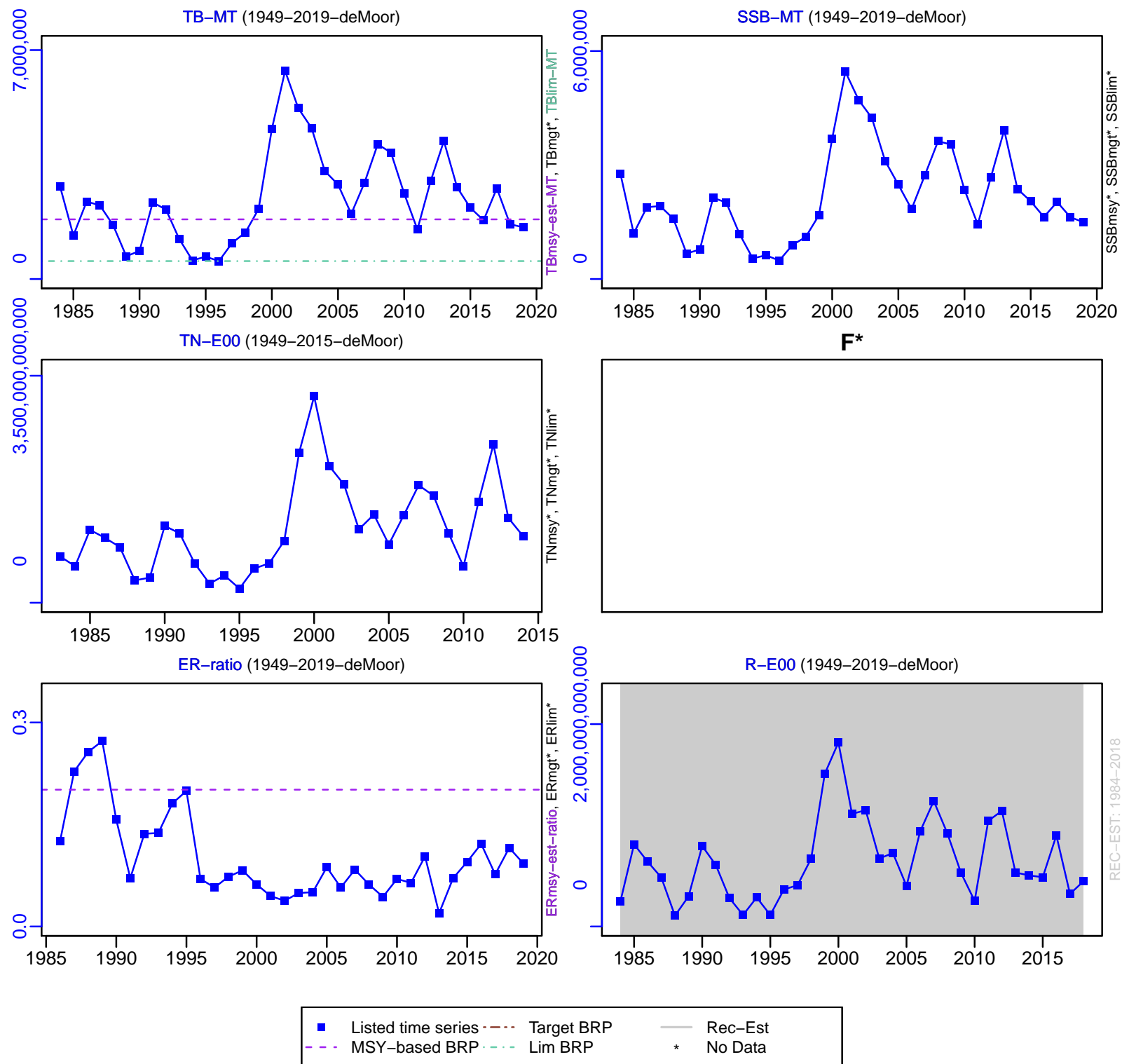


Production\*



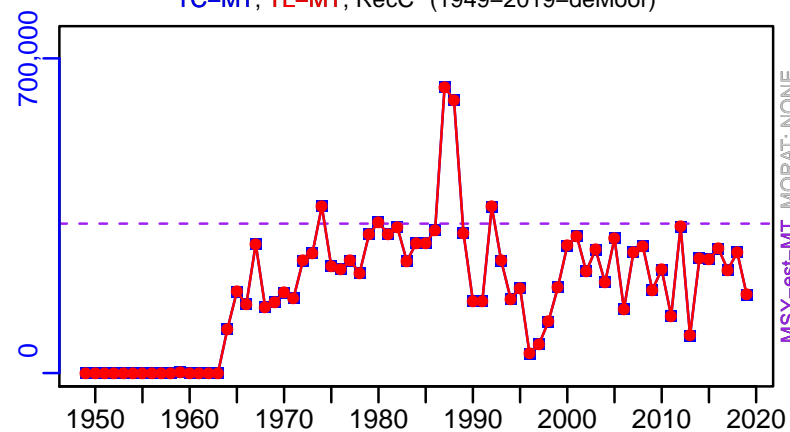
◆ Start Year ◆ End Year \* No Data

# Anchovy South Africa [ANCHOSA]

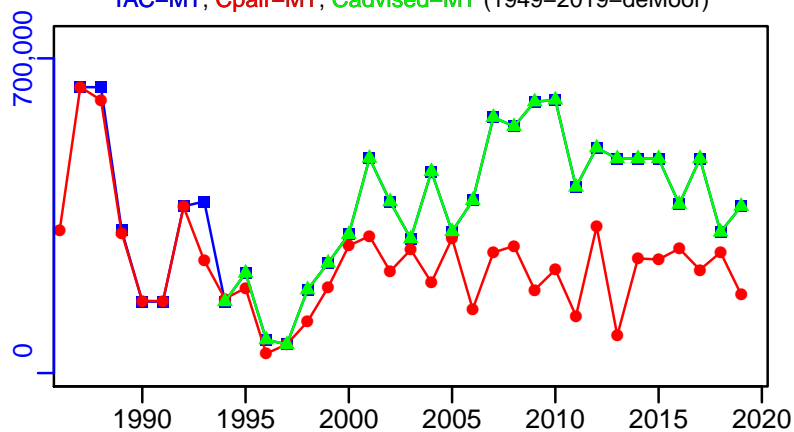


# Anchovy South Africa [ANCHOSA]

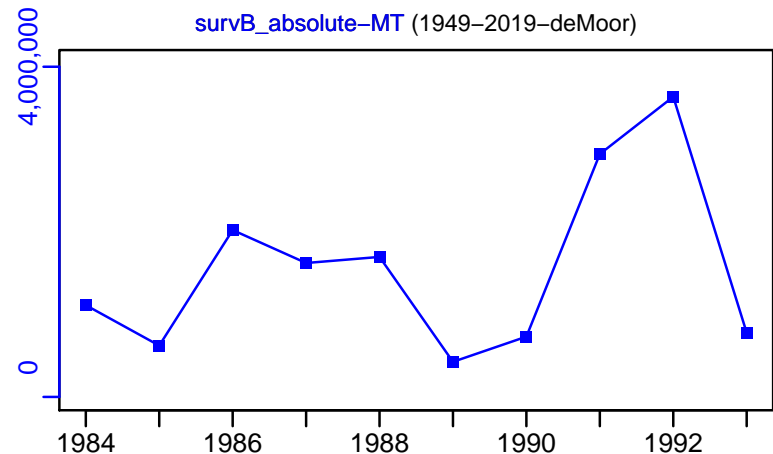
TC-MT, TL-MT, RecC\* (1949–2019–deMoor)



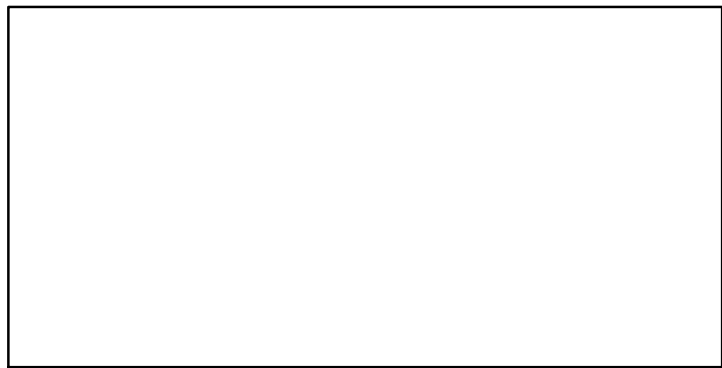
TAC-MT, Cpair-MT, Cadvised-MT (1949–2019–deMoor)



survB\_absolute-MT (1949–2019–deMoor)



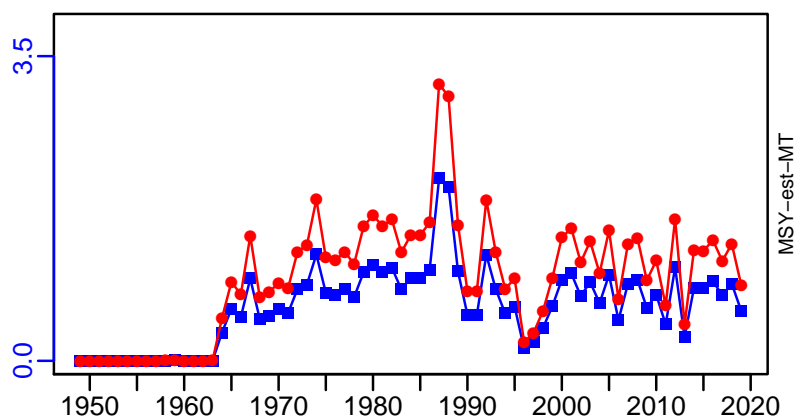
EFFORT\*



CPUE\*



TC-MT/MSY-est-MT, CdivMEANC-ratio, (1949–2019–deMoor)



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

## Shallow water cape hake South Africa [CHAKESA]

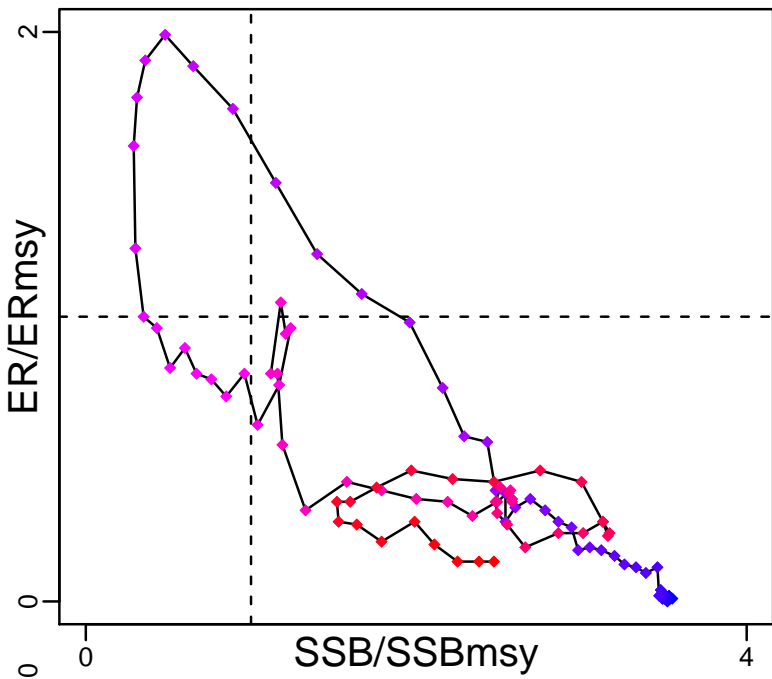
Metadata	
<b>Scientific Name</b>	Merluccius capensis
<b>Current Assess ID</b>	MARAM-CHAKESA-1917-2015-Rademeyer
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource 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	0.353
<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>	-	-	-

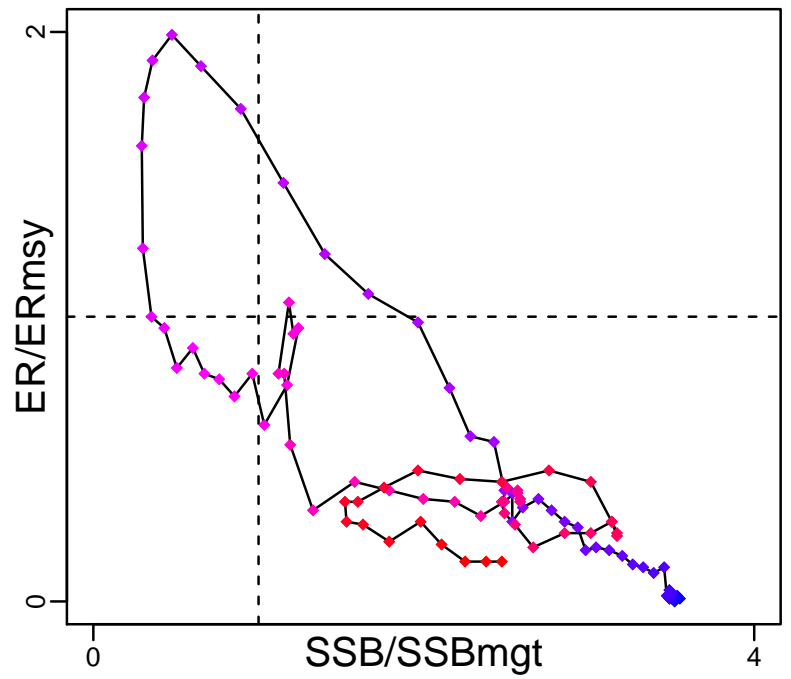
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2015	510,000	-	0+
<b>SSB</b>	SSB-MT	2015	156,000	Females	5
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2015	$1.33 \times 10^9$	-	0
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2015	0.05	-	-
<b>TC</b>	TC-MT	2015	14,400		
<b>TL</b>	TL-MT	2015	14,400		
<b>TB/TBmsy</b>	TB-MT/(TB0-MT*0.368)	2015	2.181		
<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]

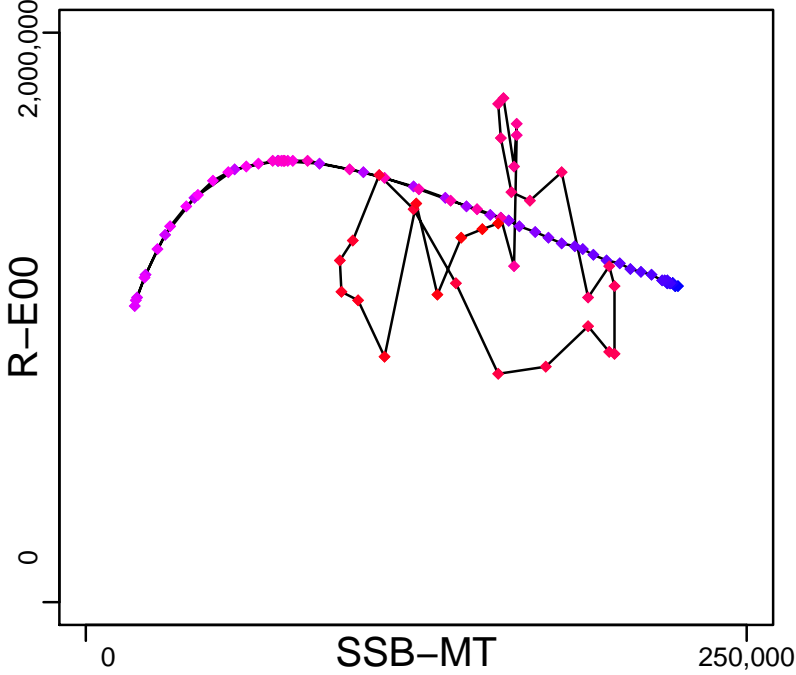
Kobe MSYpref (1917–2015–Rademeyer)



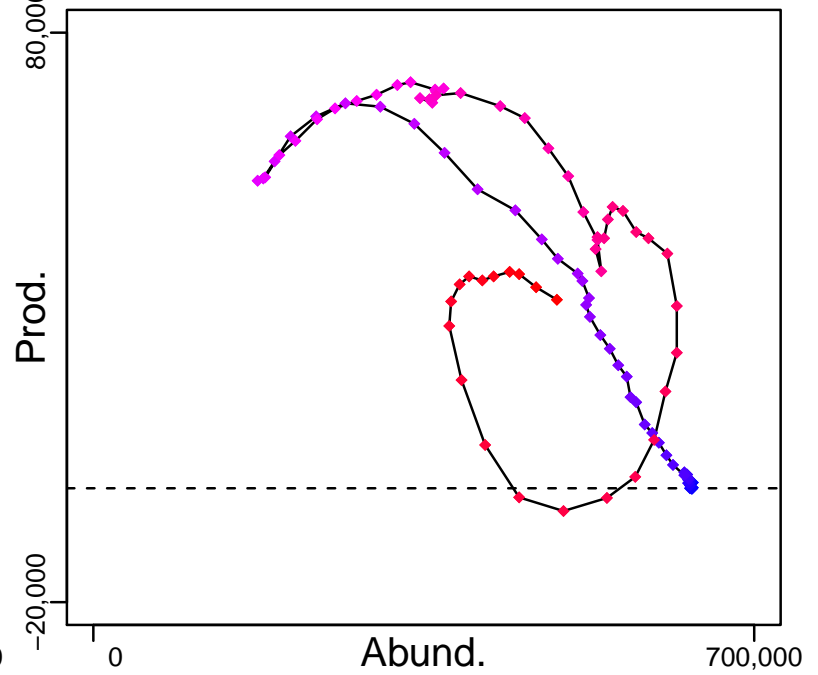
Kobe MGTpref (1917–2015–Rademeyer)



Spawner Recruit (1917–2015–Rademeyer)

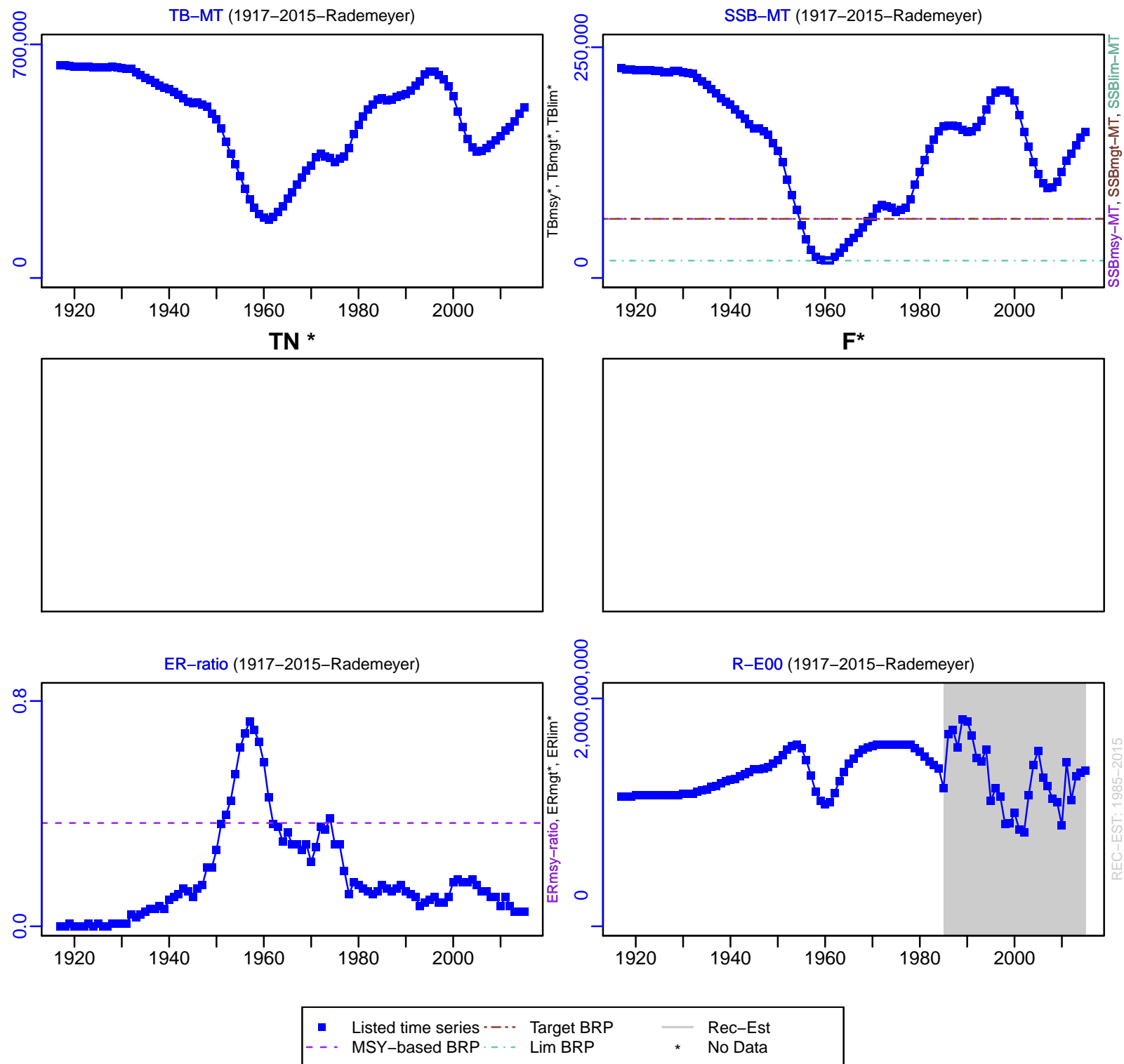


Production (1917–2015–Rademeyer)



◆ Start Year ◆ End Year \* No Data

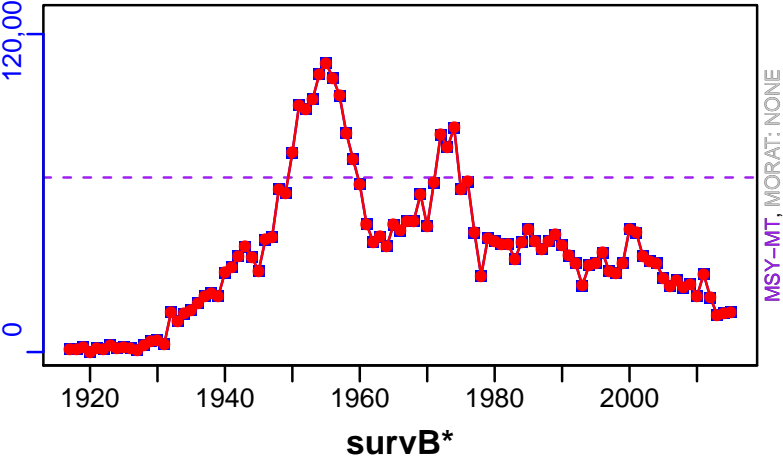
# Shallow water cape hake South Africa [CHAKESA]





Shallow water cape hake South Africa [CHAKESA]

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



TAC\*, Cpair\*, Cadv\*



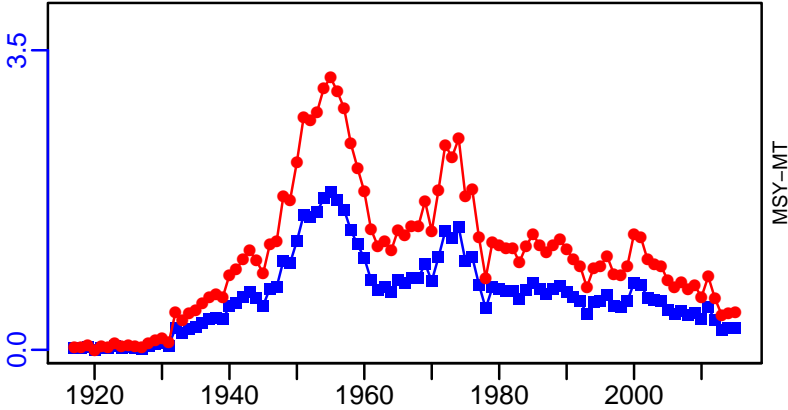
CPUE\*



EFFORT\*



TC-MT/MSY-MT, CdivMEANC-ratio, (1917-2015-Rademeyer)



## Cape Hope squid South Africa [CHSQUIDSA]

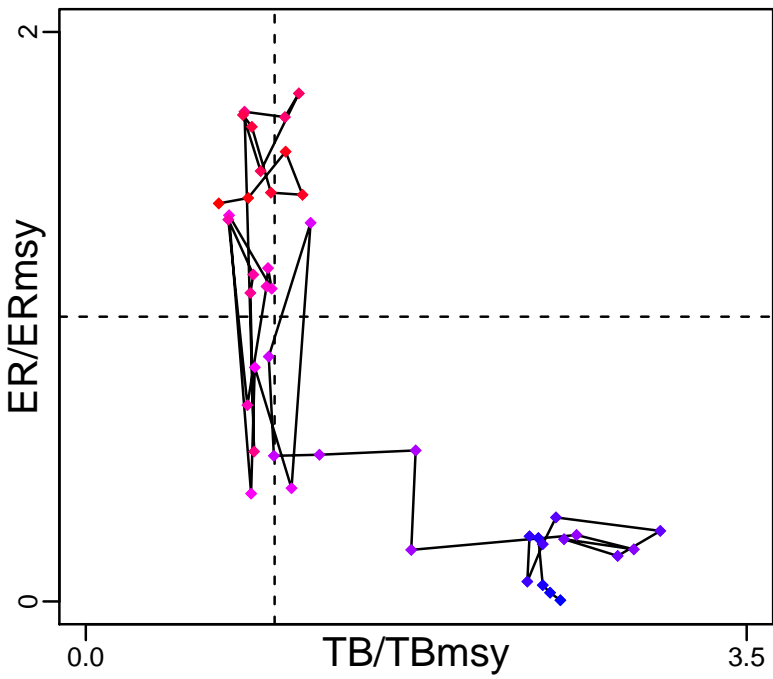
Metadata	
<b>Scientific Name</b>	Loligo reynaudii
<b>Current Assess ID</b>	FBDAFF-CHSQUIDSA-1971-2013-GLAZER
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Fisheries Branch of 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>	ERmsy-est-ratio	2013	0.264
<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>	MSY-est-MT	2013	6785
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

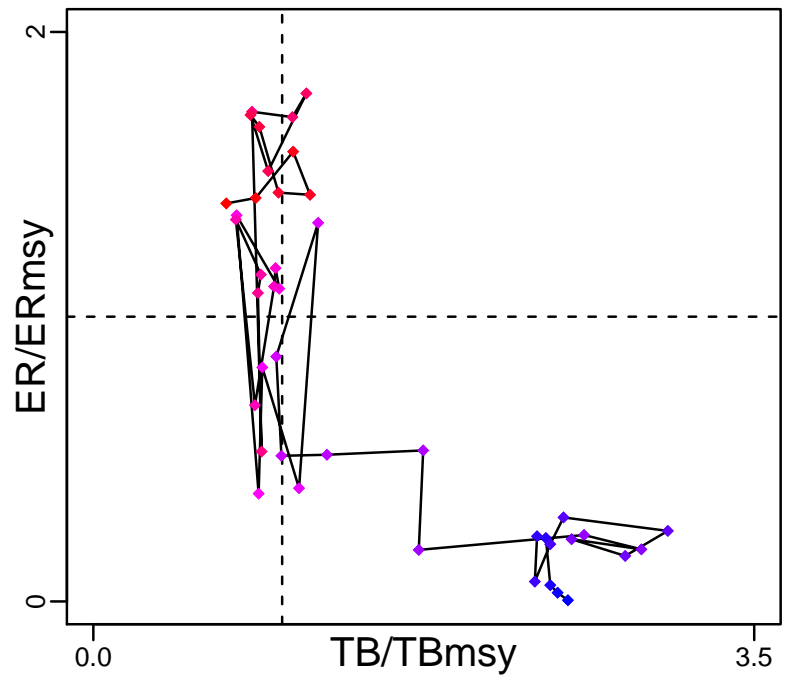
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2013	18,700	-	-
<b>SSB</b>	SSB-MT	2013	18,700	Both	1
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-MT	2013	17,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2013	0.369	-	-
<b>TC</b>	TC-MT	2013	6690		
<b>TL</b>	TL-MT	2013	6690		
<b>TB/TBmsy</b>	TB-MT/TBmsy-pr-MT	2013	0.728		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-est-ratio	2013	1.398		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Cape Hope squid South Africa [CHSQUIDSA]

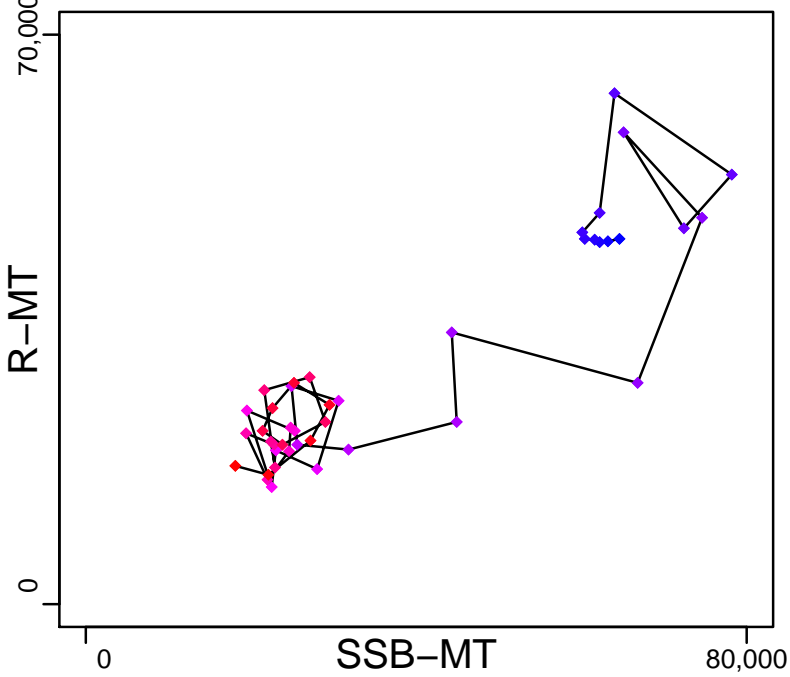
Kobe MSYpref (1971–2013–GLAZER)



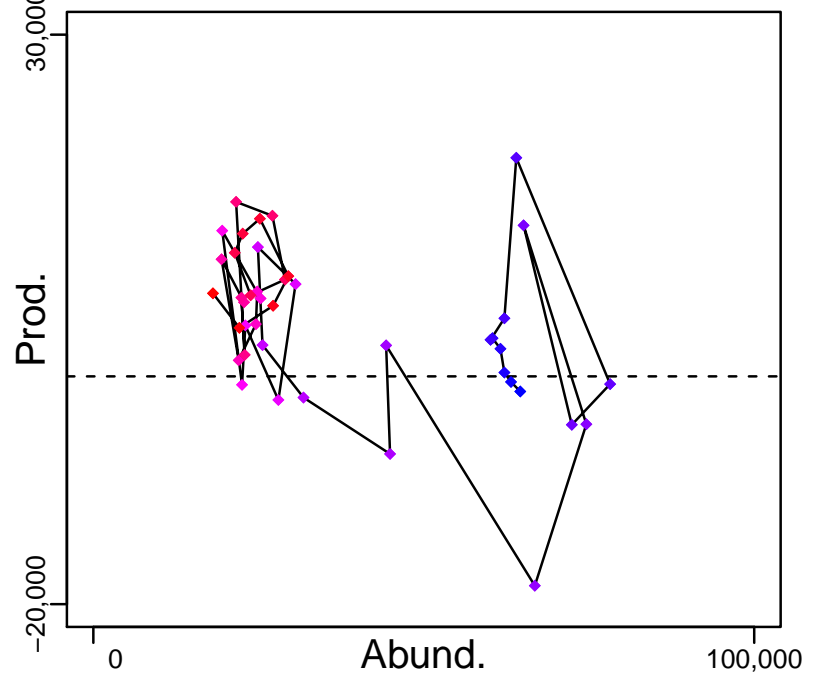
Kobe MGTpref (1971–2013–GLAZER)



Spawner Recruit (1971–2013–GLAZER)



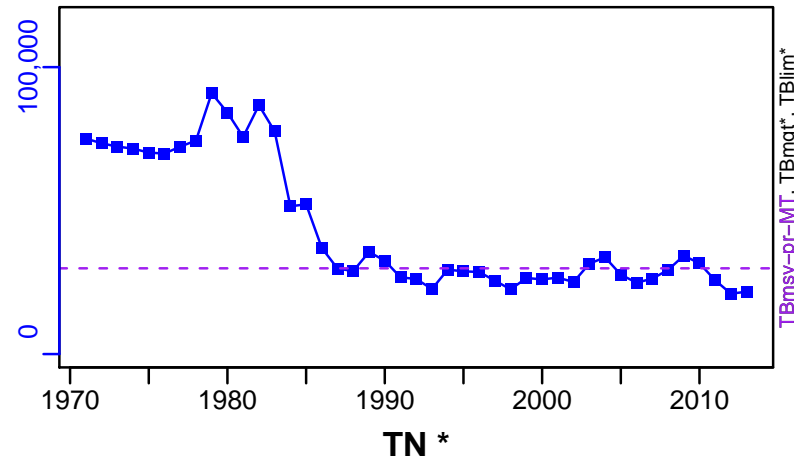
Production (1971–2013–GLAZER)



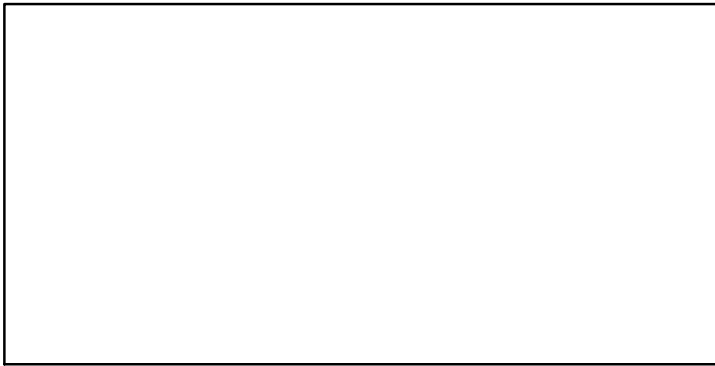
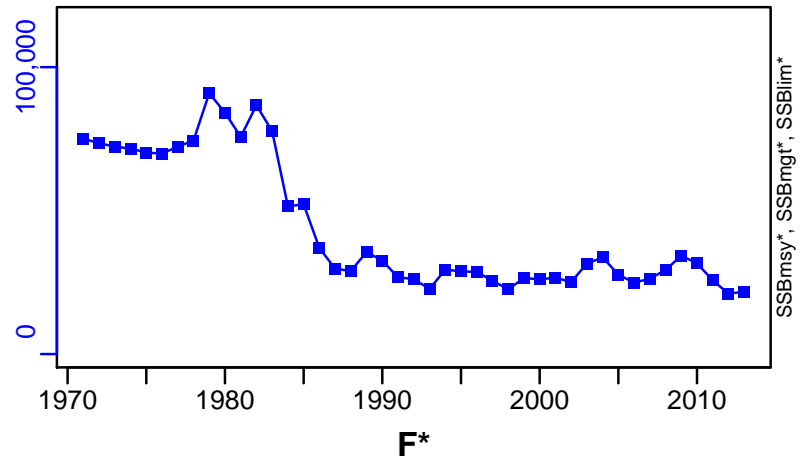
◆ Start Year ◆ End Year \* No Data

# Cape Hope squid South Africa [CHSQUIDSA]

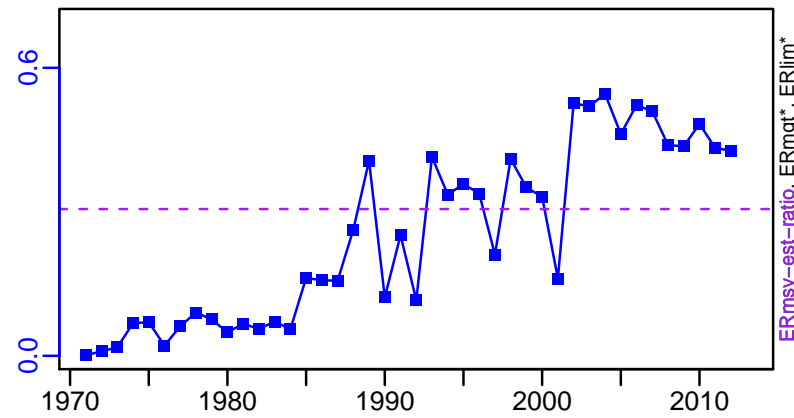
TB-MT (1971–2013–GLAZER)



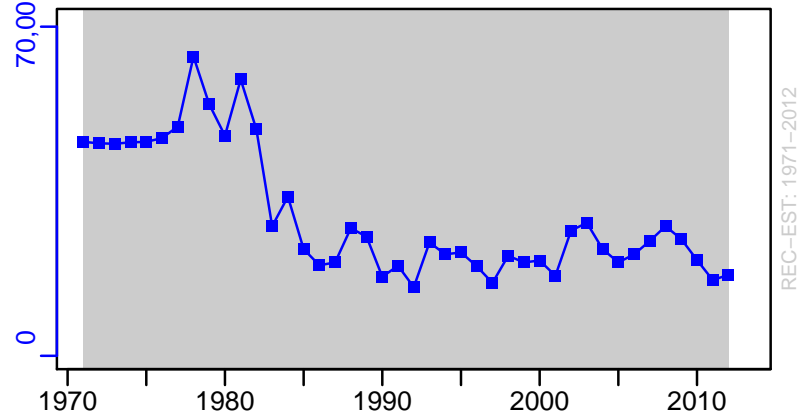
SSB-MT (1971–2013–GLAZER)



ER-ratio (1971–2013–GLAZER)

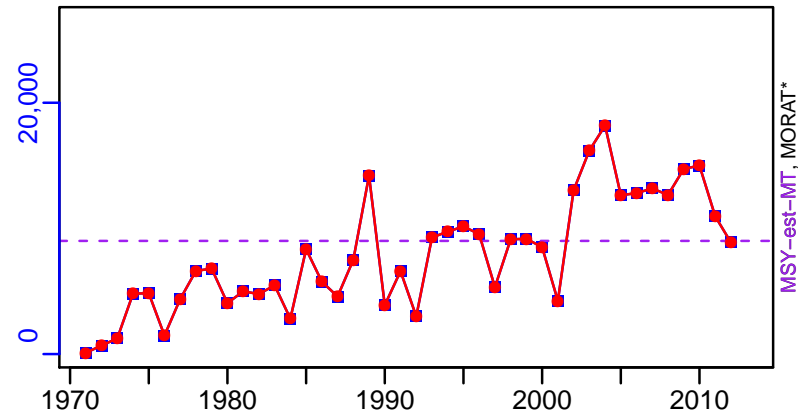


R-MT (1971–2013–GLAZER)



# Cape Hope squid South Africa [CHSQUIDSA]

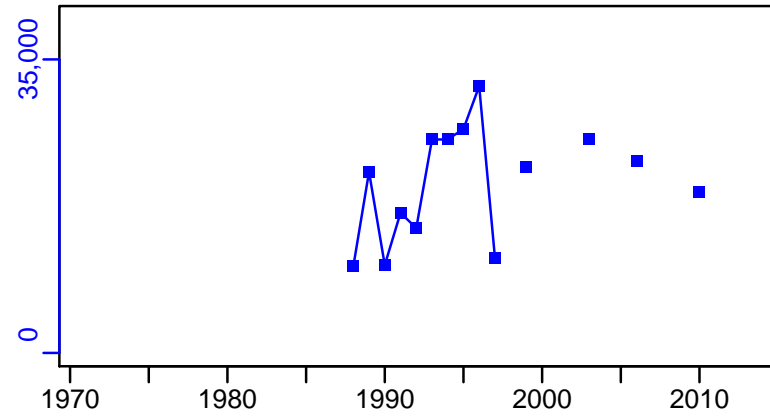
TC-MT, TL-MT, RecC\* (1971-2013-GLAZER)



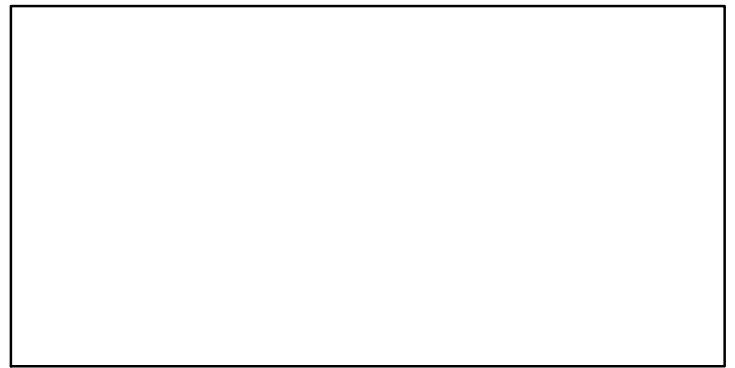
TAC\*, Cpair\*, Cadv\*



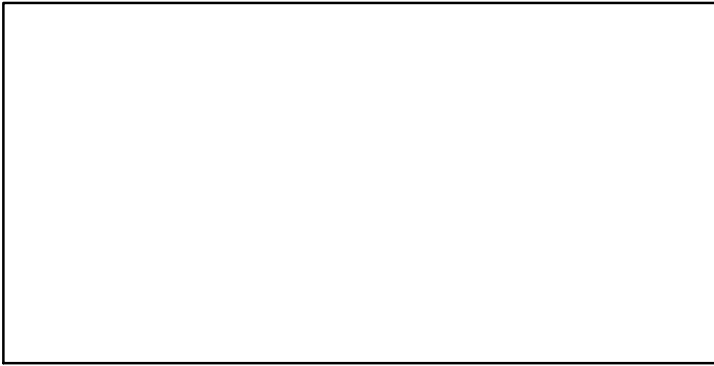
survB-1-MT (1971-2013-GLAZER)



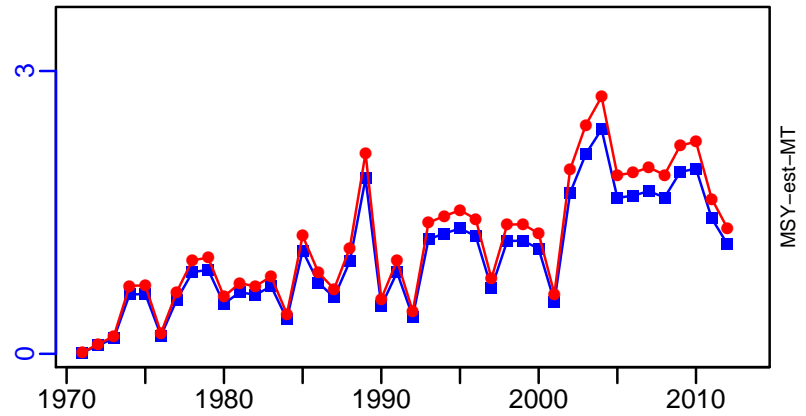
CPUE\*



EFFORT\*



TC-MT/MSY-est-MT, CdivMEANC-ratio, (1971-2013-GLAZER)



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

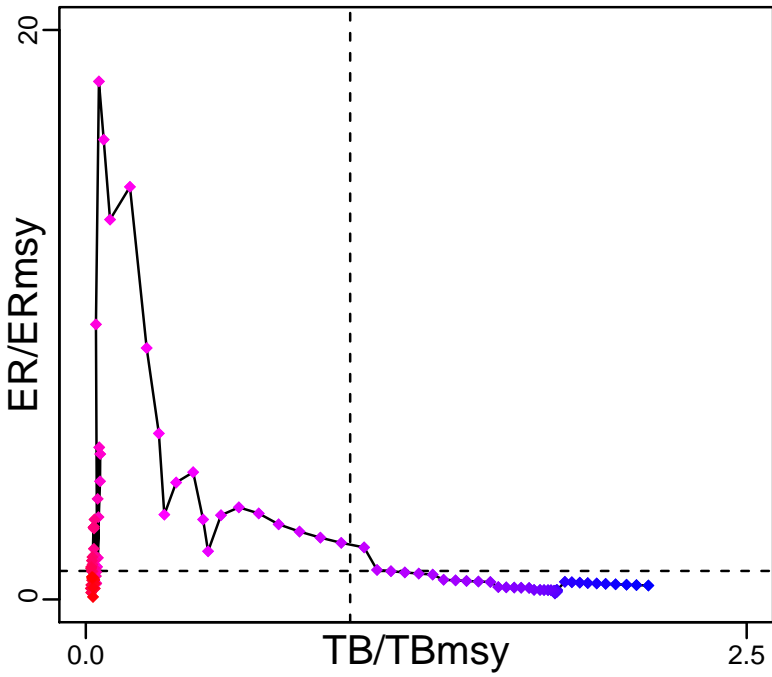
Metadata	
<b>Scientific Name</b>	Jasus lalandii
<b>Current Assess ID</b>	MARAM-CRLOBSTERSA12-1910-2014-Johnston
<b>Area</b>	South Africa Areas 1-2
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine 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
<b>TBmsy</b>	TBmsy-calc-MT	2014	26,596
<b>SSBmsy</b>	SSBmsy-conv-MT	2014	9763
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-mvo-ratio	2014	0.047
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2014	56,583
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-mvo-MT	2014	1250
<b>M</b>	M-1/yr	2014	0.11
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

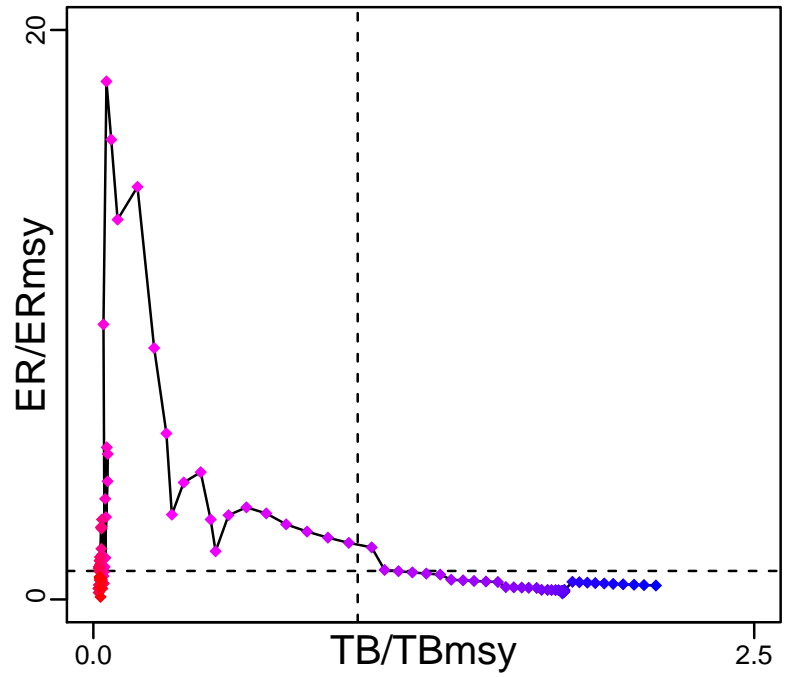
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	621	Males	-
<b>SSB</b>	SSB-relative	2014	0.015	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	96,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0.037	-	-
<b>TC</b>	TC-MT	2014	23		
<b>TL</b>	TL-MT	2014	23		
<b>TB/TBmsy</b>	TB-MT/TBmsy-calc-MT	2014	0.023		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-mvo-ratio	2014	0.789		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

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

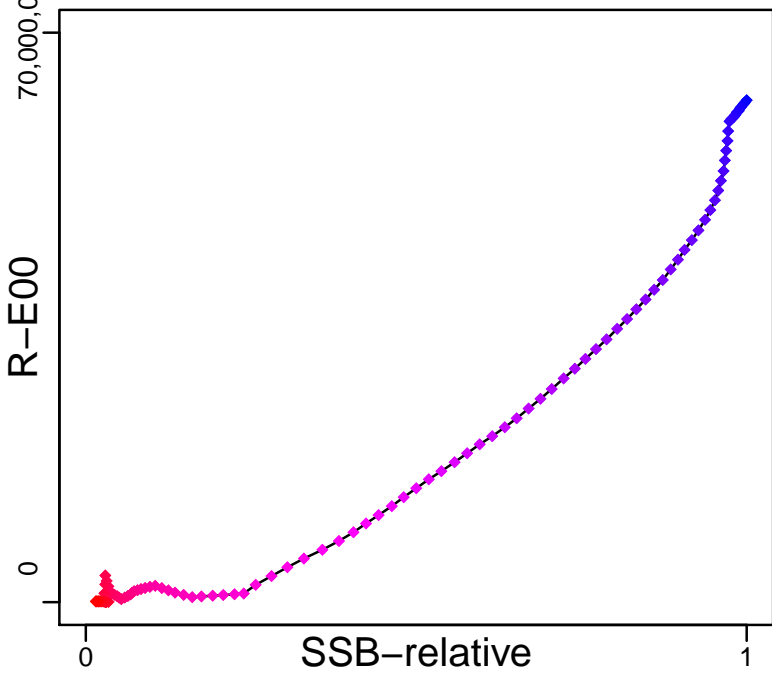
Kobe MSYpref (1910-2014-Johnston)



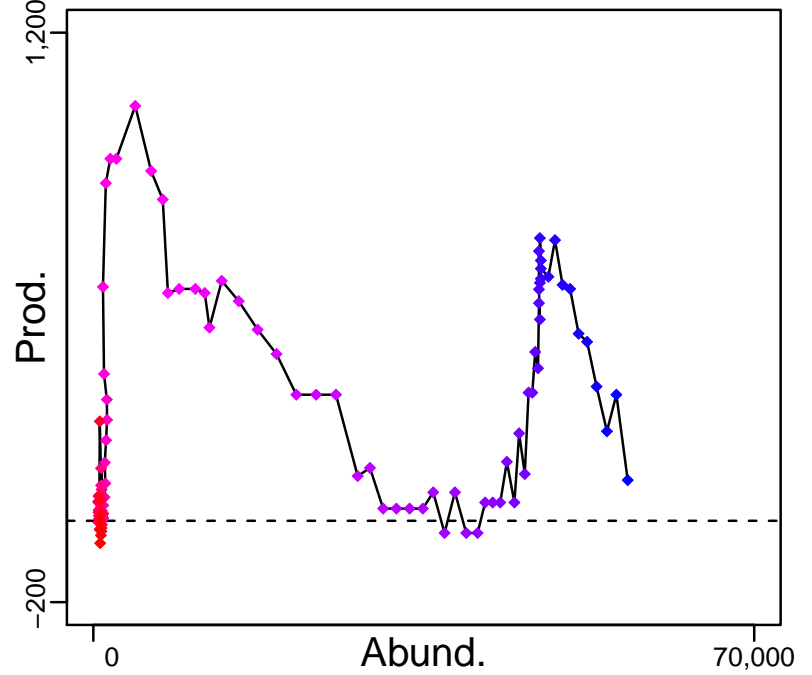
Kobe MGTpref (1910-2014-Johnston)



Spawner Recruit (1910-2014-Johnston)



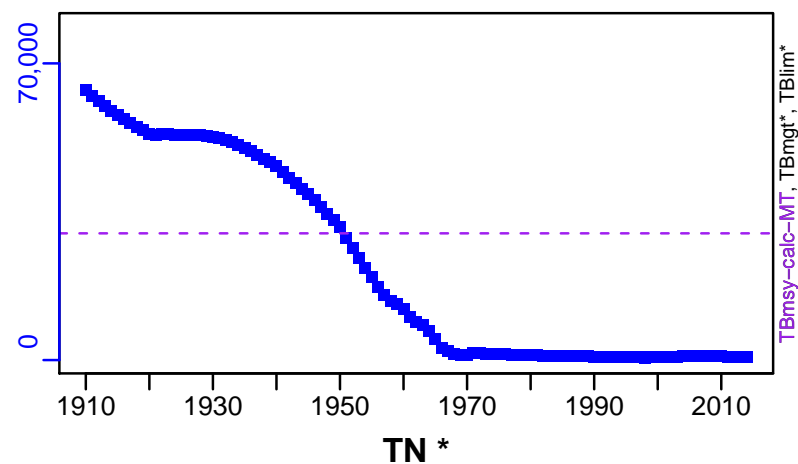
Production (1910-2014-Johnston)



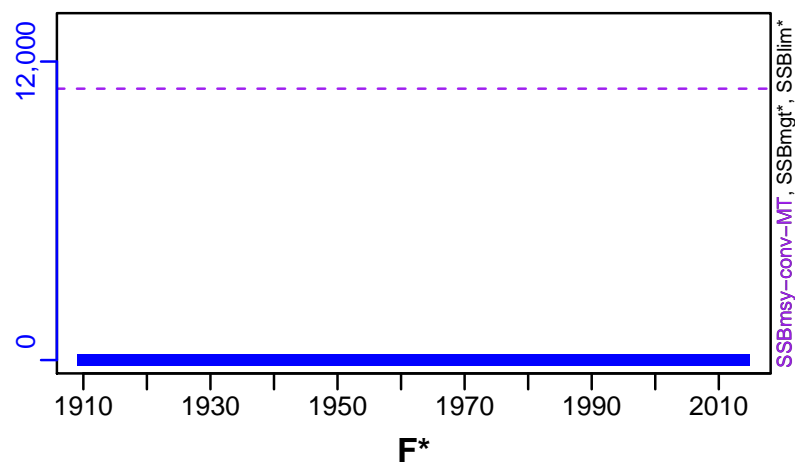
◆ Start Year ◆ End Year \* No Data

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

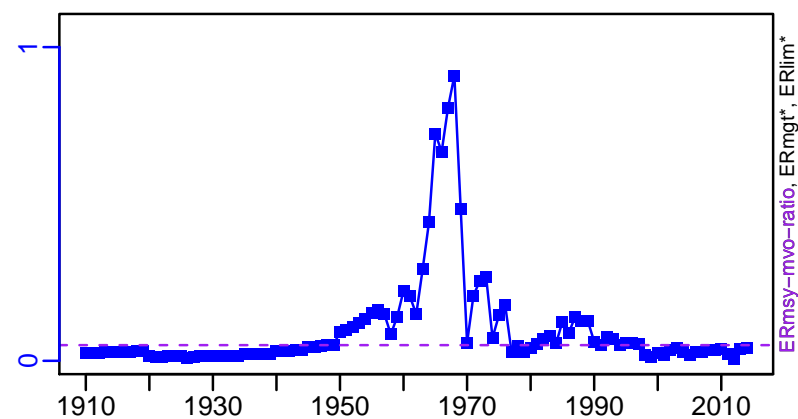
TB-MT (1910-2014-Johnston)



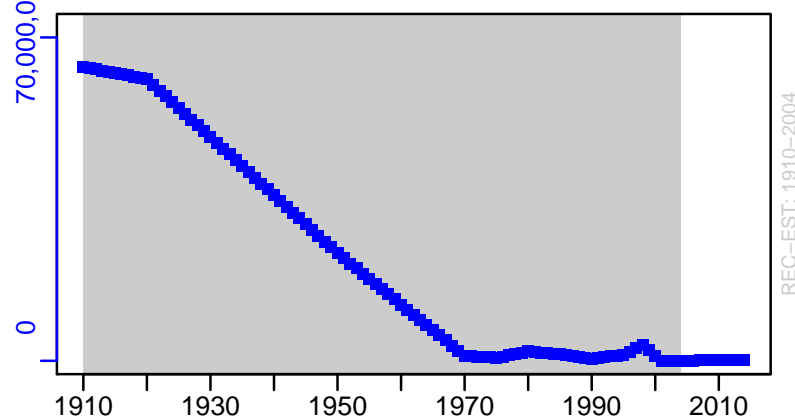
SSB-relative (1910-2014-Johnston)



ER-ratio (1910-2014-Johnston)



R-E00 (1910-2014-Johnston)

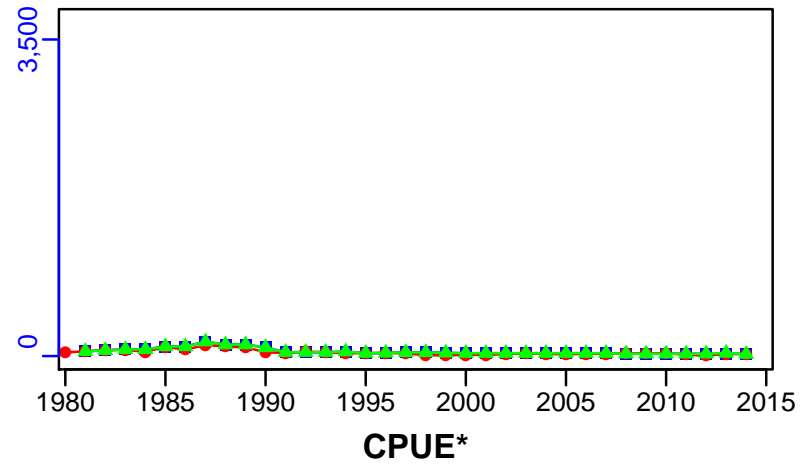
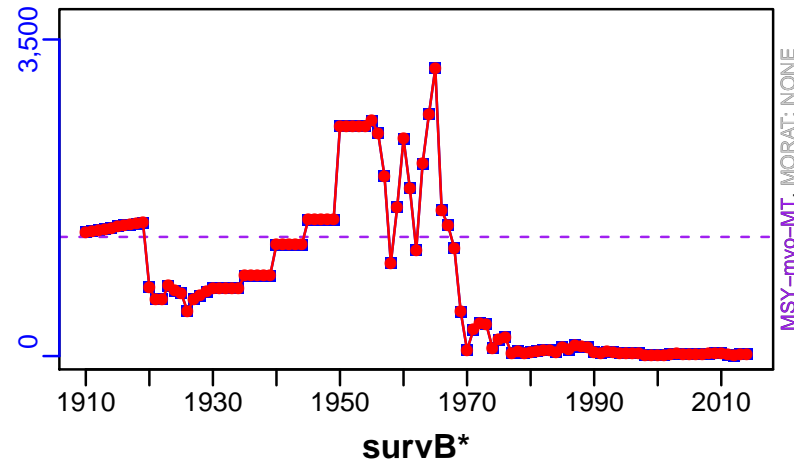




# West coast rock lobster South Africa Areas 1-2 [CRLOBSTERSA12]

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

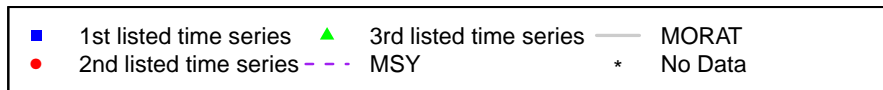
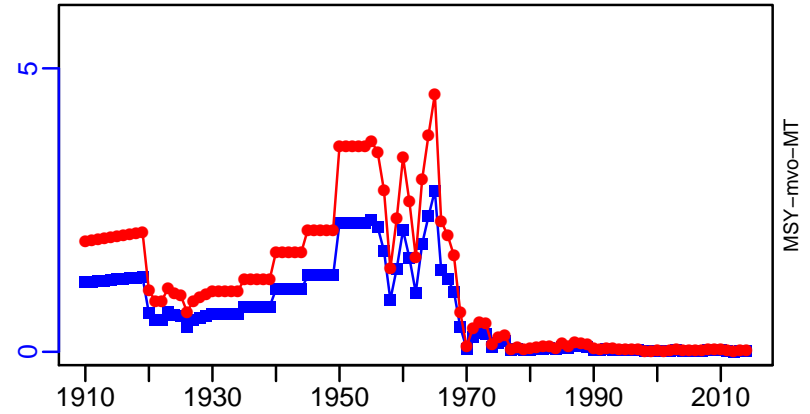
TAC-MT, Cpair-MT, Cadvised-MT (1910-2014-Johnston)



EFFORT\*



TC-MT/MSY-mvo-MT, CdivMEANC-ratio, (1910-2014-Johnston)



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

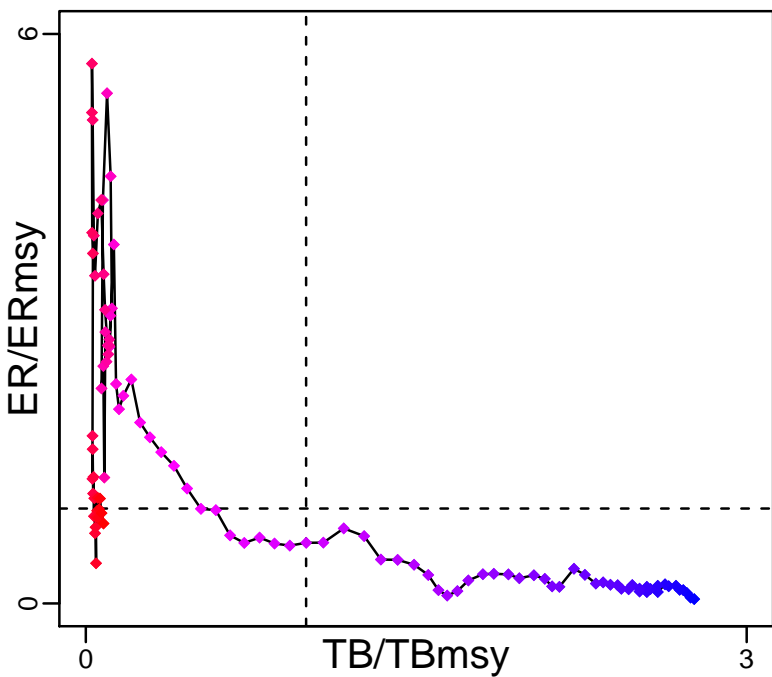
Metadata	
<b>Scientific Name</b>	Jasus lalandii
<b>Current Assess ID</b>	MARAM-CRLOBSTERSA34-1910-2014-Johnston
<b>Area</b>	South Africa Areas 3-4
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine 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>	TBmsy-calc-MT	2014	60,469
<b>SSBmsy</b>	SSBmsy-conv-MT	2014	22,358
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-mvo-ratio	2014	0.064
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2014	166,501
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-mvo-MT	2014	3870
<b>M</b>	M-1/yr	2014	0.11
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

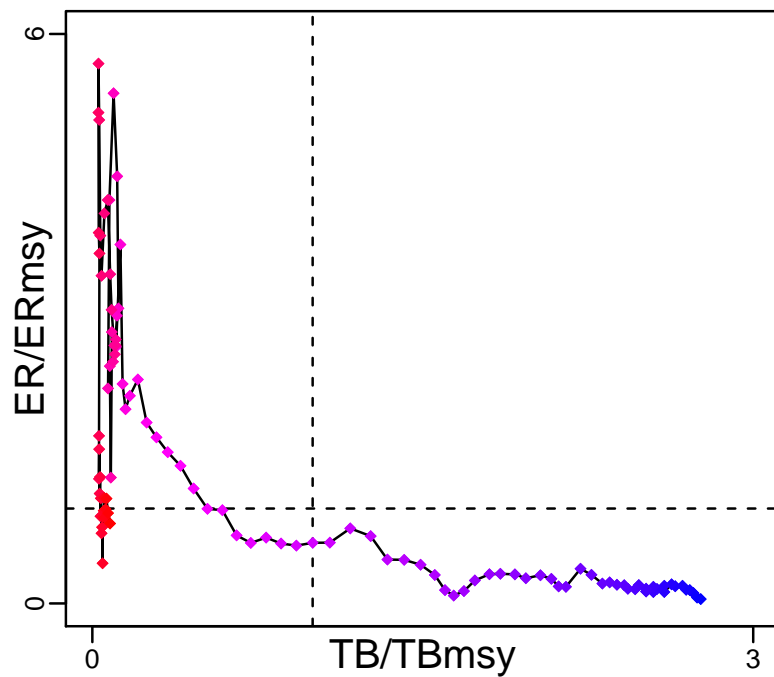
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	4860	Males	-
<b>SSB</b>	SSB-relative	2014	0.067	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	31,200,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0.054	-	-
<b>TC</b>	TC-MT	2014	262		
<b>TL</b>	TL-MT	2014	254		
<b>TB/TBmsy</b>	TB-MT/TBmsy-calc-MT	2014	0.08		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-mvo-ratio	2014	0.842		
<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]

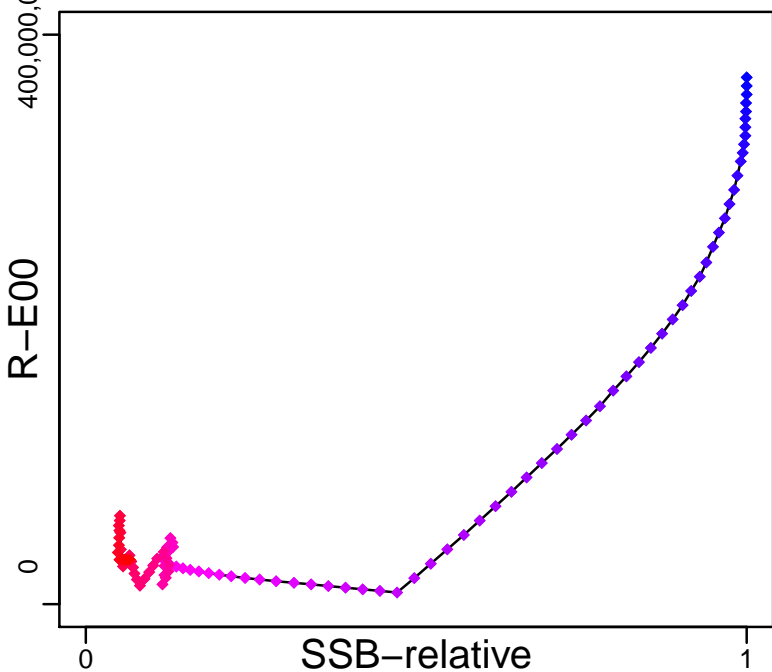
Kobe MSYpref (1910–2014–Johnston)



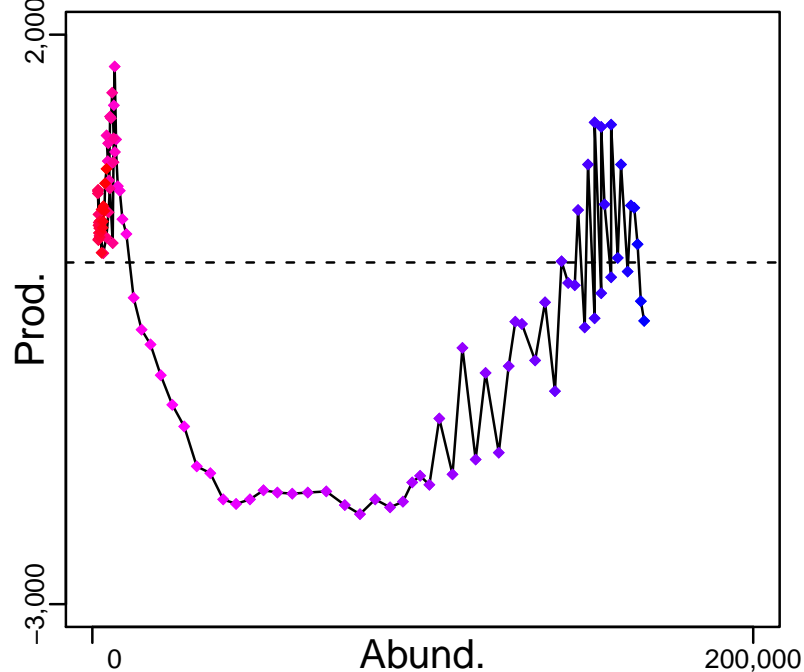
Kobe MGTpref (1910–2014–Johnston)



Spawner Recruit (1910–2014–Johnston)



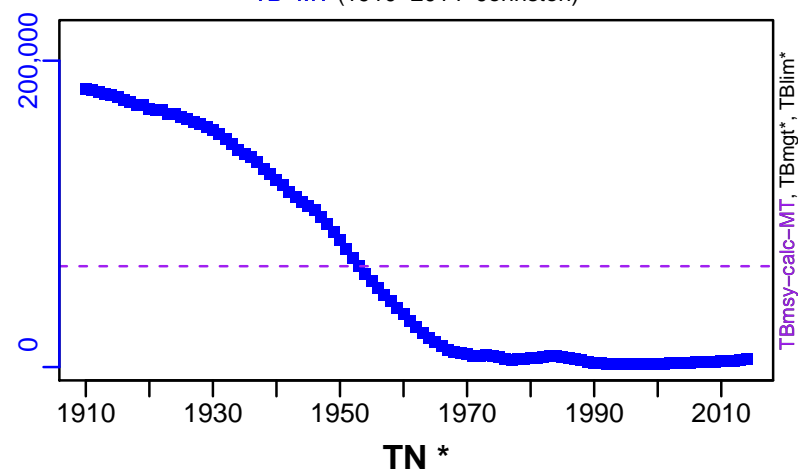
Production (1910–2014–Johnston)



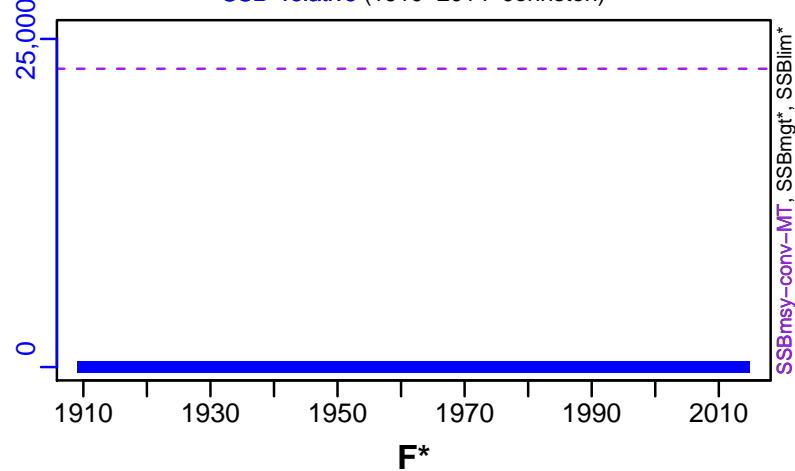
◆ Start Year ◆ End Year \* No Data

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

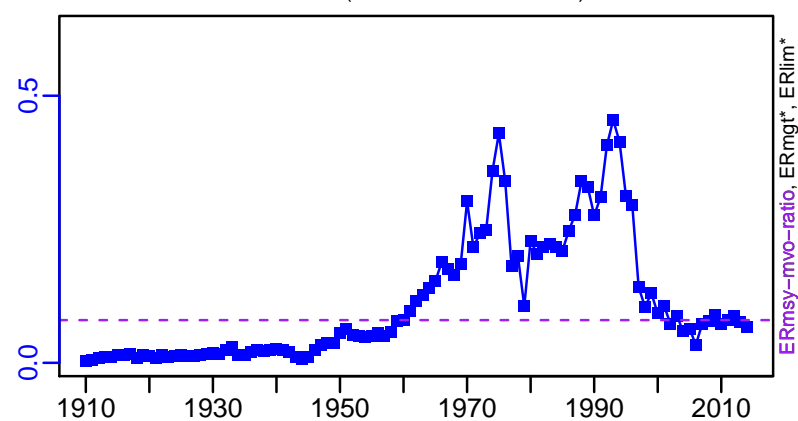
TB–MT (1910–2014–Johnston)



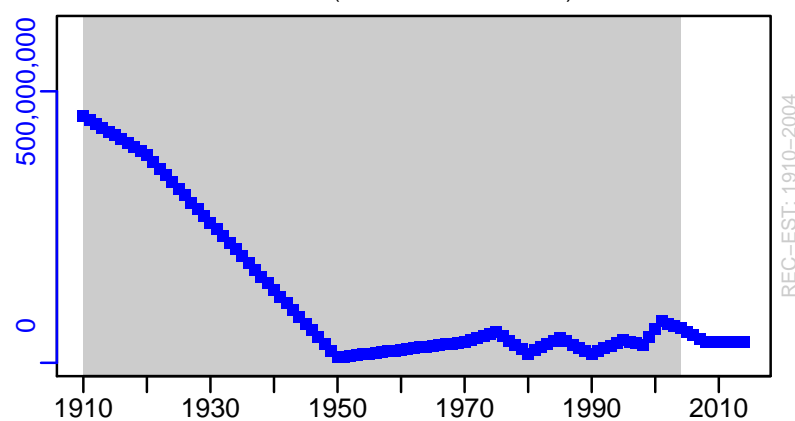
SSB–relative (1910–2014–Johnston)



ER–ratio (1910–2014–Johnston)



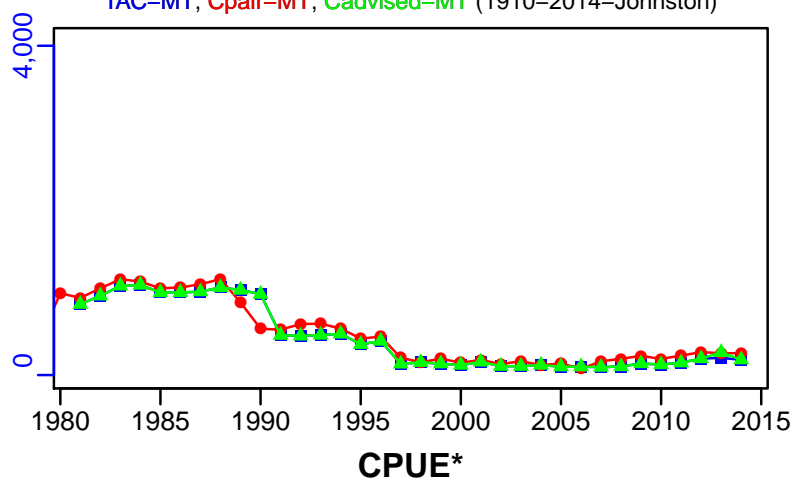
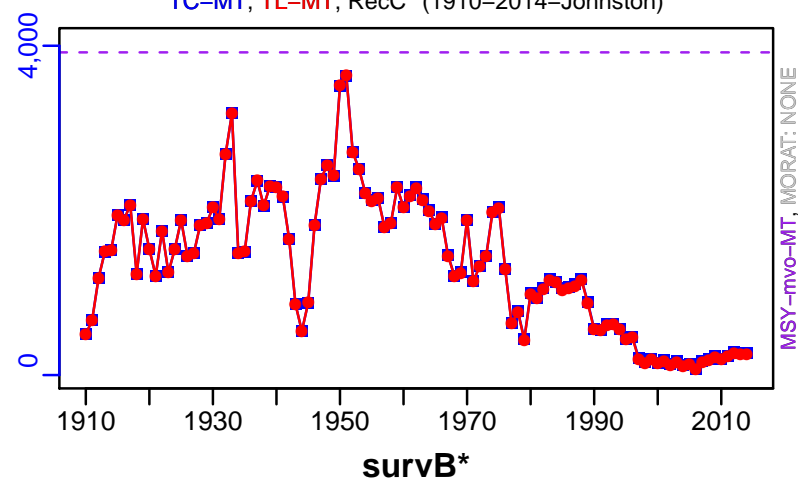
R–E00 (1910–2014–Johnston)



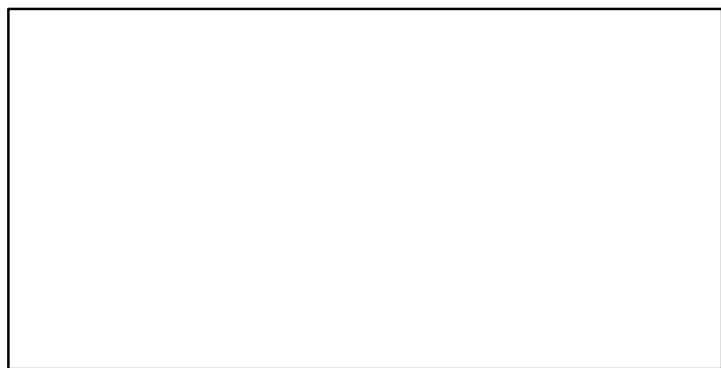
# West coast rock lobster South Africa Areas 3-4 [CRLOBSTERSA34]

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

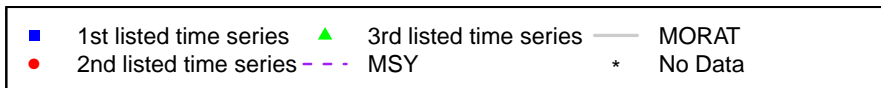
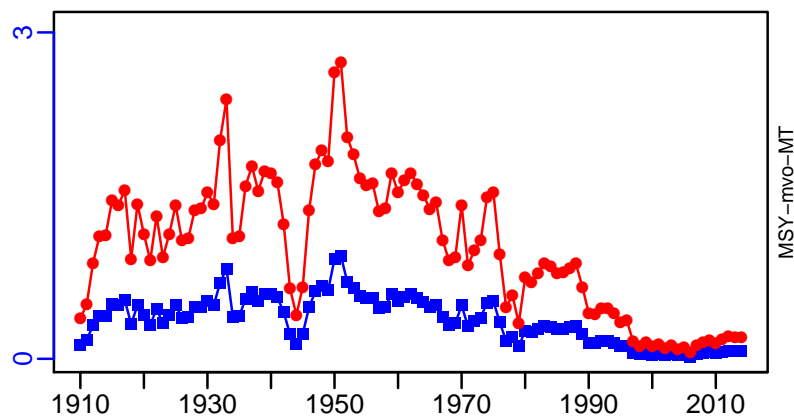
TAC-MT, Cpair-MT, Cadvised-MT (1910-2014-Johnston)



EFFORT\*



TC-MT/MSY-mvo-MT, CdivMEANC-ratio, (1910-2014-Johnston)



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

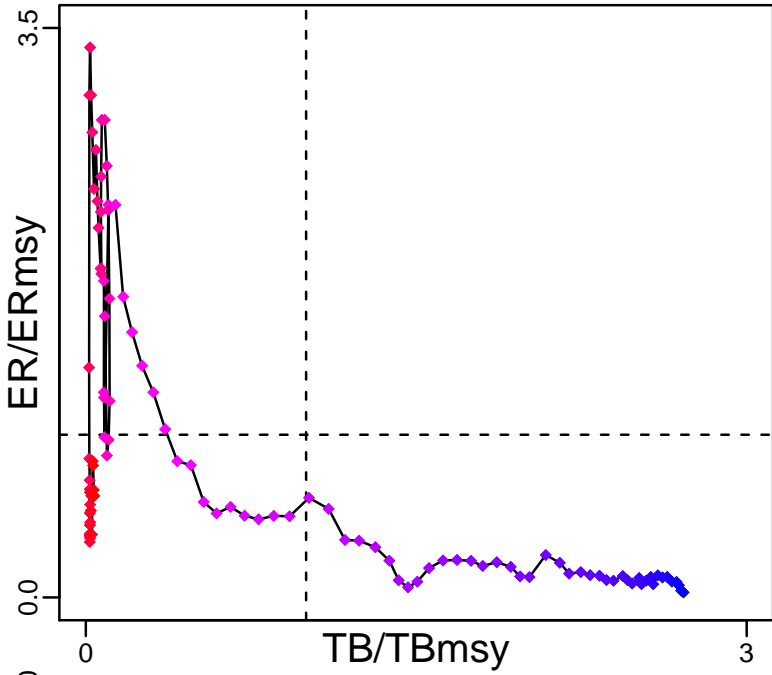
Metadata	
<b>Scientific Name</b>	Jasus lalandii
<b>Current Assess ID</b>	MARAM-CRLOBSTERSA56-1910-2014-Johnston
<b>Area</b>	South Africa Areas 5-6
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine 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>	TBmsy-calc-MT	2014	94,348
<b>SSBmsy</b>	SSBmsy-conv-MT	2014	34,891
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-mvo-ratio	2014	0.092
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2014	255,837
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-mvo-MT	2014	8680
<b>M</b>	M-1/yr	2014	0.11
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

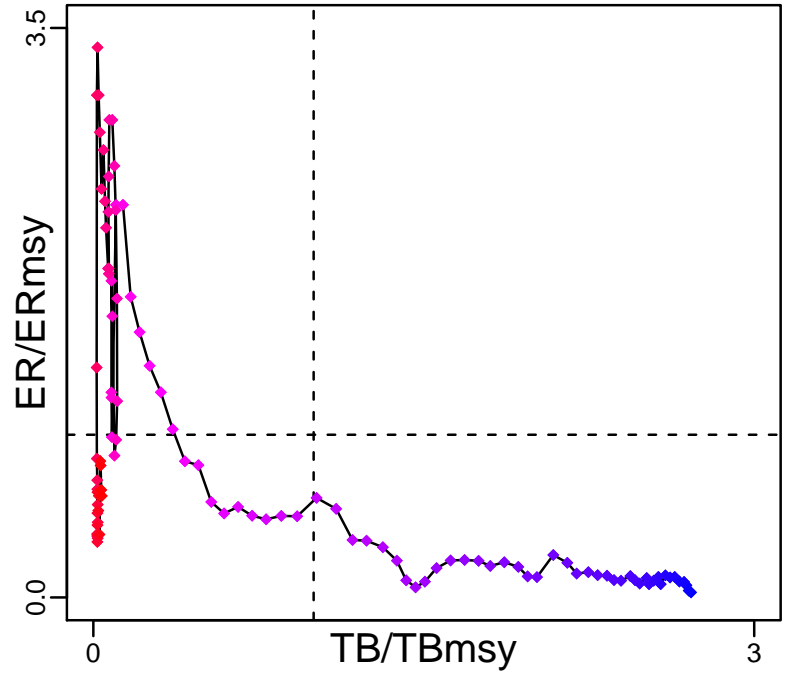
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	3590	Males	-
<b>SSB</b>	SSB-relative	2014	0.034	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	16,200,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0.057	-	-
<b>TC</b>	TC-MT	2014	206		
<b>TL</b>	TL-MT	2014	198		
<b>TB/TBmsy</b>	TB-MT/TBmsy-calc-MT	2014	0.038		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-mvo-ratio	2014	0.624		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

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

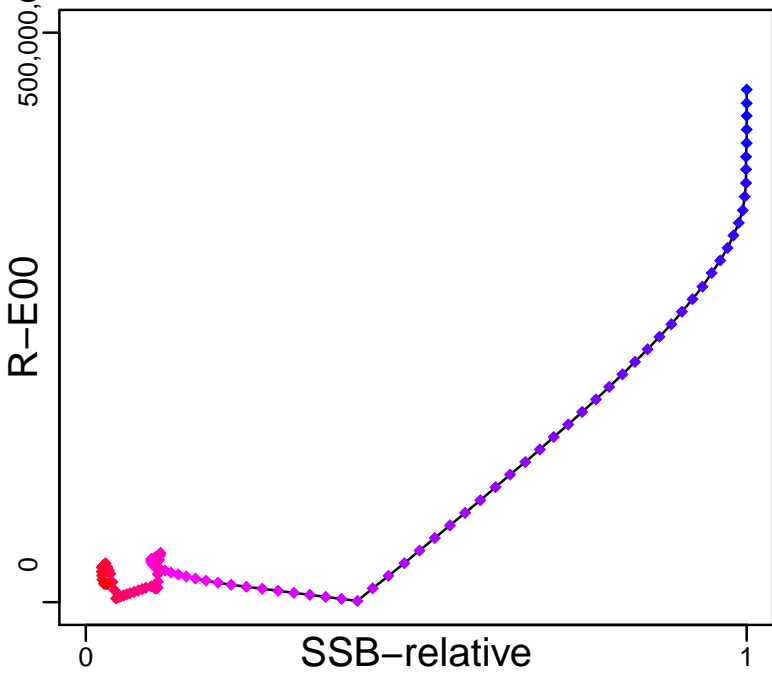
Kobe MSYpref (1910-2014-Johnston)



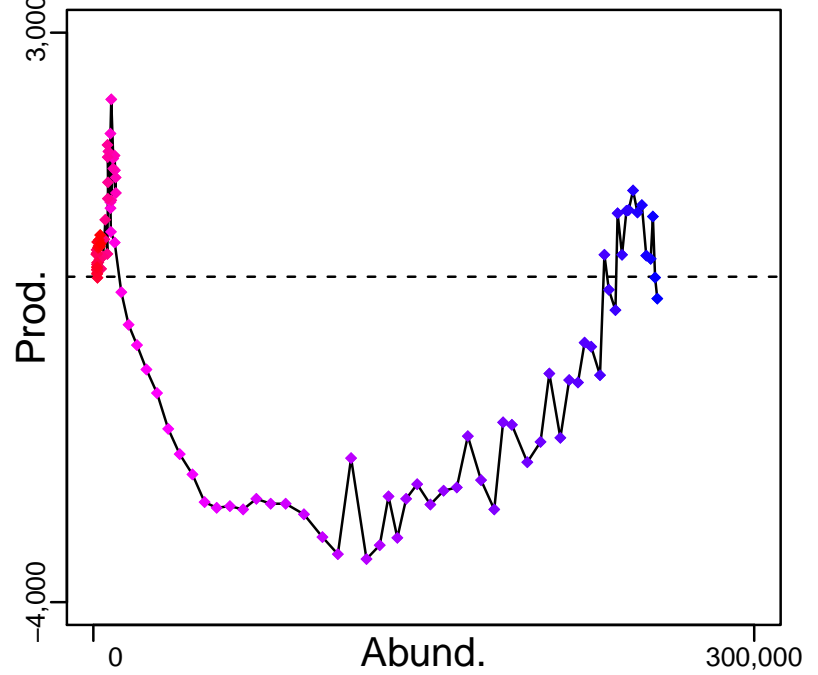
Kobe MGTpref (1910-2014-Johnston)



Spawner Recruit (1910-2014-Johnston)



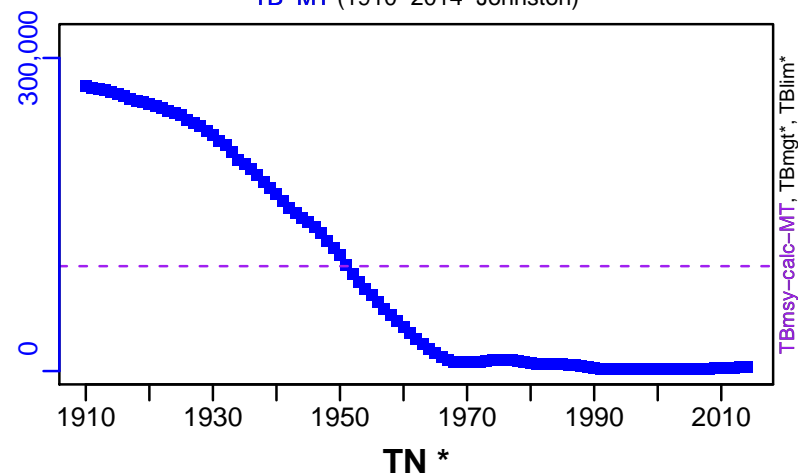
Production (1910-2014-Johnston)



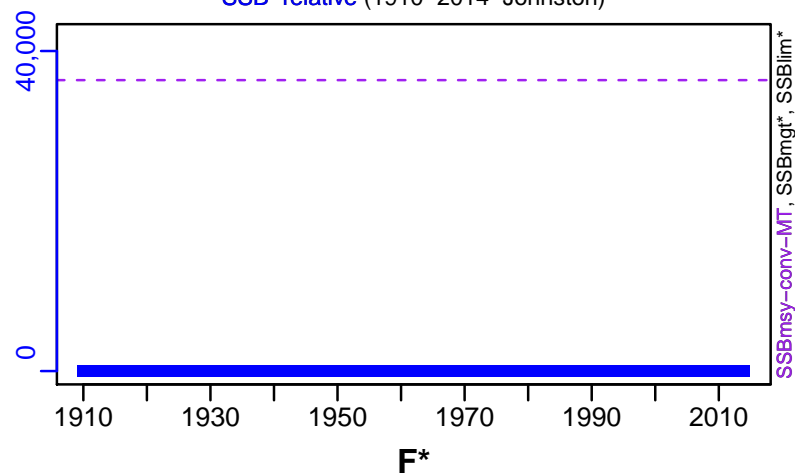
◆ Start Year ◆ End Year \* No Data

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

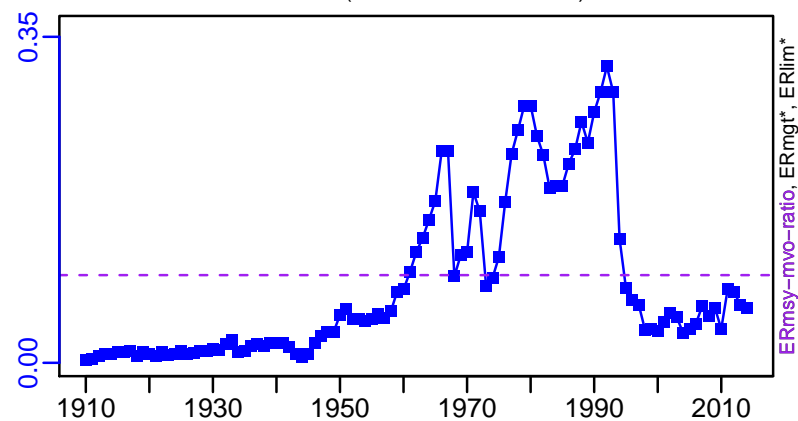
TB–MT (1910–2014–Johnston)



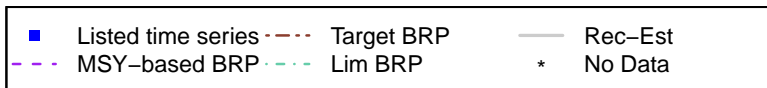
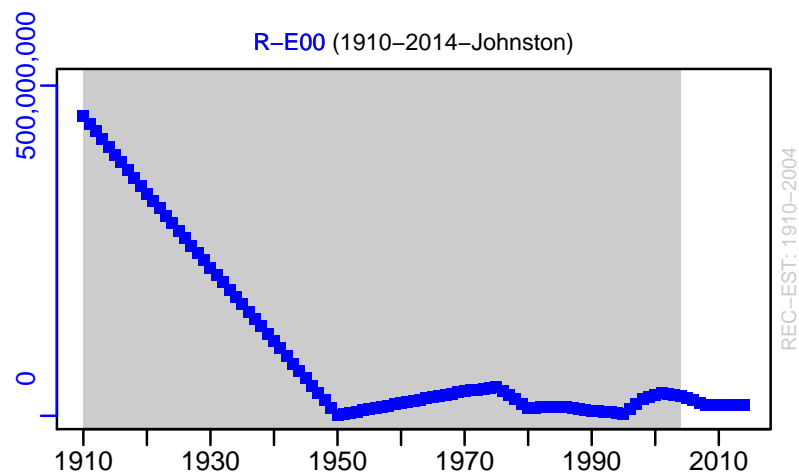
SSB–relative (1910–2014–Johnston)



ER–ratio (1910–2014–Johnston)



R–E00 (1910–2014–Johnston)

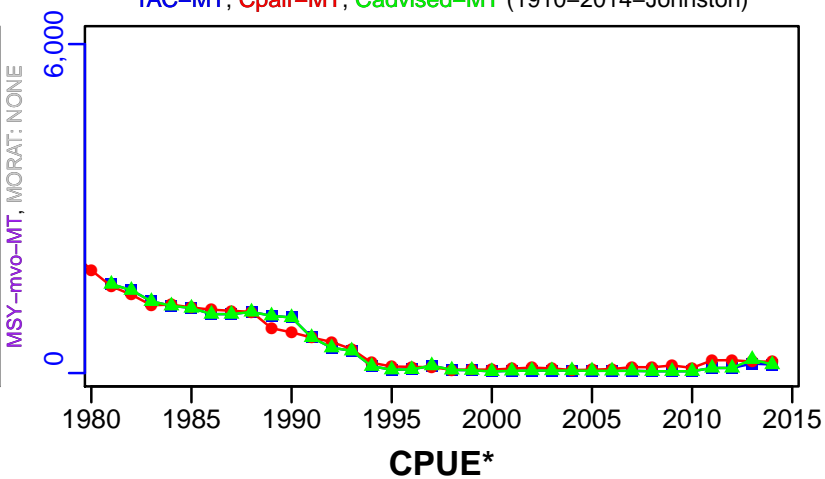
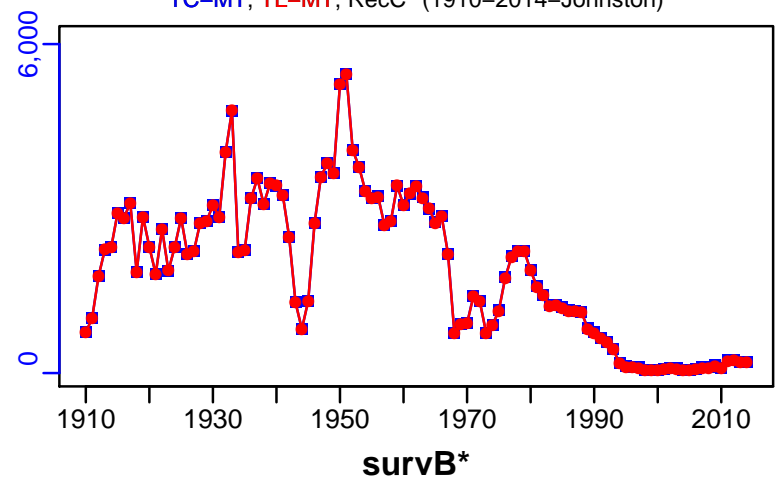




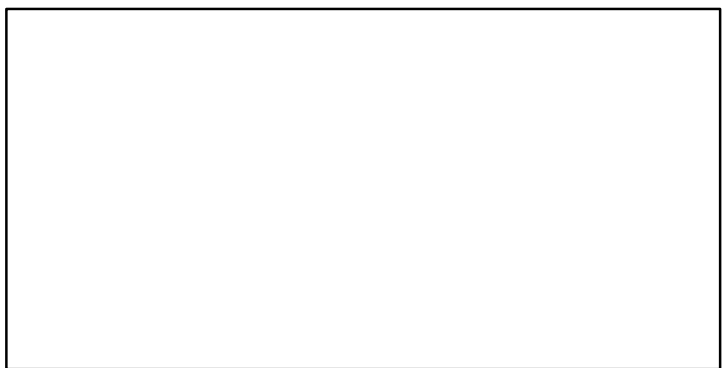
# West coast rock lobster South Africa Areas 5-6 [CRLOBSTERSA56]

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

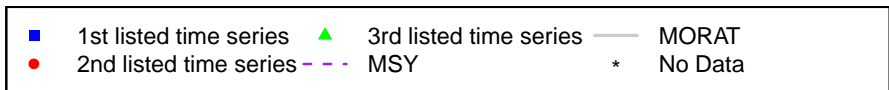
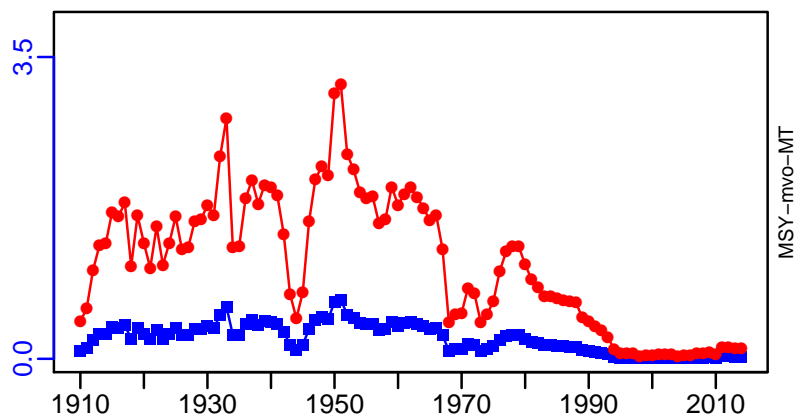
TAC-MT, Cpair-MT, Cadvised-MT (1910-2014-Johnston)



EFFORT\*



TC-MT/MSY-mvo-MT, CdivMEANC-ratio, (1910-2014-Johnston)



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

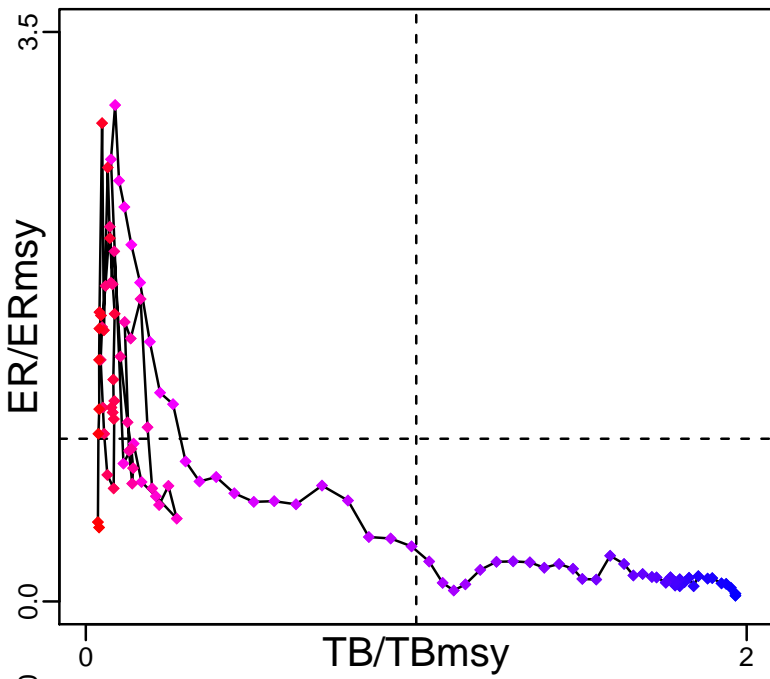
Metadata	
<b>Scientific Name</b>	Jasus lalandii
<b>Current Assess ID</b>	MARAM-CRLOBSTERSA7-1910-2014-Johnston
<b>Area</b>	South Africa Area 7
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource 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>	TBmsy-calc-MT	2014	71,212
<b>SSBmsy</b>	SSBmsy-conv-MT	2014	26,362
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-mvo-ratio	2014	0.099
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2014	116,689
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-mvo-MT	2014	7050
<b>M</b>	M-1/yr	2014	0.11
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

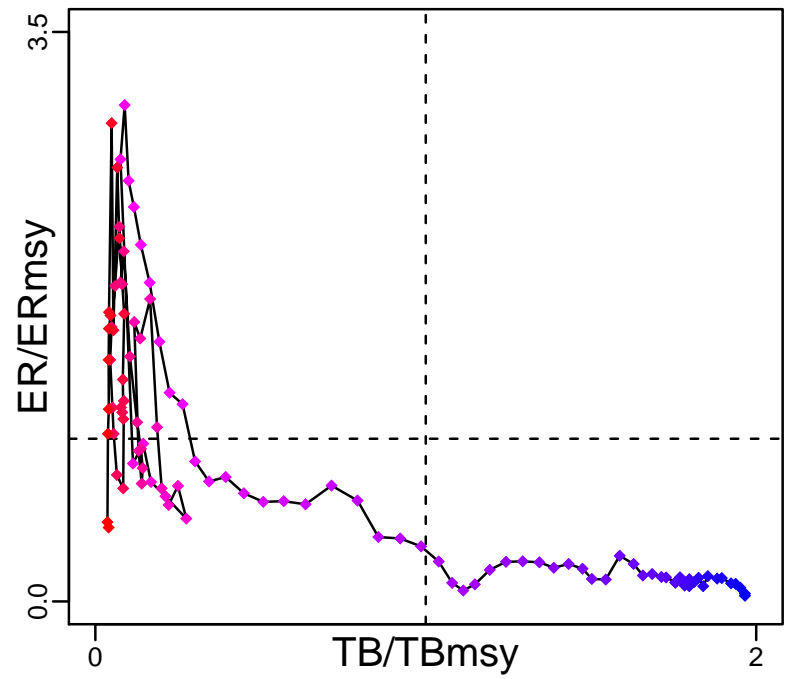
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	2860	Males	-
<b>SSB</b>	SSB-relative	2014	0.074	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	4,590,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0.045	-	-
<b>TC</b>	TC-MT	2014	129		
<b>TL</b>	TL-MT	2014	80		
<b>TB/TBmsy</b>	TB-MT/TBmsy-calc-MT	2014	0.04		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-mvo-ratio	2014	0.455		
<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]

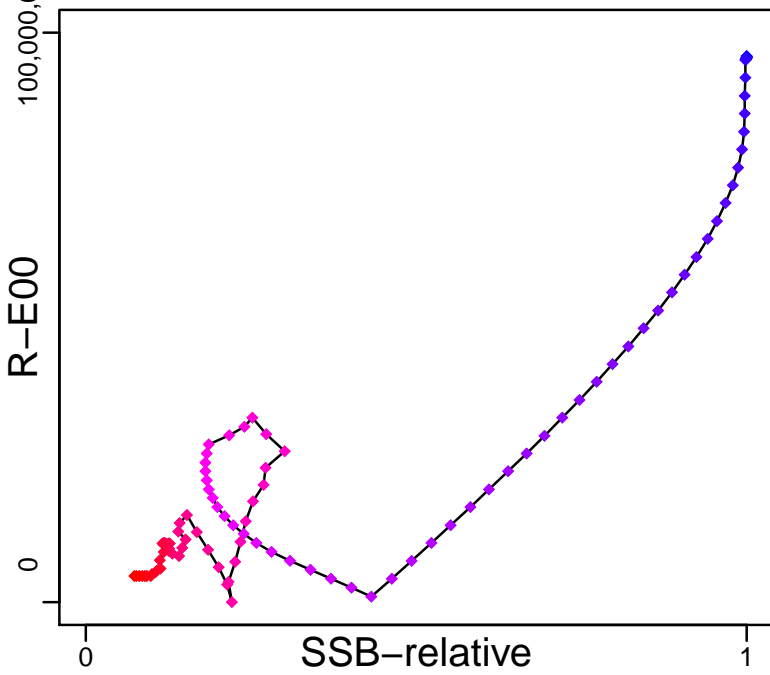
Kobe MSYpref (1910–2014–Johnston)



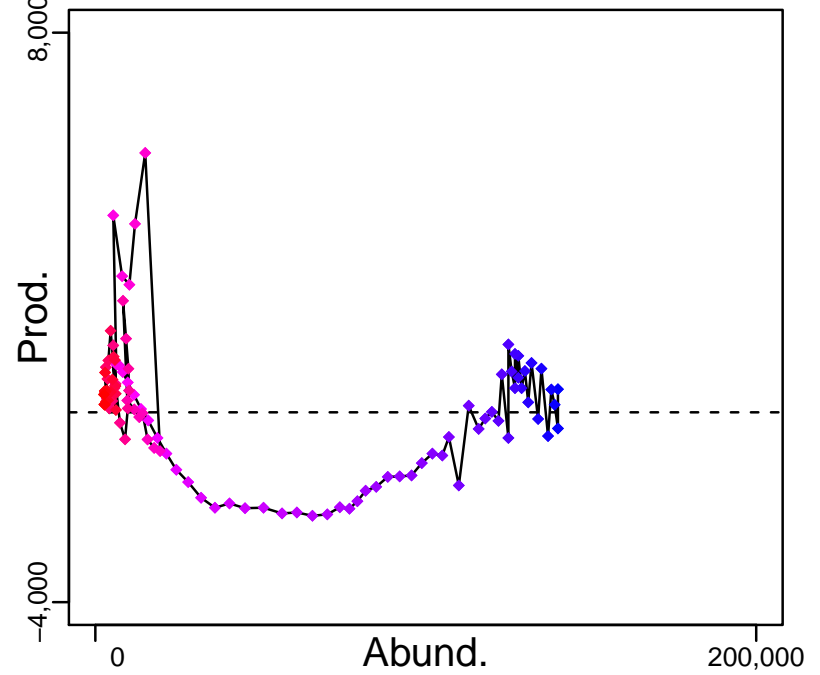
Kobe MGTpref (1910–2014–Johnston)



Spawner Recruit (1910–2014–Johnston)



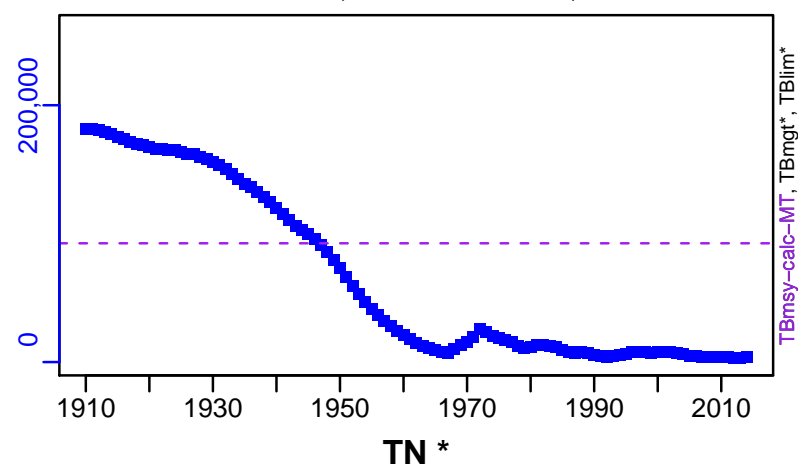
Production (1910–2014–Johnston)



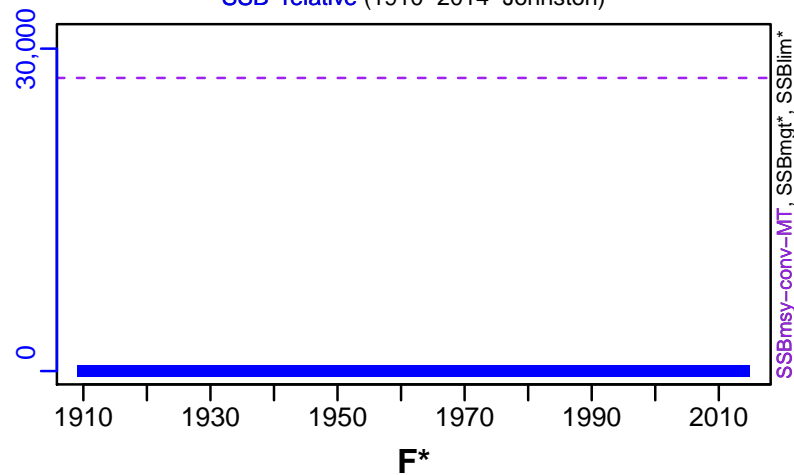
◆ Start Year ◆ End Year \* No Data

# West coast rock lobster South Africa Area 7 [CROBSTERSA7]

TB-MT (1910-2014-Johnston)



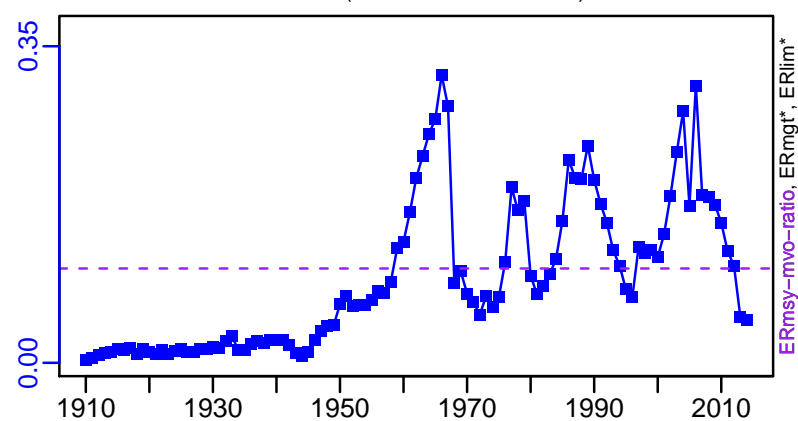
SSB-relative (1910-2014-Johnston)



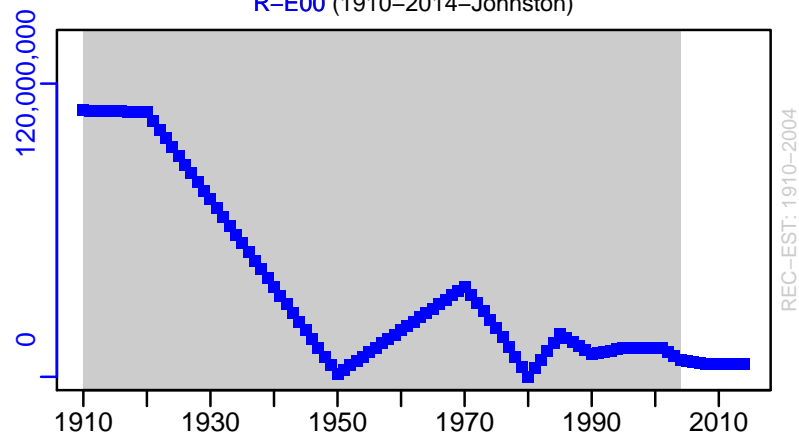
TN \*

F\*

ER-ratio (1910-2014-Johnston)

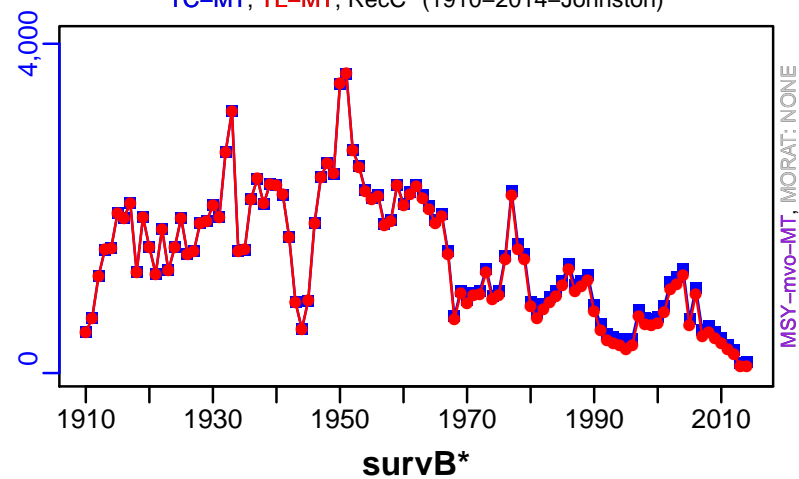


R-E00 (1910-2014-Johnston)

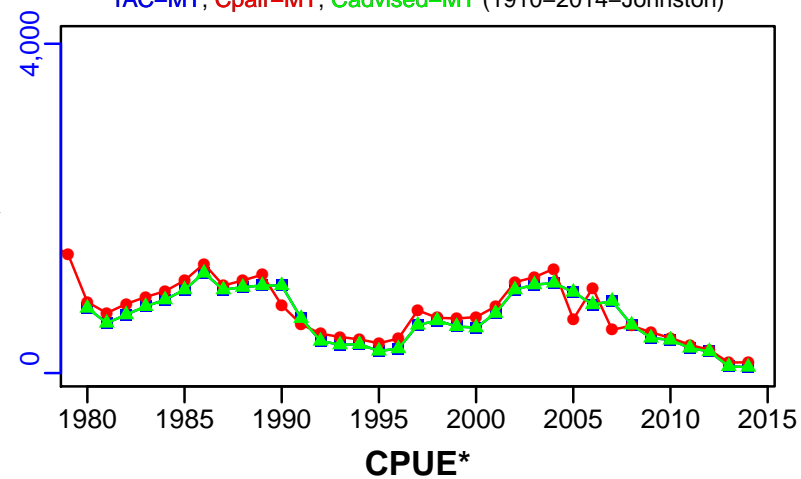


# West coast rock lobster South Africa Area 7 [CRLOBSTERSA7]

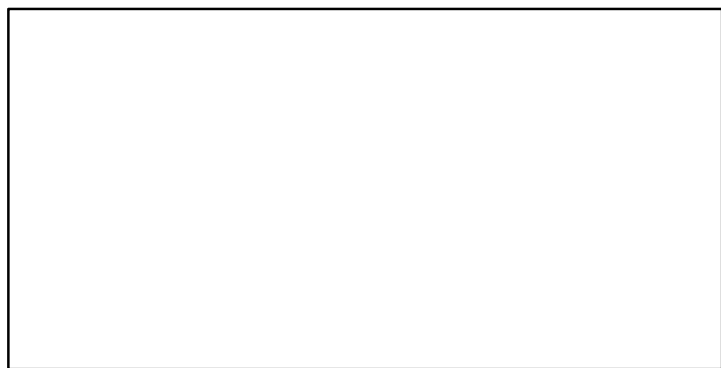
TC-MT, TL-MT, RecC\* (1910-2014-Johnston)



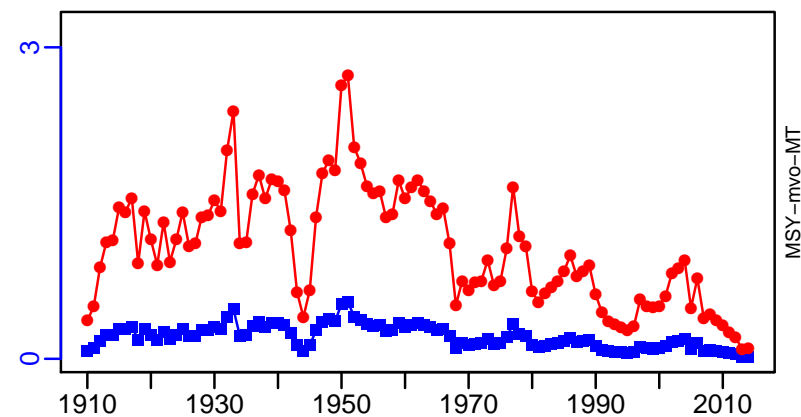
TAC-MT, Cpair-MT, Cadvised-MT (1910-2014-Johnston)



EFFORT\*



TC-MT/MSY-mvo-MT, CdivMEANC-ratio, (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 Area 8 [CRLOBSTERSA8]

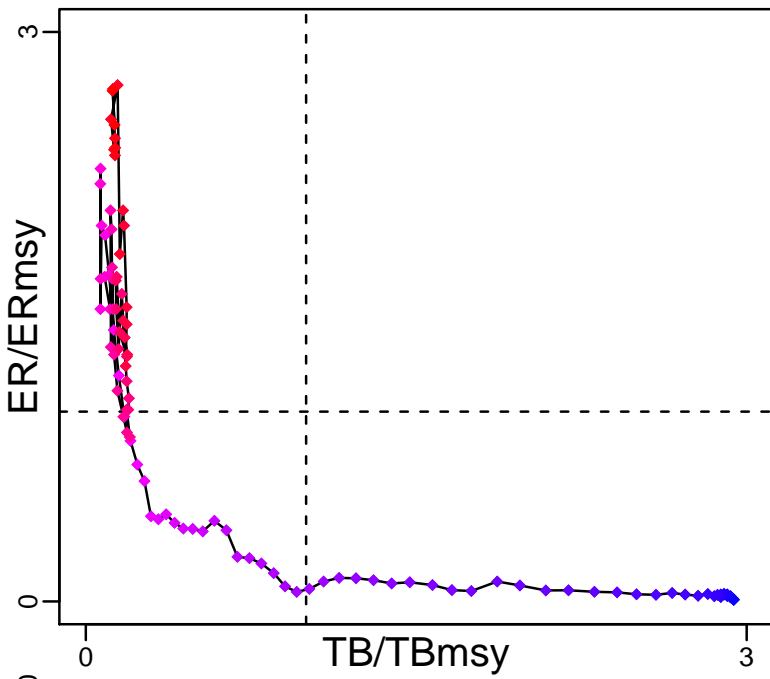
Metadata	
<b>Scientific Name</b>	Jasus lalandii
<b>Current Assess ID</b>	MARAM-CRLOBSTERSA8-1910-2014-Johnston
<b>Area</b>	South Africa Area 8
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource 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>	TBmsy-calc-MT	2014	68,000
<b>SSBmsy</b>	SSBmsy-conv-MT	2014	25,288
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-mvo-ratio	2014	0.1
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2014	199,707
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-mvo-MT	2014	6800
<b>M</b>	M-1/yr	2014	0.11
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

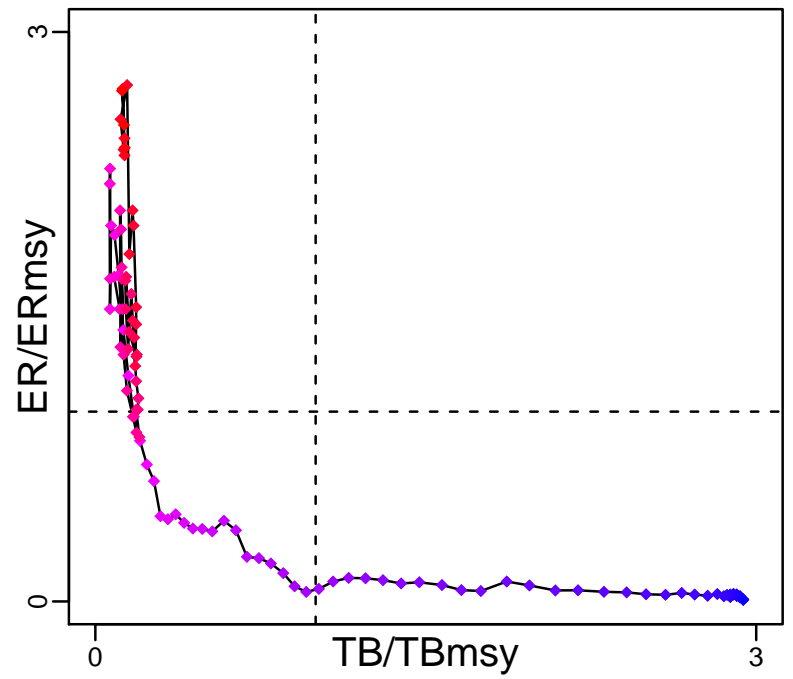
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	8860	Males	-
<b>SSB</b>	SSB-relative	2014	0.223	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	$2.05 \times 10^8$	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0.251	-	-
<b>TC</b>	TC-MT	2014	2220		
<b>TL</b>	TL-MT	2014	1500		
<b>TB/TBmsy</b>	TB-MT/TBmsy-calc-MT	2014	0.13		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-mvo-ratio	2014	2.51		
<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]

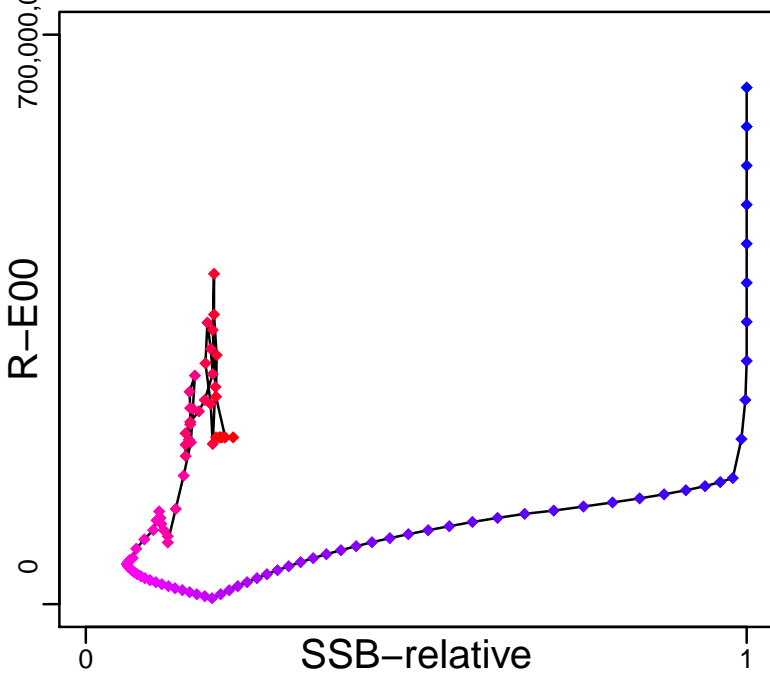
Kobe MSYpref (1910–2014–Johnston)



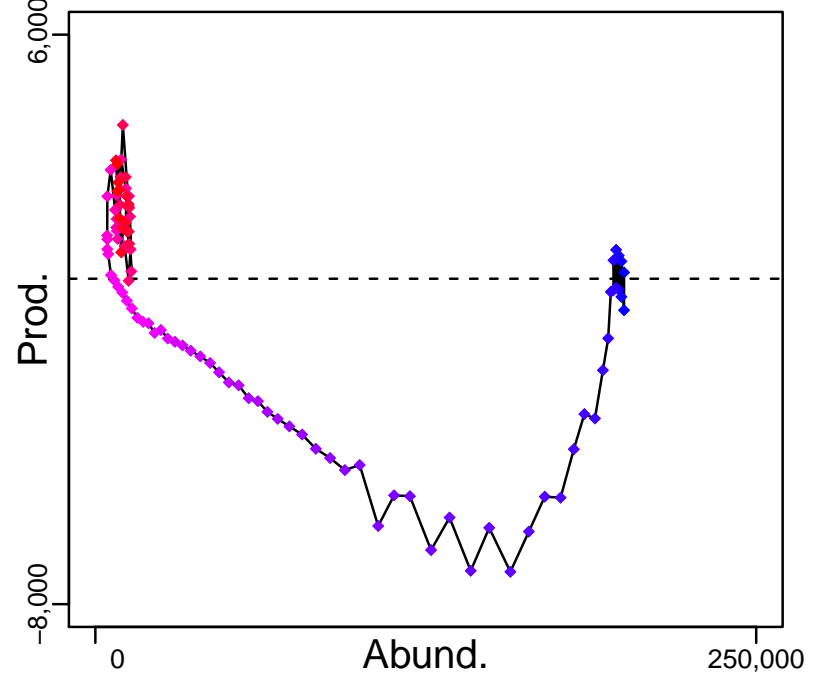
Kobe MGTpref (1910–2014–Johnston)



Spawner Recruit (1910–2014–Johnston)



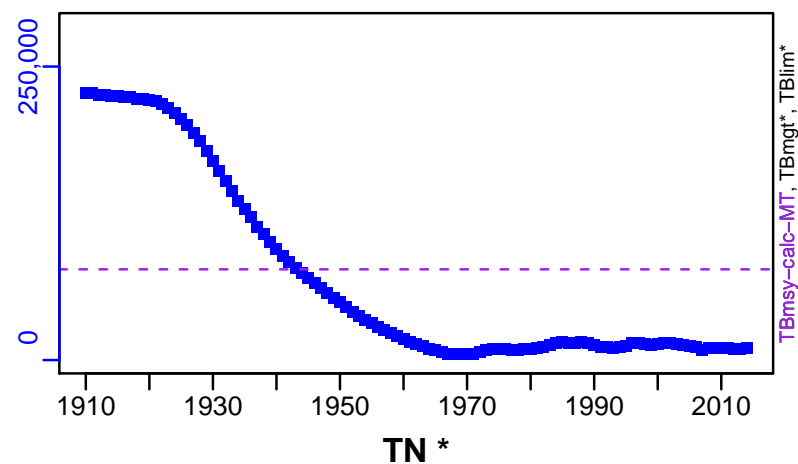
Production (1910–2014–Johnston)



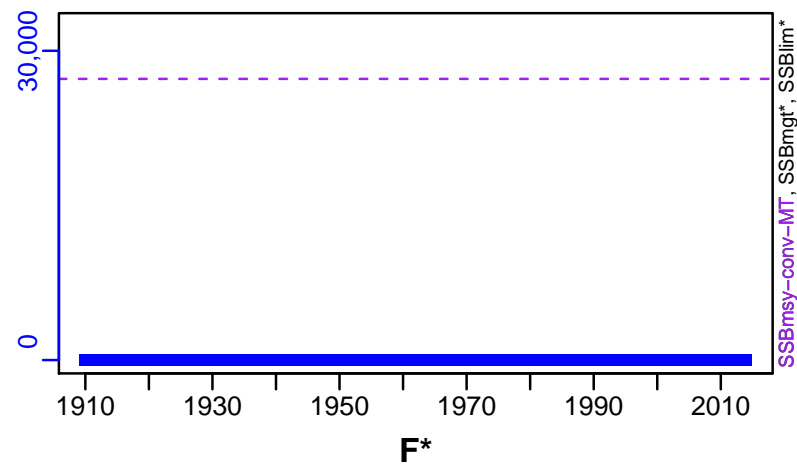
◆ Start Year ◆ End Year \* No Data

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

TB-MT (1910-2014-Johnston)



SSB-relative (1910-2014-Johnston)

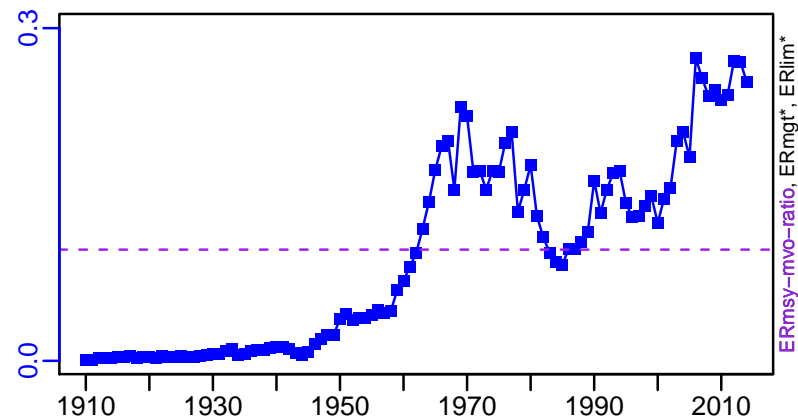


TN \*

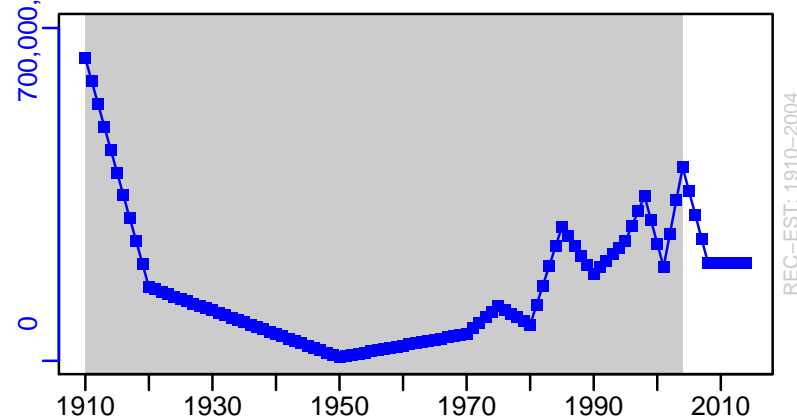
F\*



ER-ratio (1910-2014-Johnston)



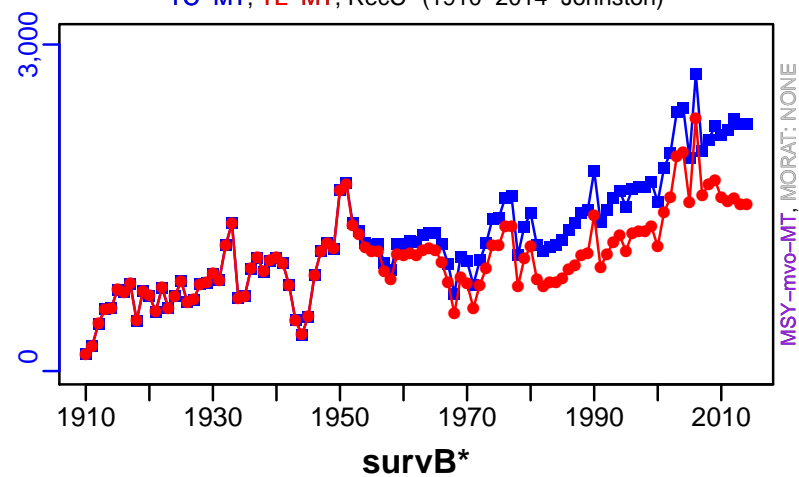
R-E00 (1910-2014-Johnston)



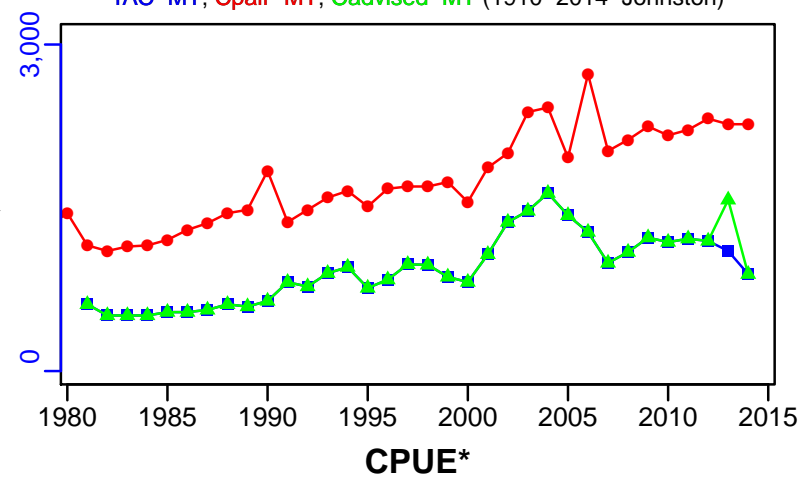


# West coast rock lobster South Africa Area 8 [CRLOBSTERSA8]

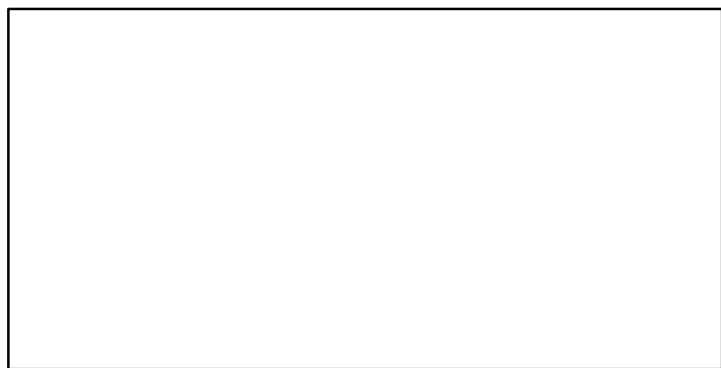
TC-MT, TL-MT, RecC\* (1910-2014-Johnston)



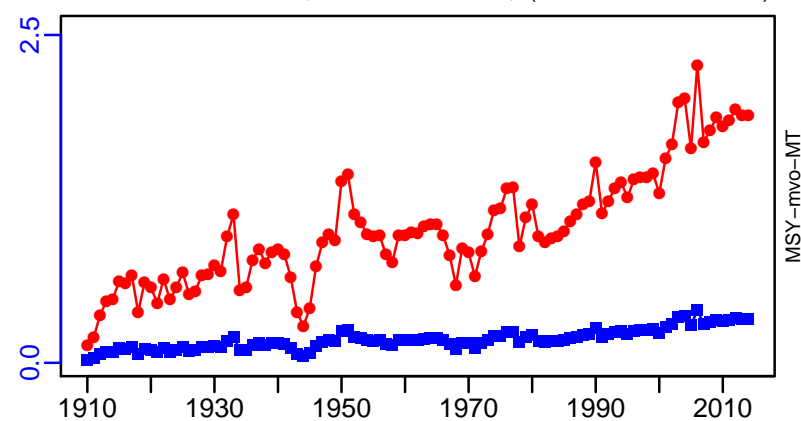
TAC-MT, Cpair-MT, Cadvised-MT (1910-2014-Johnston)



EFFORT\*



TC-MT/MSY-mvo-MT, CdivMEANC-ratio, (1910-2014-Johnston)



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

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

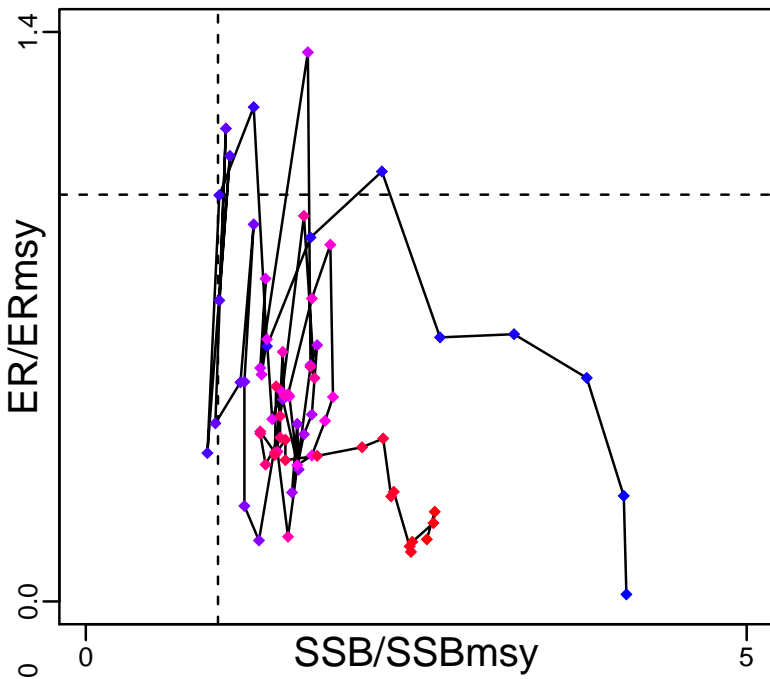
Metadata	
<b>Scientific Name</b>	Trachurus capensis
<b>Current Assess ID</b>	MARAM-CTRACSA-1949-2020-Johnston
<b>Area</b>	South Africa South coast
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2013, 2020

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-MT	2020	247,929
<b>SSBmsy</b>	SSBmsy-MT	2020	189,115
<b>Fmsy</b>	Fmsy-1/yr	2020	0.19
<b>ERmsy</b>	ERmsy-ratio	2020	0.23
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	TB0-MT	2020	847,122
<b>SSB0</b>	SSB0-MT	2020	773,044
<b>MSY</b>	MSY-MT	2020	56,066
<b>M</b>	M-1/yr	2020	0.3
<b>TBlim</b>	TBlim-MT	2020	174,526
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

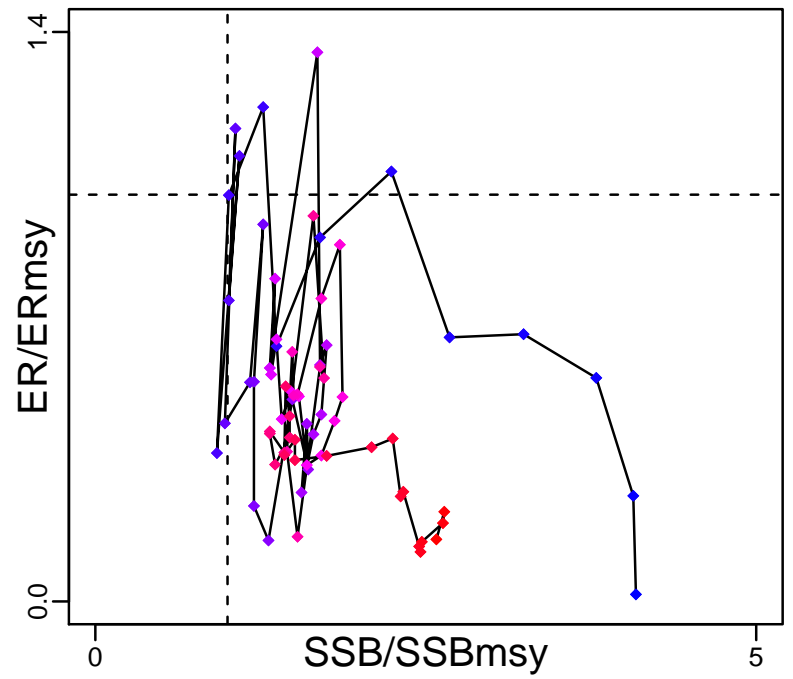
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2020	556,646	-	0+
<b>SSB</b>	SSB-MT	2020	488,226	-	3+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2020	1,217,793,074	-	0
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2020	0.035	-	-
<b>TC</b>	TC-MT	2020	19,542		
<b>TL</b>	TL-MT	2020	19,542		
<b>TB/TBmsy</b>	TBdivTBmsy-dimensionless	2020	2.25		
<b>SSB/SSBmsy</b>	SSBdivSSBmsy-dimensionless	2020	2.58		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-ratio	2020	0.153		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Cape horse mackerel South Africa South coast [CTRACSA]

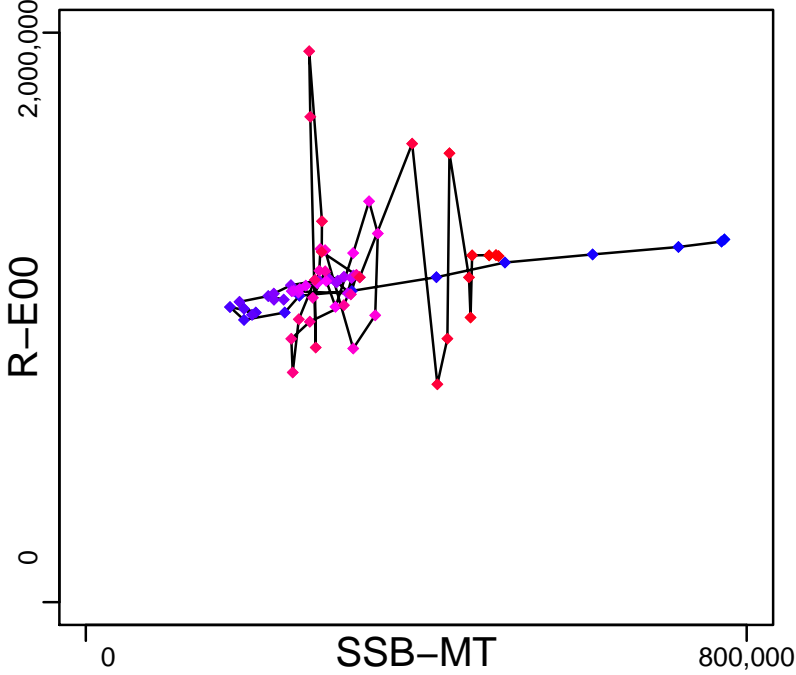
Kobe MSYpref (1949–2020–Johnston)



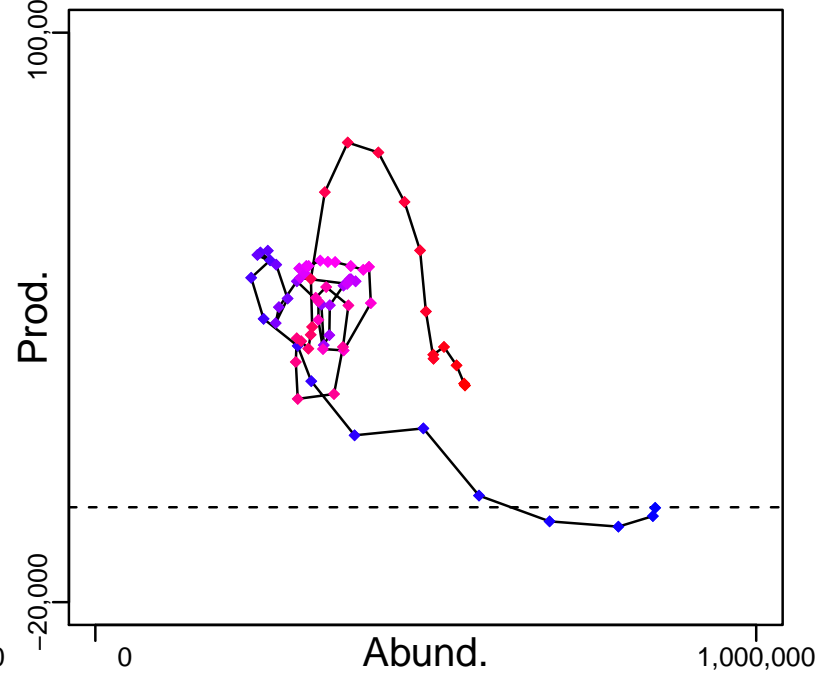
Kobe MGTpref (1949–2020–Johnston)



Spawner Recruit (1949–2020–Johnston)



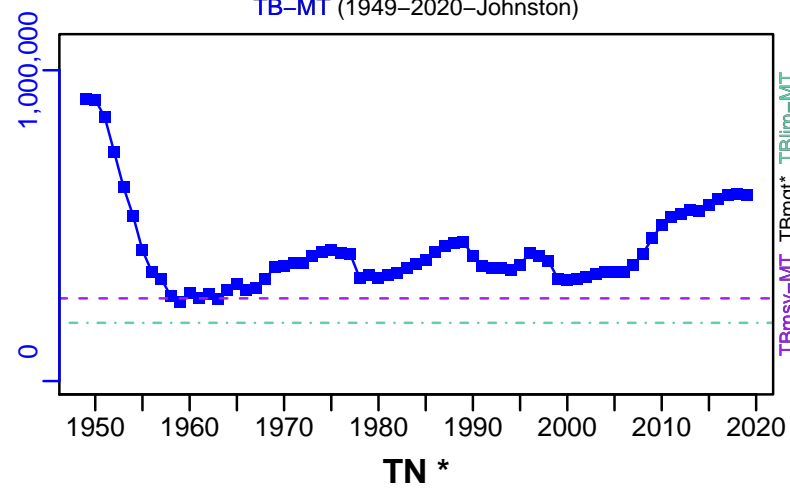
Production (1949–2020–Johnston)



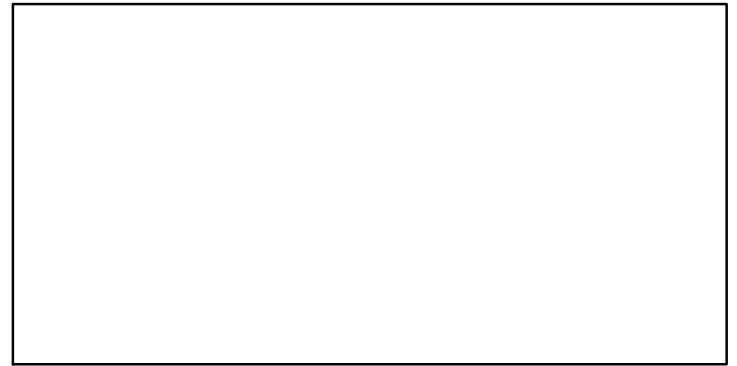
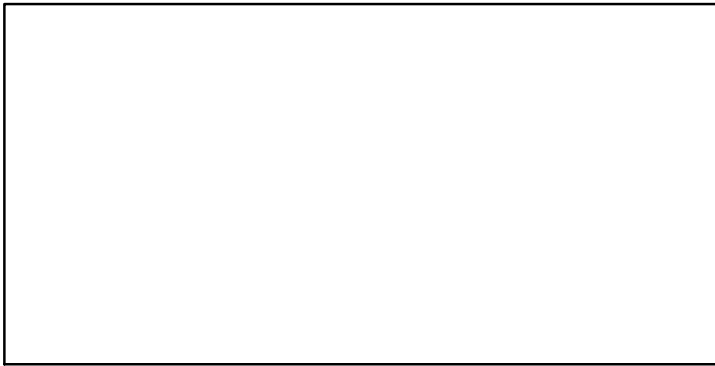
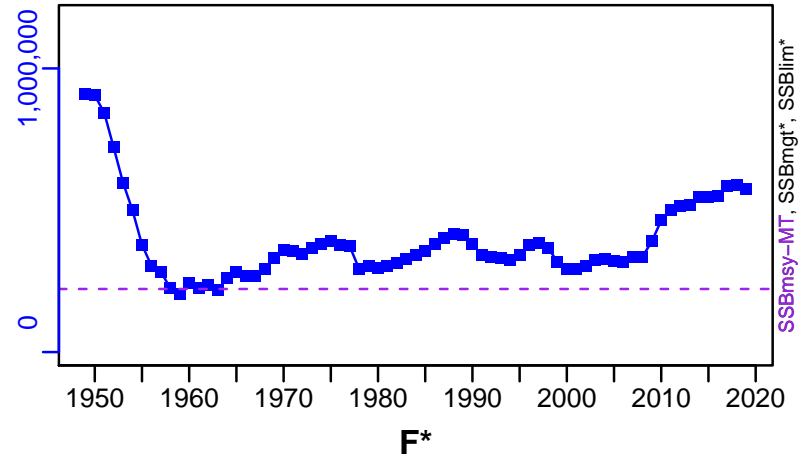
◆ Start Year ◆ End Year \* No Data

# Cape horse mackerel South Africa South coast [CTRACSA]

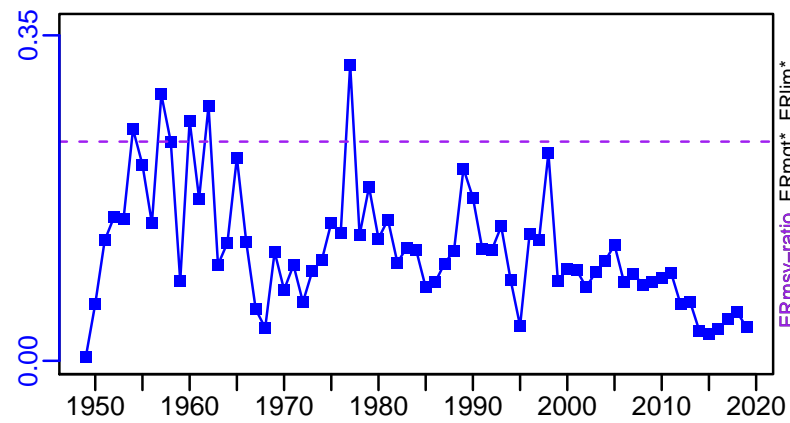
TB-MT (1949-2020-Johnston)



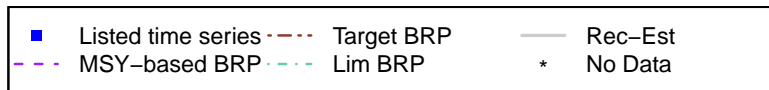
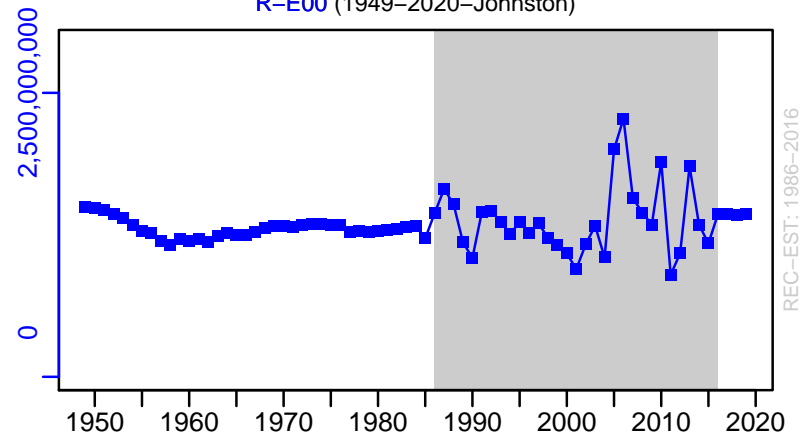
SSB-MT (1949-2020-Johnston)



ER-ratio (1949-2020-Johnston)

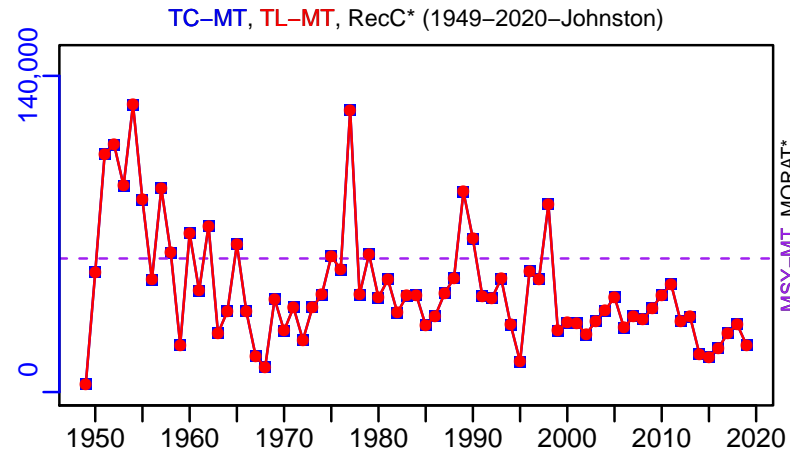


R-E00 (1949-2020-Johnston)

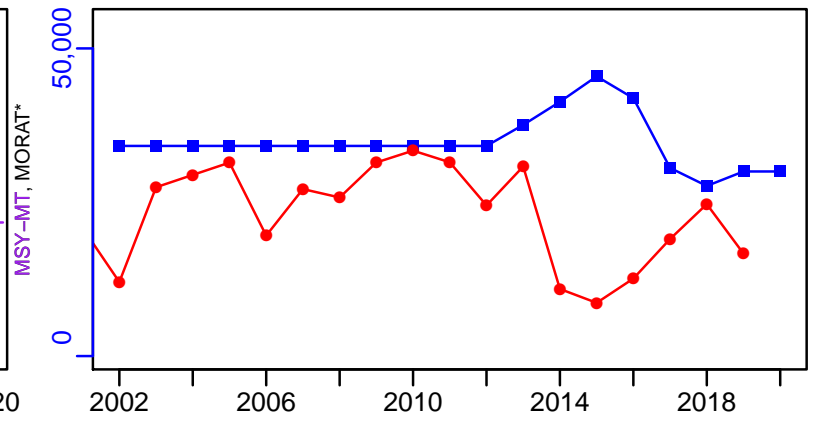


# Cape horse mackerel South Africa South coast [CTRACSA]

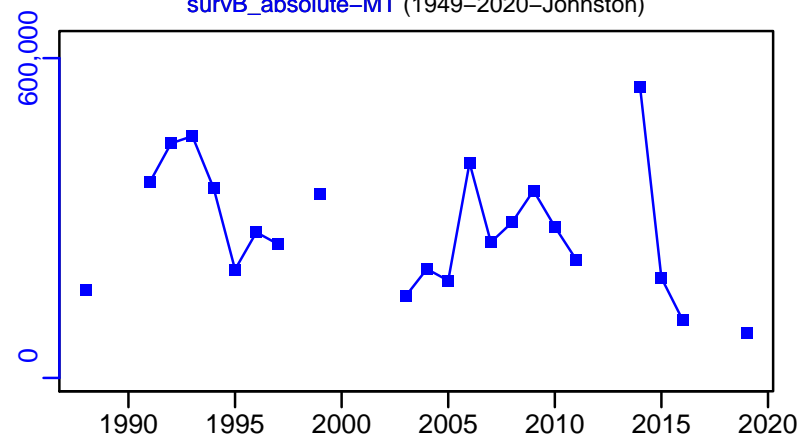
TC-MT, TL-MT, RecC\* (1949–2020–Johnston)



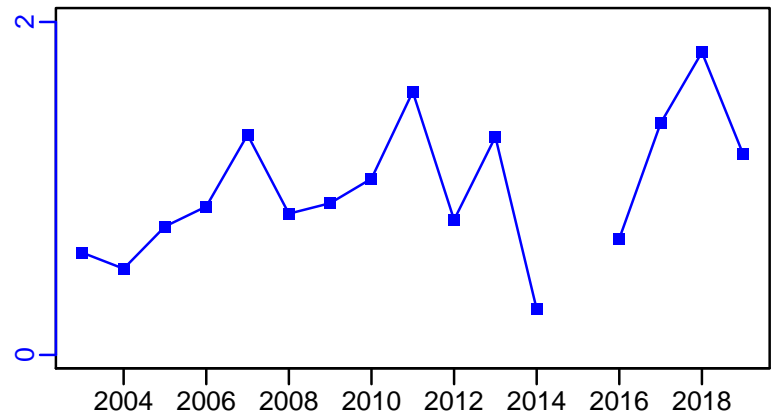
TAC-MT, Cpair-MT, Cadv\* (1949–2020–Johnston)



survB\_absolute-MT (1949–2020–Johnston)



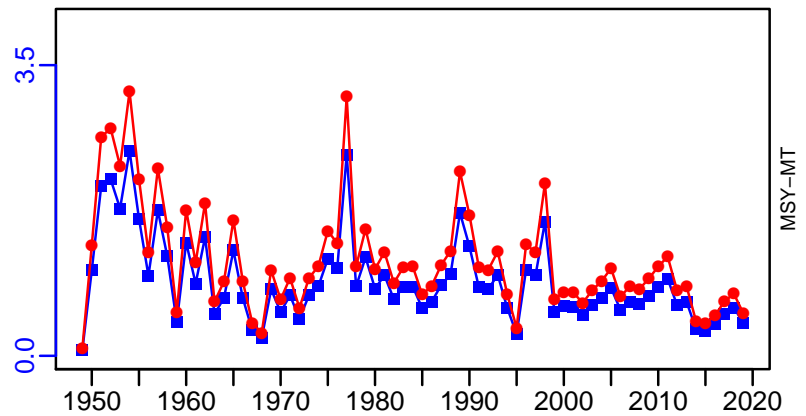
CPUE-index (1949–2020–Johnston)



**EFFORT\***



TC-MT/MSY-MT, CdivMEANC-ratio, (1949–2020–Johnston)



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

## Deep water cape hake South Africa [DEEPCHAKESA]

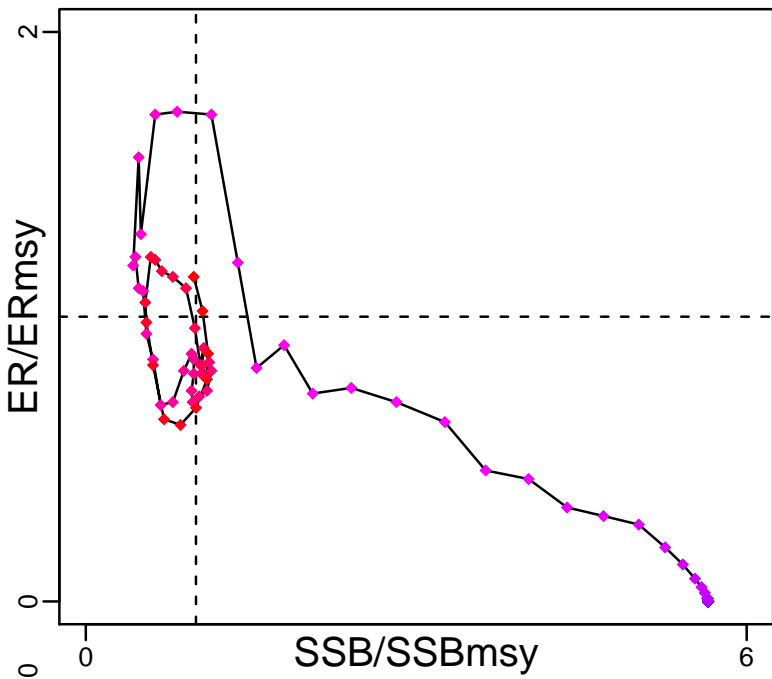
Metadata	
<b>Scientific Name</b>	Merluccius paradoxus
<b>Current Assess ID</b>	MARAM-DEEPCHAKESA-1917-2015-Rademeyer
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource 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	0.717
<b>TBlim</b>	TBlim-MT	2013	60,000
<b>SSBlim</b>	SSBlim-MT	2015	77,200
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

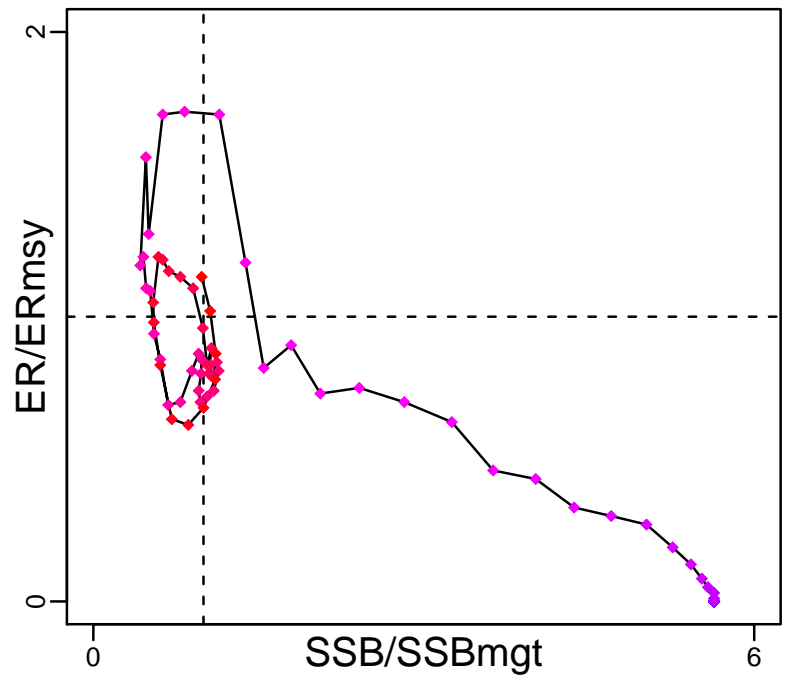
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2015	517,000	-	0+
<b>SSB</b>	SSB-MT	2015	178,000	Females	4
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2015	$3.86 \times 10^9$	-	0
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2015	0.47	-	-
<b>TC</b>	TC-MT	2015	133,000		
<b>TL</b>	TL-MT	2015	133,000		
<b>TB/TBmsy</b>	TB-MT/(TB0-MT*0.368)	2015	0.623		
<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>	SSB-MT/SSBmgt-MT	2015	0.983		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Deep water cape hake South Africa [DEEPCHAKESA]

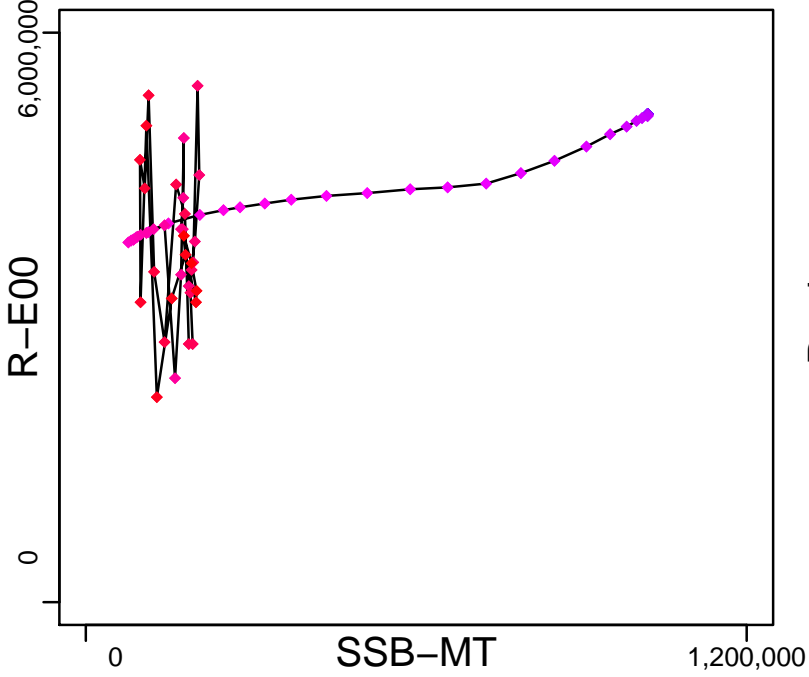
Kobe MSYpref (1917–2015–Rademeyer)



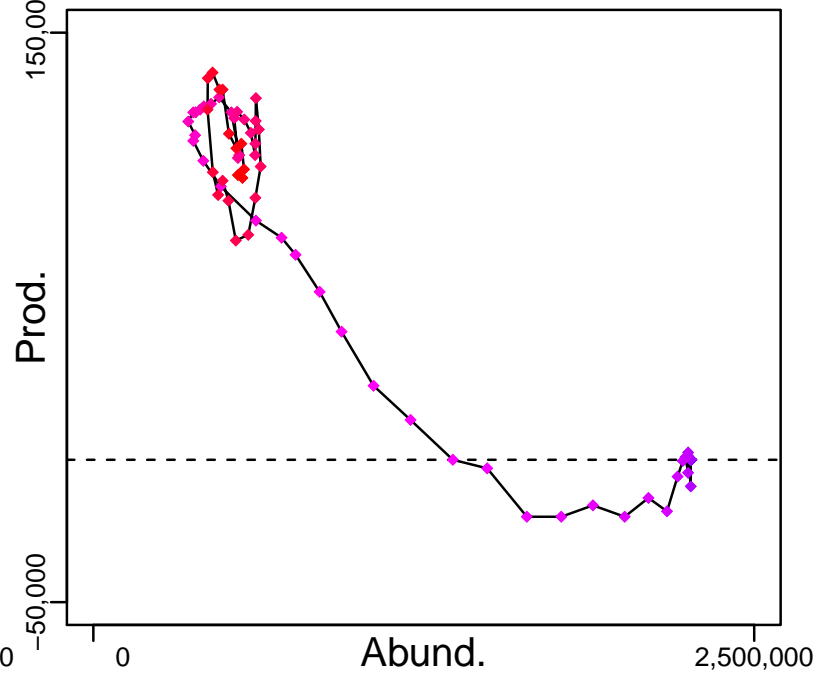
Kobe MGTpref (1917–2015–Rademeyer)



Spawner Recruit (1917–2015–Rademeyer)

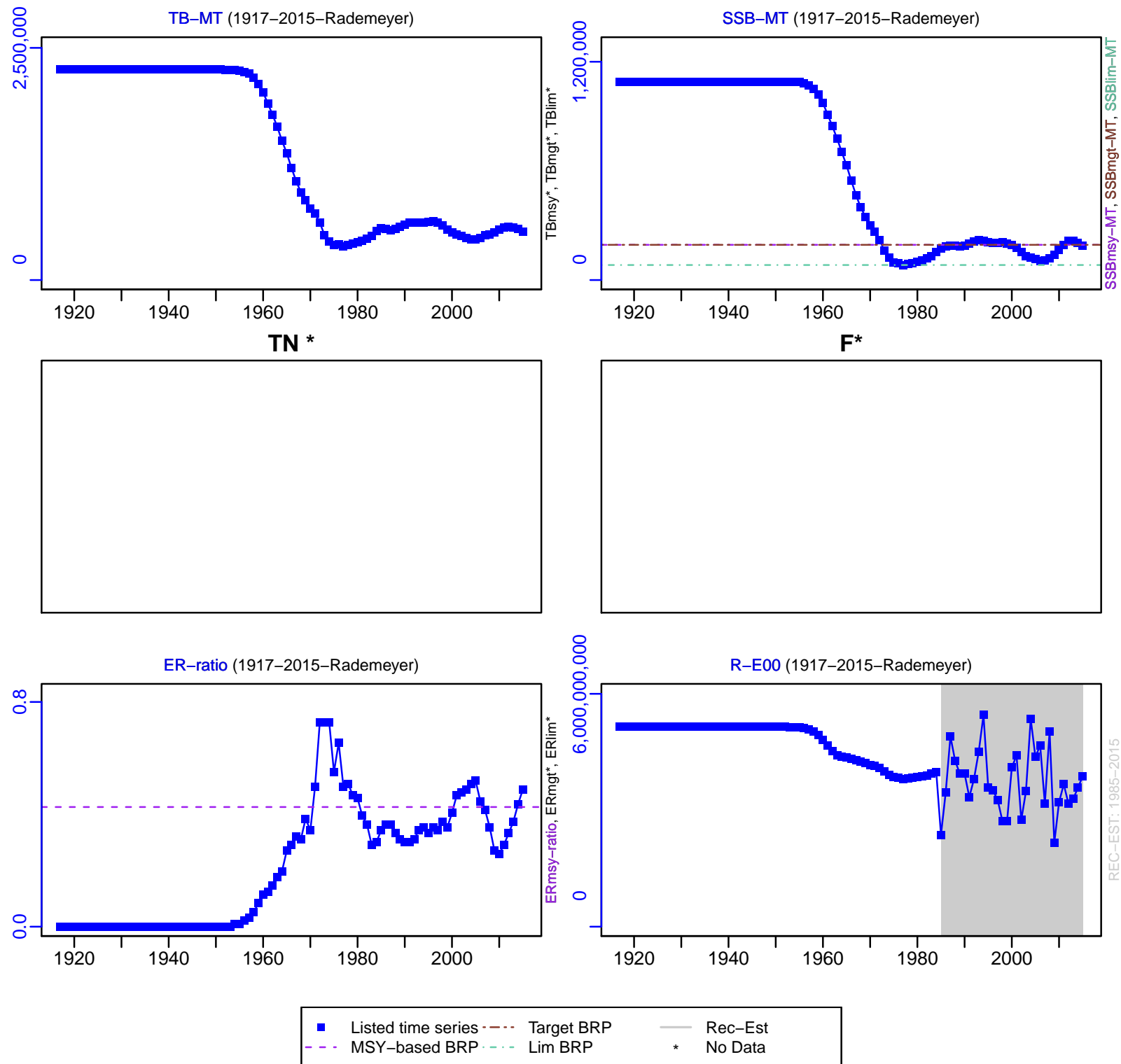


Production (1917–2015–Rademeyer)



◆ Start Year ◆ End Year \* No Data

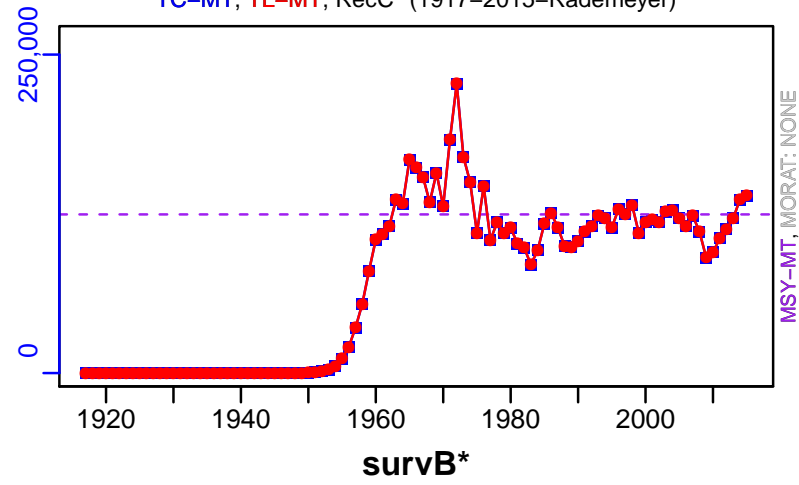
# Deep water cape hake South Africa [DEEPCHAKESA]





# Deep water cape hake South Africa [DEEPCHAKESA]

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



TAC\*, Cpair\*, Cadv\*



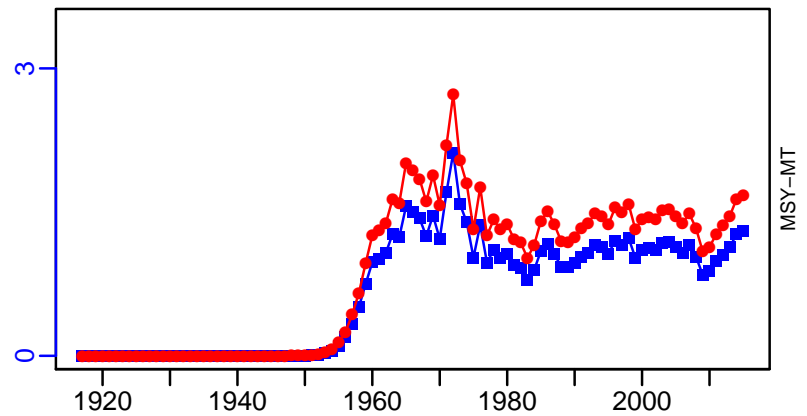
CPUE\*



EFFORT\*



TC-MT/MSY-MT, CdivMEANC-ratio, (1917-2015-Rademeyer)



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

## East coast sole South Africa South coast [ECSOLESASC]

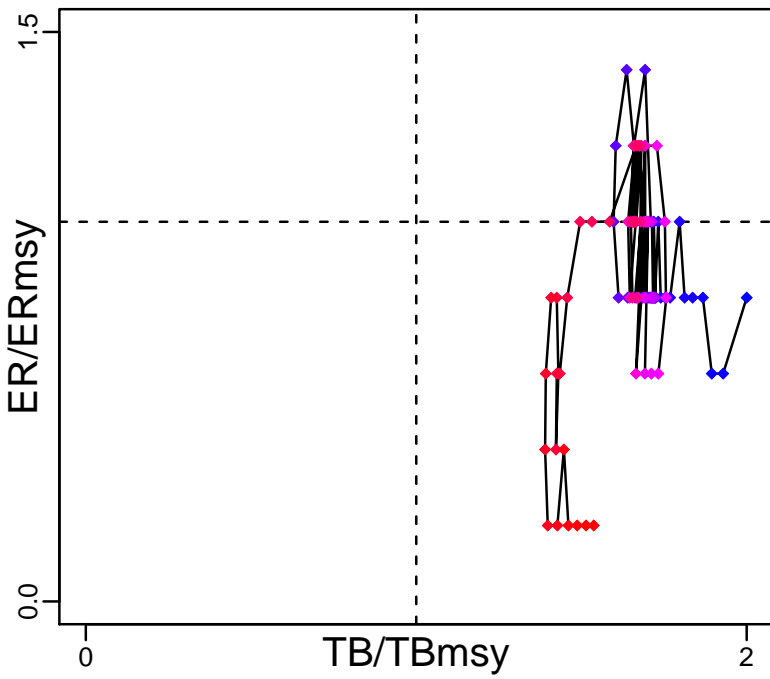
Metadata	
<b>Scientific Name</b>	Austroglossus pectoralis
<b>Current Assess ID</b>	FBDAFF-ECSOLESASC-1920-2020-GLAZER
<b>Area</b>	South Africa South coast
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Asmts in RAM</b>	2020

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-MT	2020	9822
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-calc-ratio	2020	0.05
<b>TBmgt</b>	TBmgt-MT	2020	9822
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2020	491
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

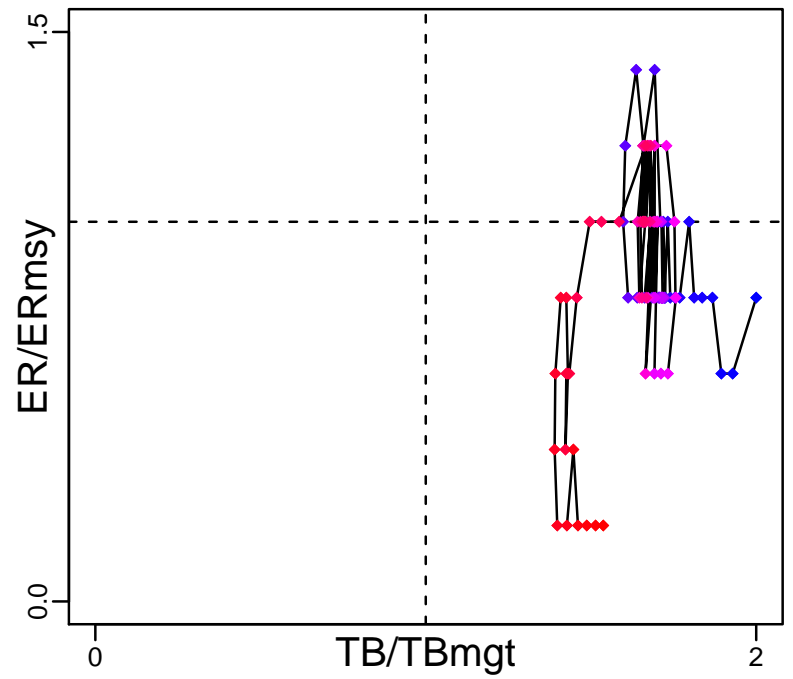
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2020	15,258	-	-
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2020	0.01	Both	-
<b>TC</b>	TC-MT	2020	190		
<b>TL</b>	TL-MT	2020	190		
<b>TB/TBmsy</b>	TB-MT/TBmsy-MT	2020	1.553		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-calc-ratio	2020	0.2		
<b>TB/TBmgt</b>	TB-MT/TBmgt-MT	2020	1.553		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# East coast sole South Africa South coast [ECSOLESASC]

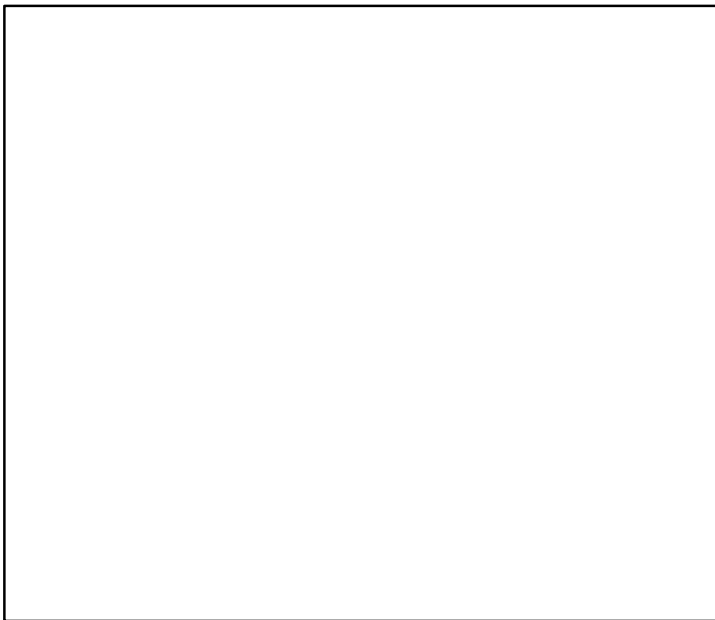
Kobe MSYpref (1920–2020–GLAZER)



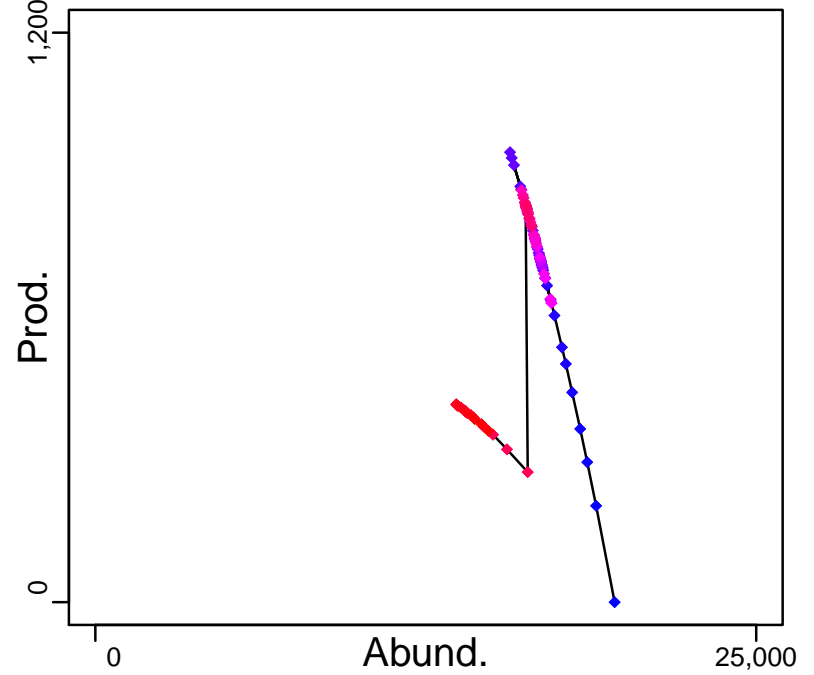
Kobe MGTpref (1920–2020–GLAZER)



Spawner Recruit\*



Production (1920–2020–GLAZER)

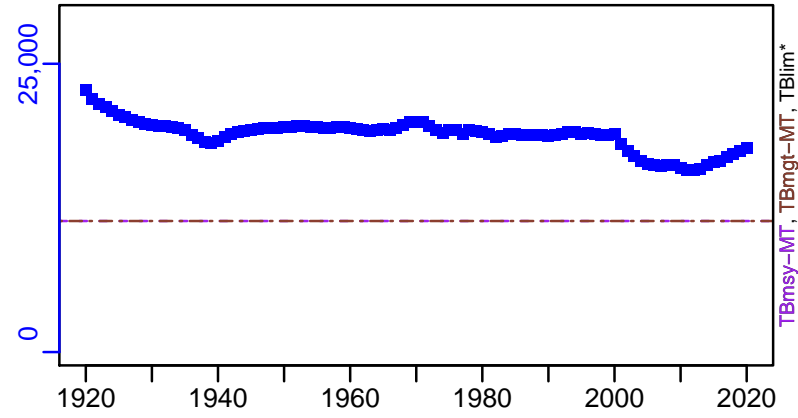


◆ Start Year ◆ End Year \* No Data

# East coast sole South Africa South coast [ECSOLESASC]

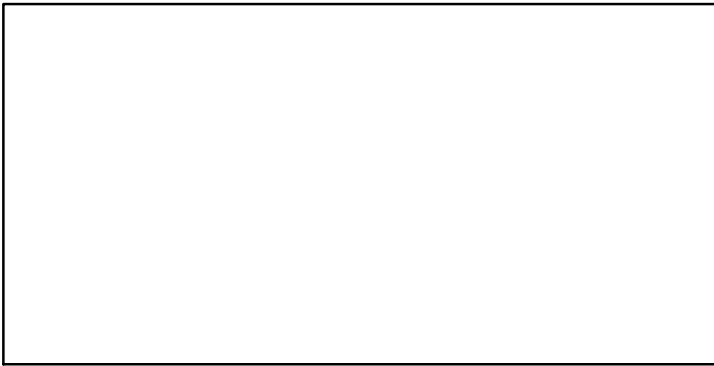
TB-MT (1920-2020-GLAZER)

SSB\*



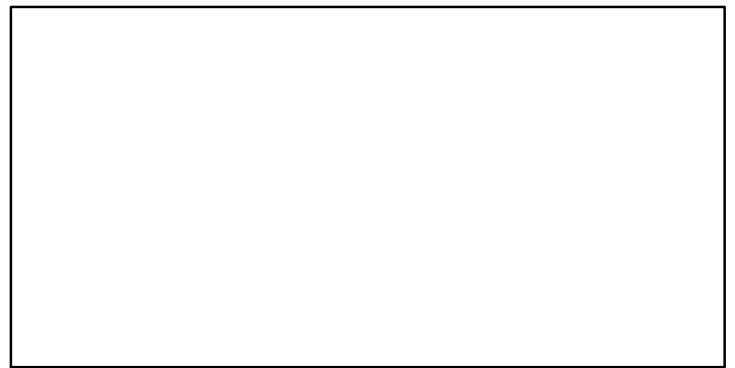
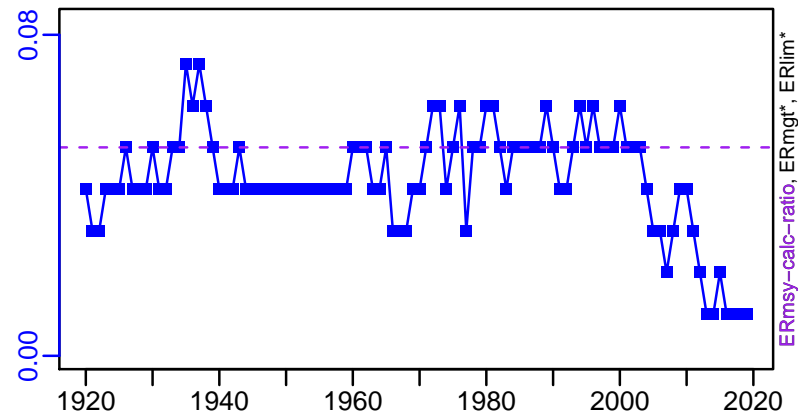
TN \*

F\*



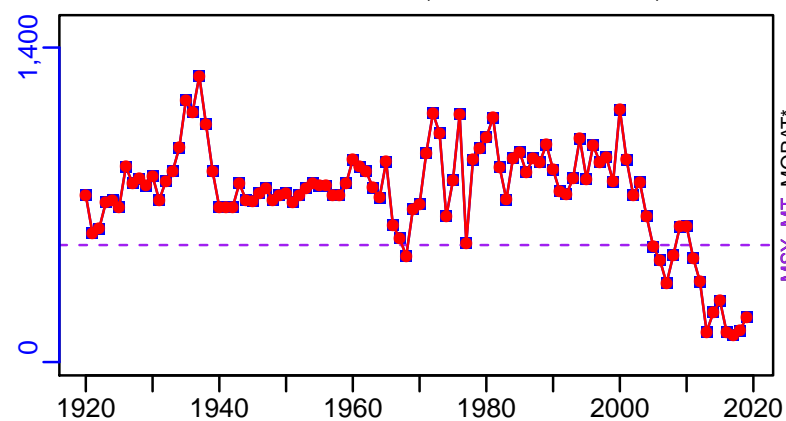
ER-ratio (1920-2020-GLAZER)

Recruits\*

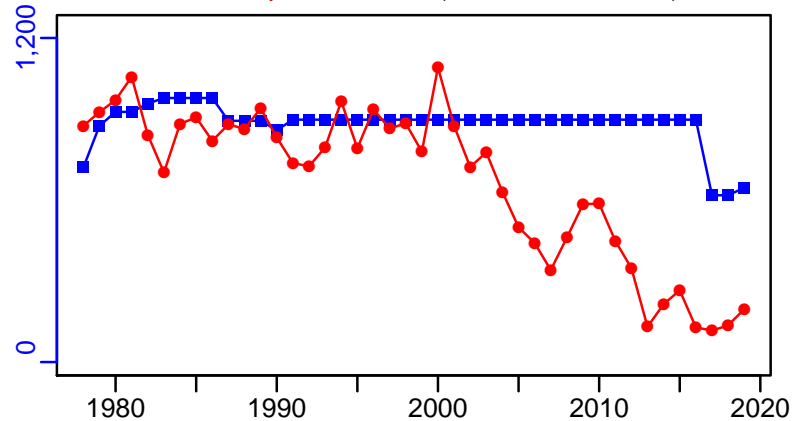


# East coast sole South Africa South coast [ECSOLESASC]

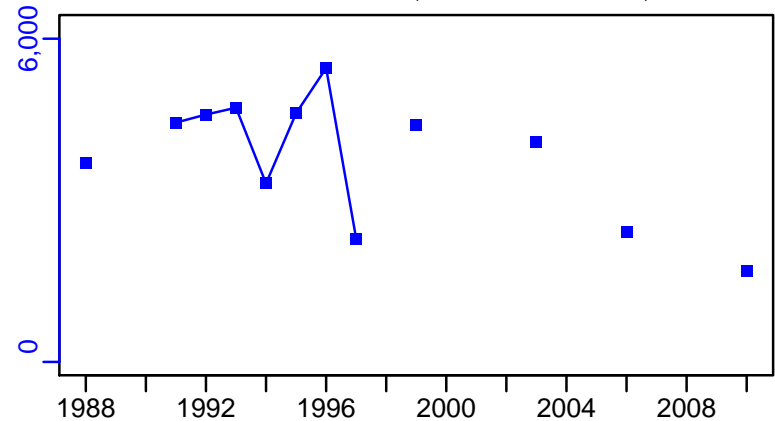
TC-MT, TL-MT, RecC\* (1920-2020-GLAZER)



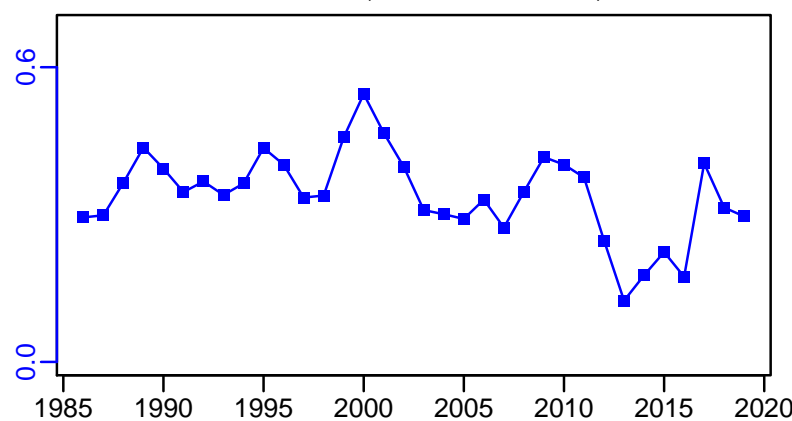
TAC-MT, Cpair-MT, Cadv\* (1920-2020-GLAZER)



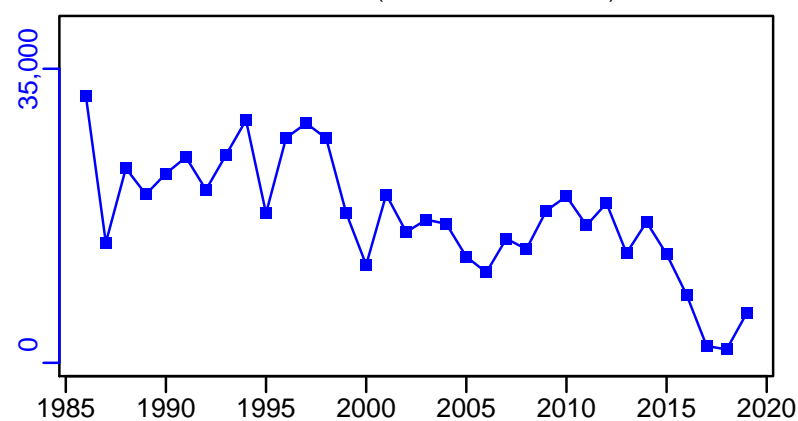
survB\_index-1-index (1920-2020-GLAZER)



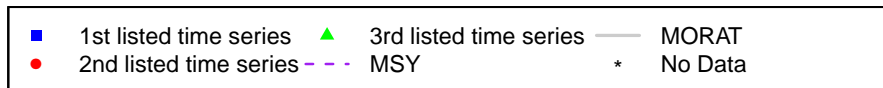
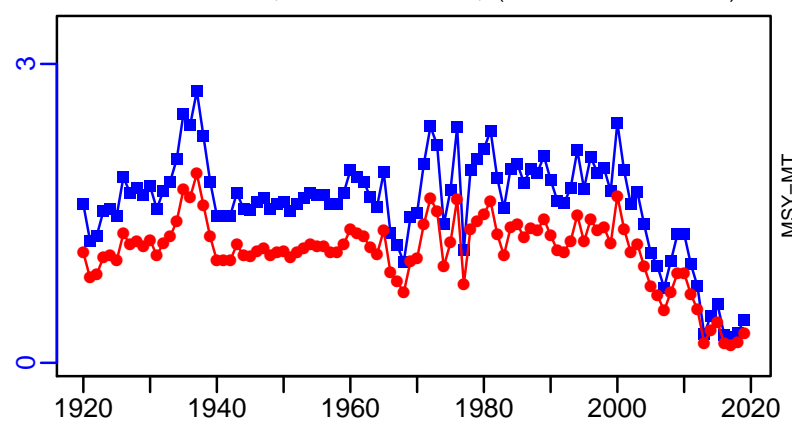
CPUE-index (1920-2020-GLAZER)



EFFORT-hour (1920-2020-GLAZER)



TC-MT/MSY-MT, CdivMEANC-ratio, (1920-2020-GLAZER)



## Hake spp Southern Africa [HAKESPPSAF]

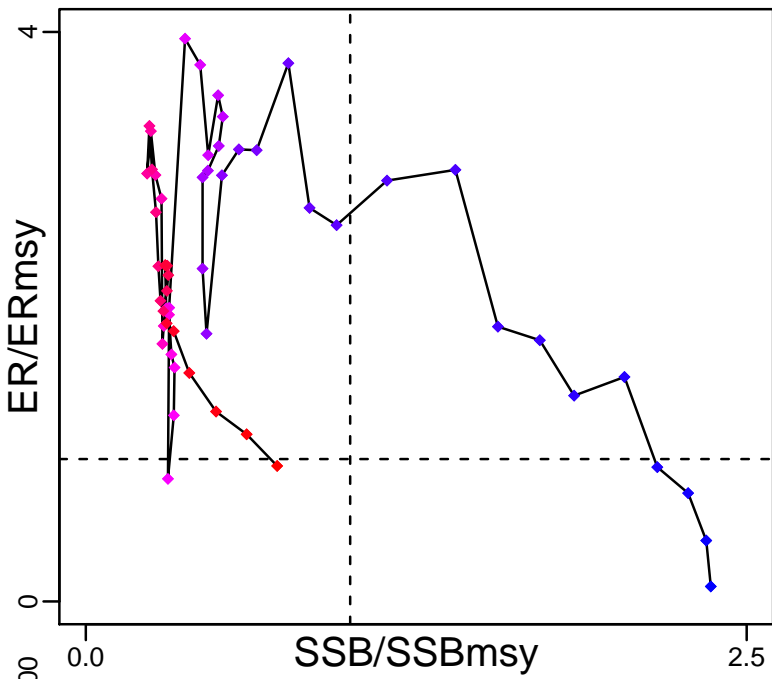
Metadata	
<b>Scientific Name</b>	Merluccius spp
<b>Current Assess ID</b>	NatMIRC-HAKESPPSAF-1964-2019-ASHBROOK
<b>Area</b>	Southern Africa
<b>Management Authority</b>	Ministry of Fisheries and Marine Resources
<b>Assessor</b>	National Marine Information and Research Centre
<b>Asmts in RAM</b>	2019

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-MT	2019	4,611,710
<b>SSBmsy</b>	SSBmsy-MT	2019	2,603,270
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-calc-ratio	2019	0.066
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-MT	2019	303,687
<b>M</b>	-	-	-
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

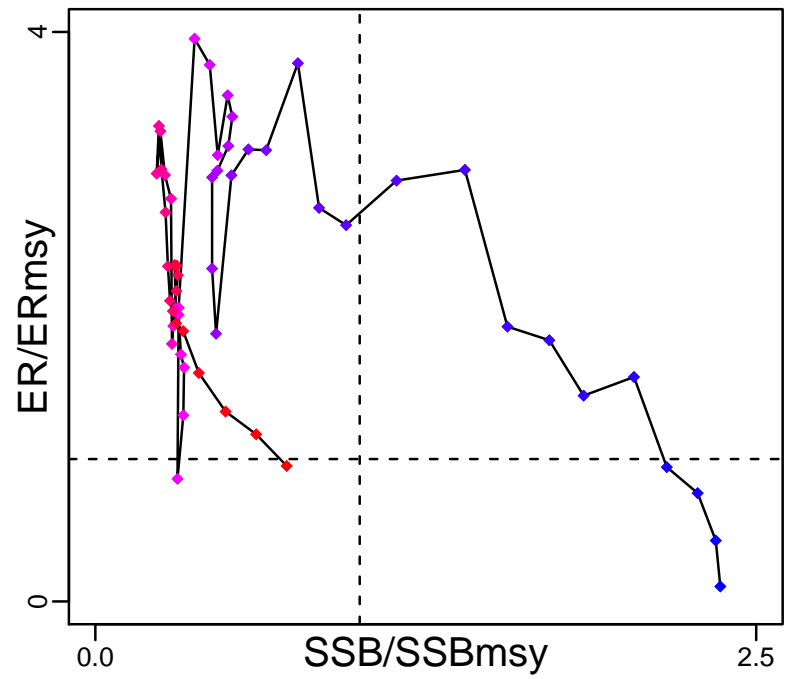
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2019	2,426,180	-	-
<b>SSB</b>	SSB-MT	2019	1,884,330	-	4+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2019	35,792,400,000	-	0
<b>F</b>	F-1/yr	2019	0.115	-	-
<b>ER</b>	ER-calc-ratio	2019	0.063	-	-
<b>TC</b>	TC-MT	2019	152,033		
<b>TL</b>	-	-	-		
<b>TB/TBmsy</b>	TB-MT/TBmsy-MT	2019	0.526		
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-MT	2019	0.724		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-calc-ratio/ERmsy-calc-ratio	2019	0.952		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Hake spp Southern Africa [HAKESPPSAF]

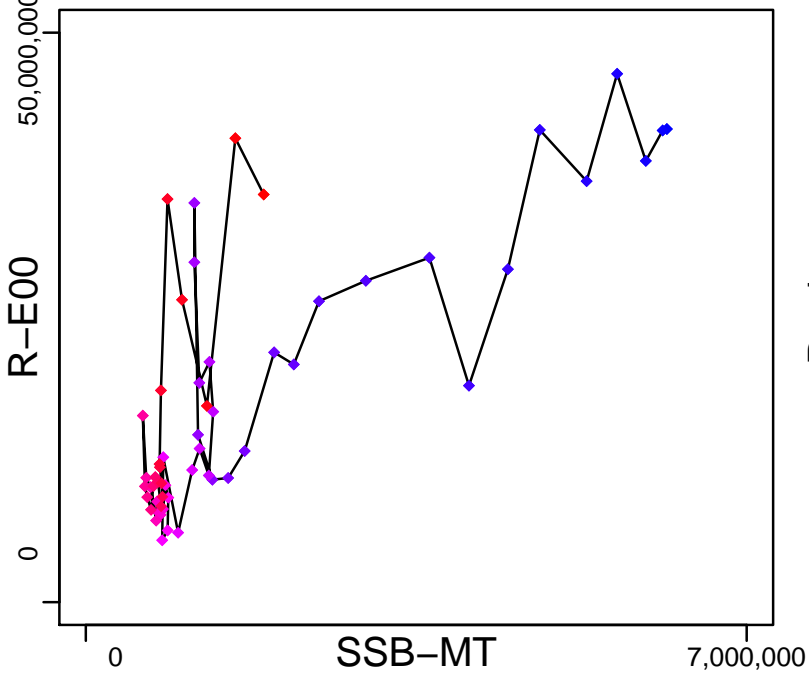
Kobe MSYpref (1964–2019–ASHBROOK)



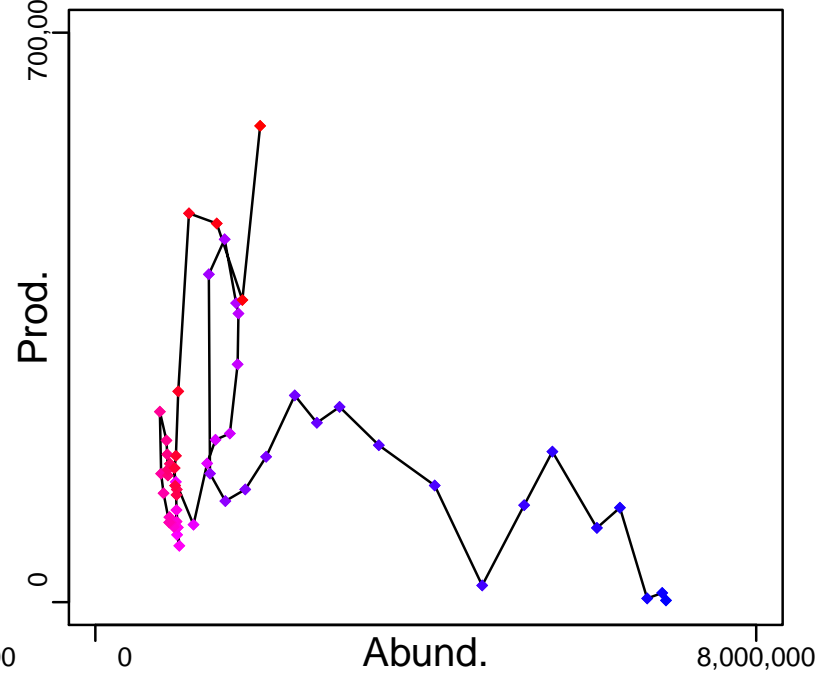
Kobe MGTpref (1964–2019–ASHBROOK)



Spawner Recruit (1964–2019–ASHBROOK)

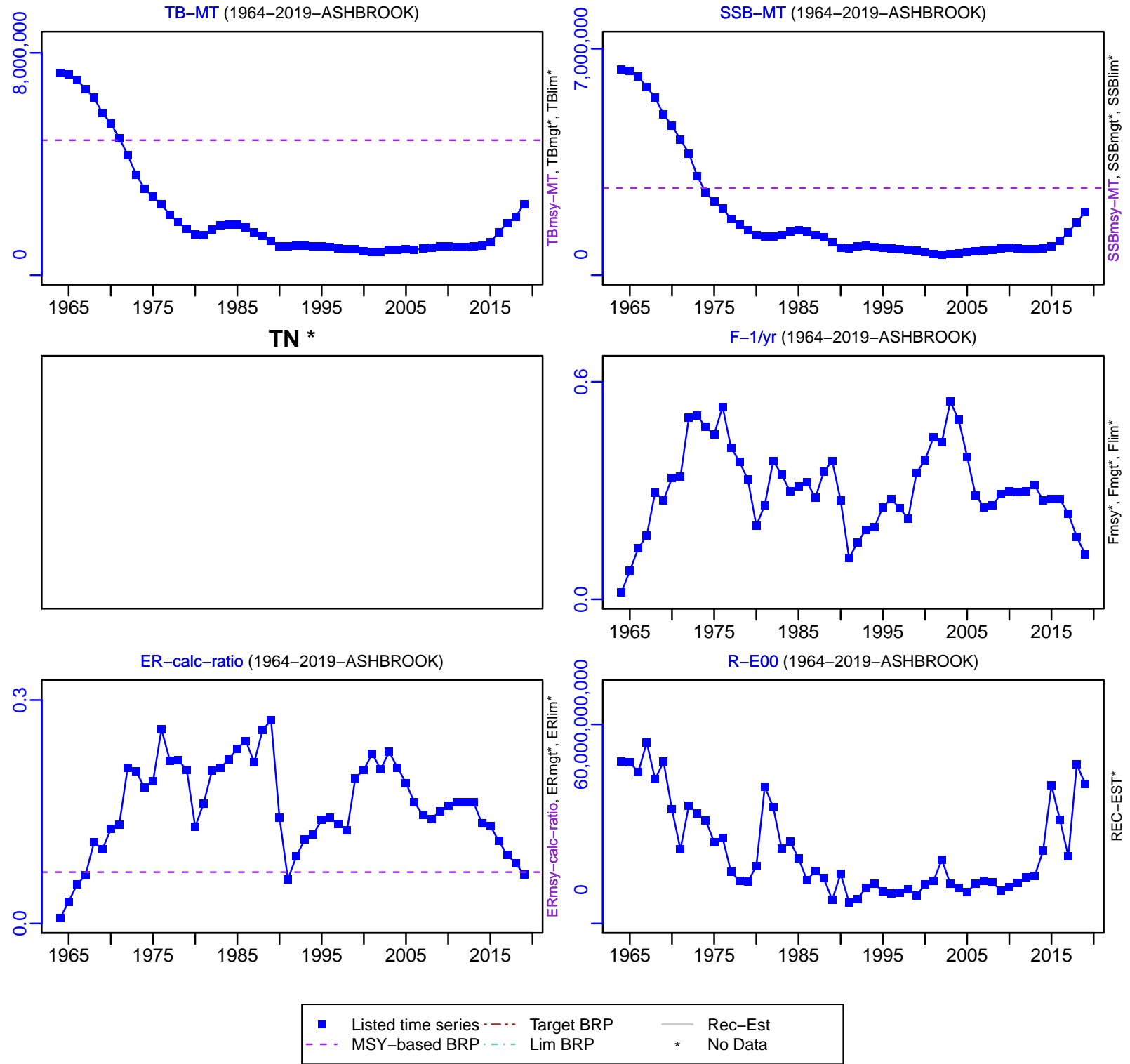


Production (1964–2019–ASHBROOK)



◆ Start Year ◆ End Year \* No Data

# Hake spp Southern Africa [HAKESPPSAF]

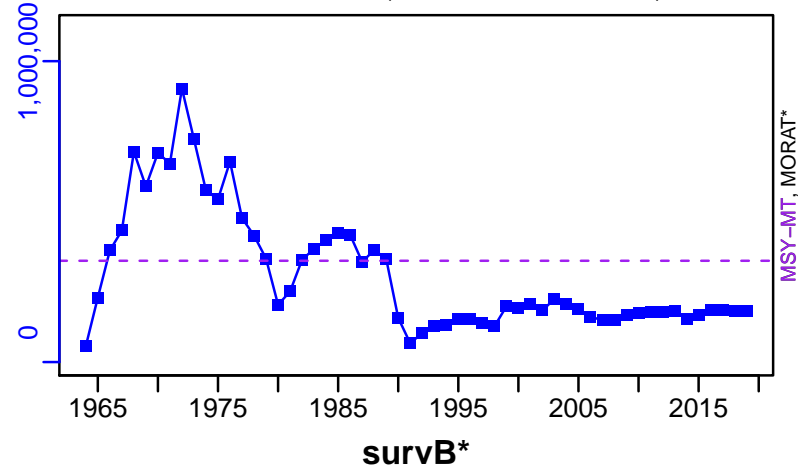




# Hake spp Southern Africa [HAKESPPSAF]

TC-MT, TL\*, RecC\* (1964–2019–ASHBROOK)

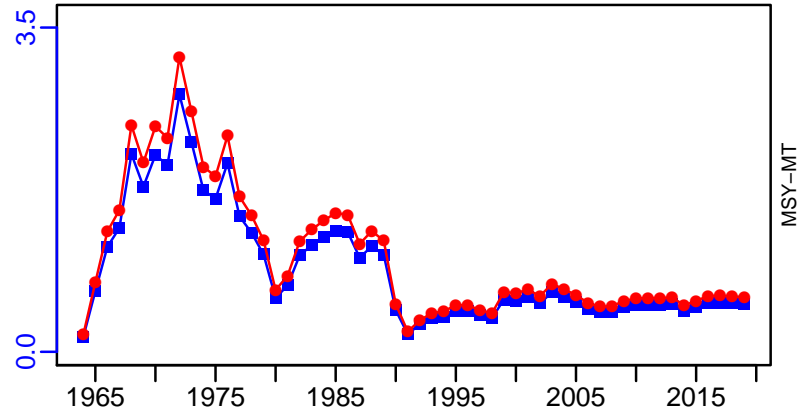
TAC\*, Cpair\*, Cadv\*



EFFORT\*



TC-MT/MSY-MT, CdivMEANC-ratio, (1964–2019–ASHBROOK)



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

## Kingklip South Africa [KINGKLIPSA]

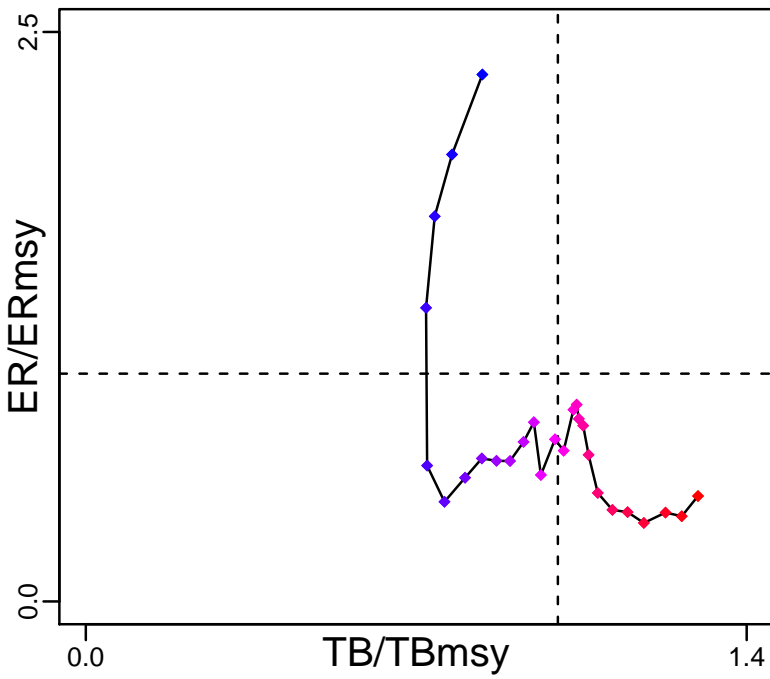
Metadata	
<b>Scientific Name</b>	Genypterus capensis
<b>Current Assess ID</b>	MARAM-KINGKLIPSA-1986-2012-Brandao
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource 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
<b>TBmsy</b>	TBmsy-est-MT	2012	87,130
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-est-ratio	2012	0.067
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<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>	-	-	-

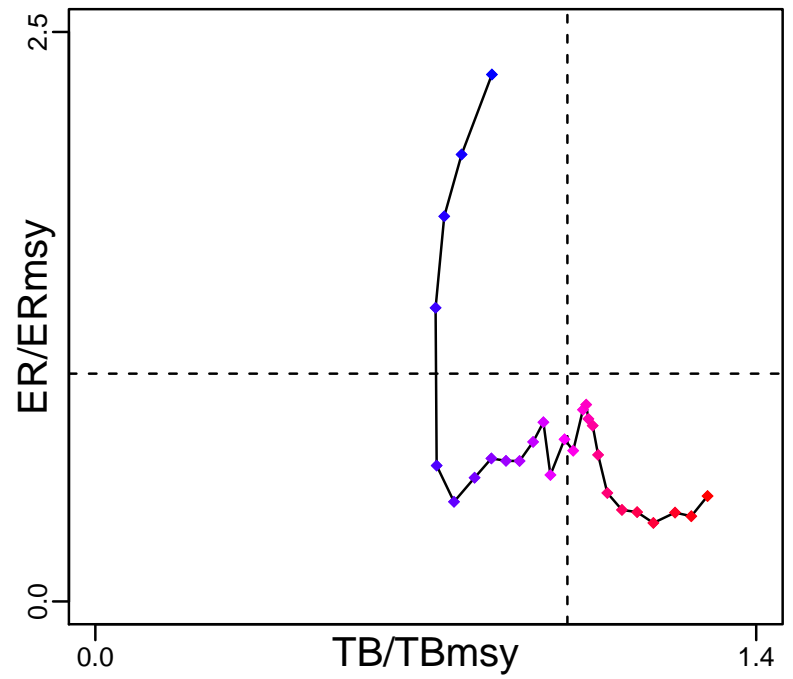
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2012	113,000	-	0+
<b>SSB</b>	-	-	-	-	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	-	-	-	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-calc-ratio	2012	0.031	-	-
<b>TC</b>	TC-MT	2012	3520		
<b>TL</b>	TL-MT	2012	3520		
<b>TB/TBmsy</b>	TB-MT/TBmsy-est-MT	2012	1.297		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-calc-ratio/ERmsy-est-ratio	2012	0.463		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Kingklip South Africa [KINGKLIPSA]

Kobe MSYpref (1986–2012–Brandao)



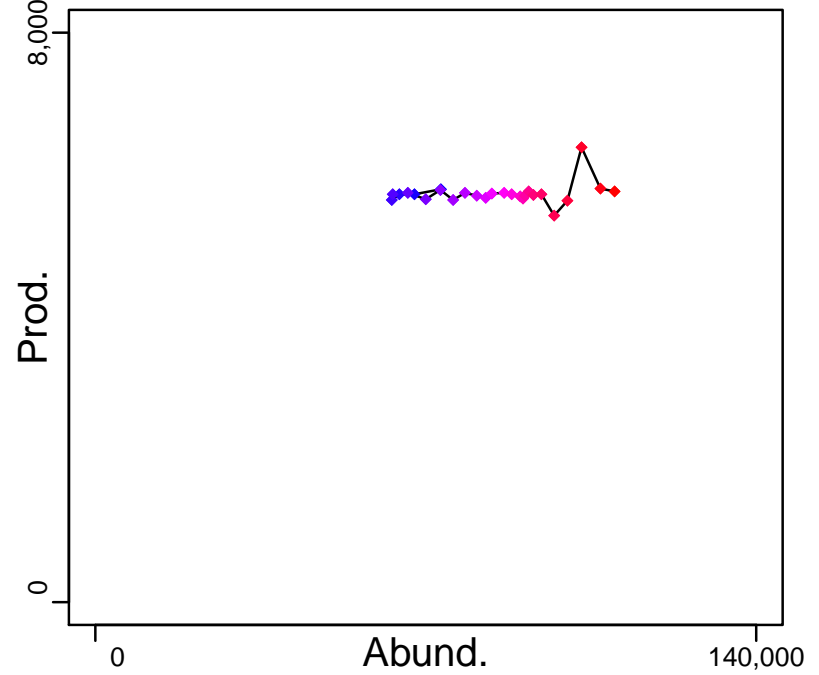
Kobe MGTpref (1986–2012–Brandao)



Spawner Recruit\*



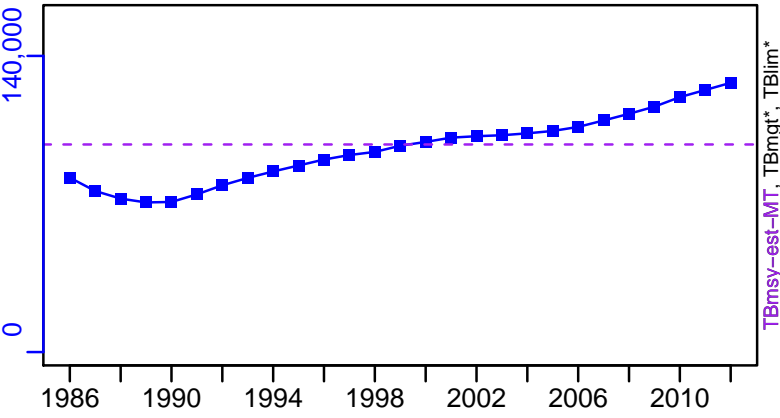
Production (1986–2012–Brandao)



◆ Start Year ◆ End Year \* No Data

# Kingklip South Africa [KINGKLIPSA]

TB-MT (1986-2012-Brandao)



SSB\*



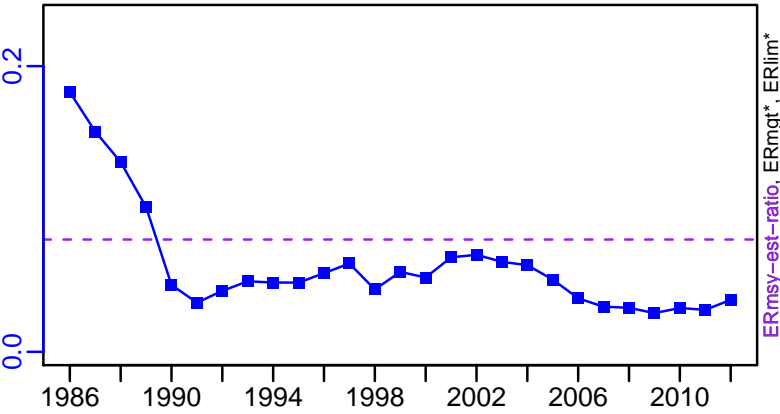
TN \*



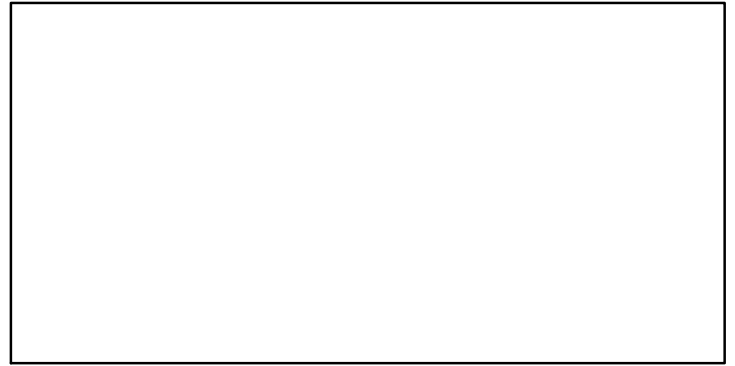
F\*



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

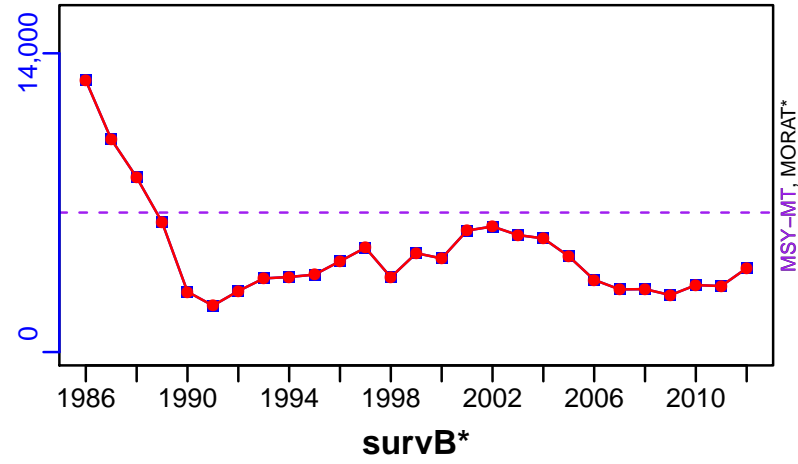


Recruits\*



# Kingklip South Africa [KINGKLIPSA]

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



TAC\*, Cpair\*, Cadv\*



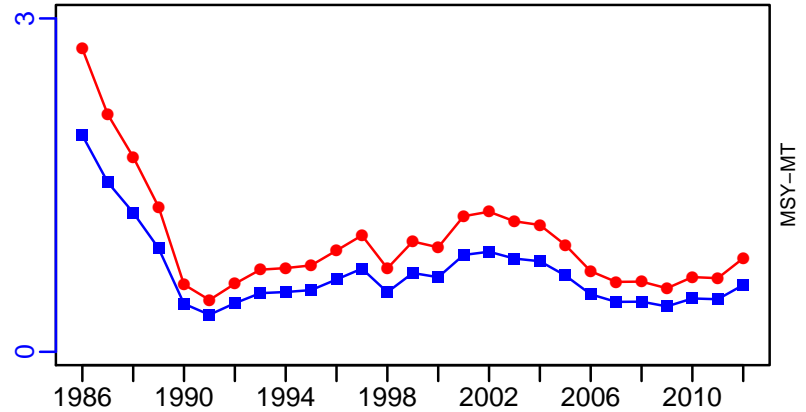
CPUE\*



EFFORT\*



TC-MT/MSY-MT, CdivMEANC-ratio, (1986–2012–Brandao)



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

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

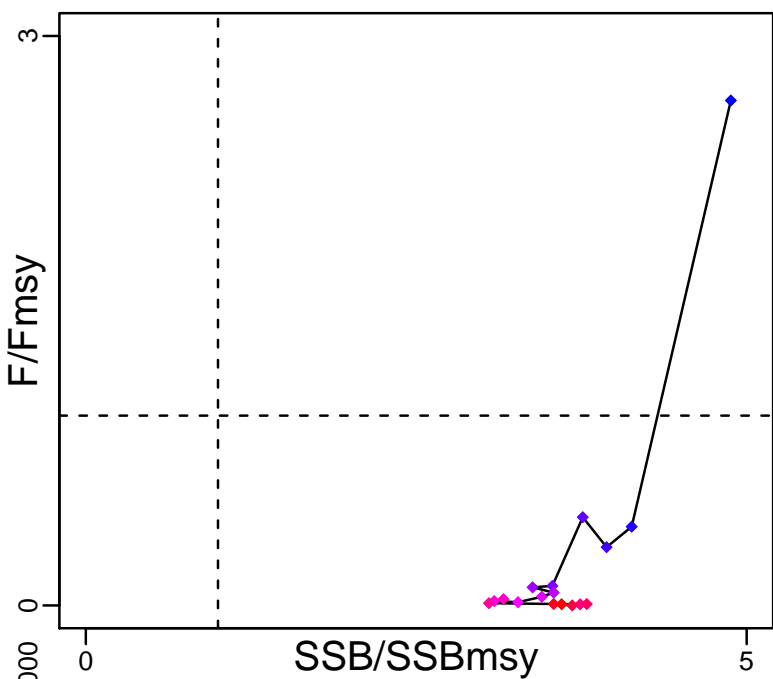
Metadata	
<b>Scientific Name</b>	Dissostichus eleginoides
<b>Current Assess ID</b>	MARAM-PTOOTHFISHPEI-1960-2015-Brandao
<b>Area</b>	South Africa Subantarctic Prince Edward Islands
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and 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>	ERmsy-conv-ratio	2013	0.058
<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>	-	-	-

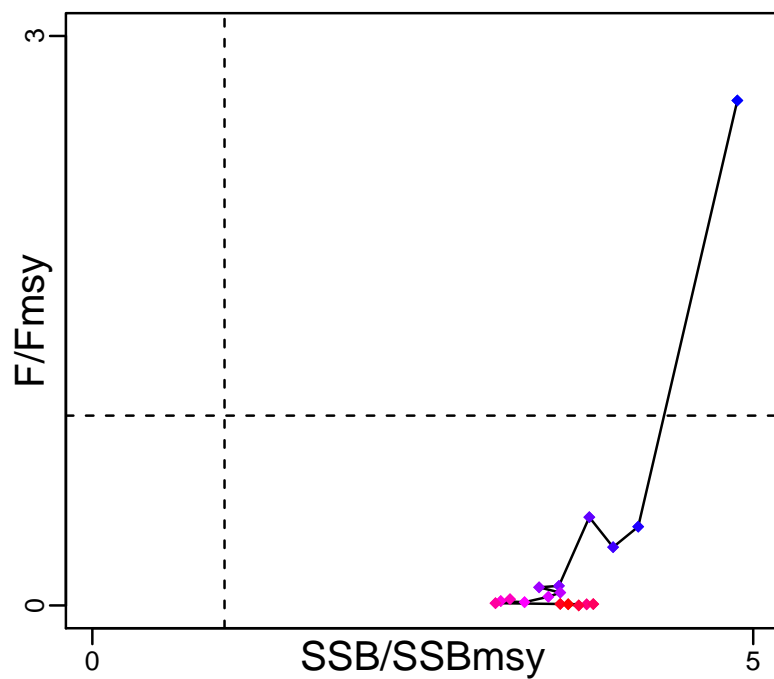
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2015	34,100	-	0+
<b>SSB</b>	SSB-MT	2015	21,700	-	13+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2015	$1.41 \times 10^{12}$	-	6
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-calc-ratio	2015	0.017	-	-
<b>TC</b>	TC-MT	2015	575		
<b>TL</b>	TL-MT	2015	575		
<b>TB/TBmsy</b>	TB-MT/(TB0-MT*0.368)	2015	1.566		
<b>SSB/SSBmsy</b>	SSBdivSSBmsy-dimensionless	2015	2.36		
<b>F/Fmsy</b>	FdivFmsy-dimensionless	2013	0.006		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-conv-ratio	2013	0.017		
<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]

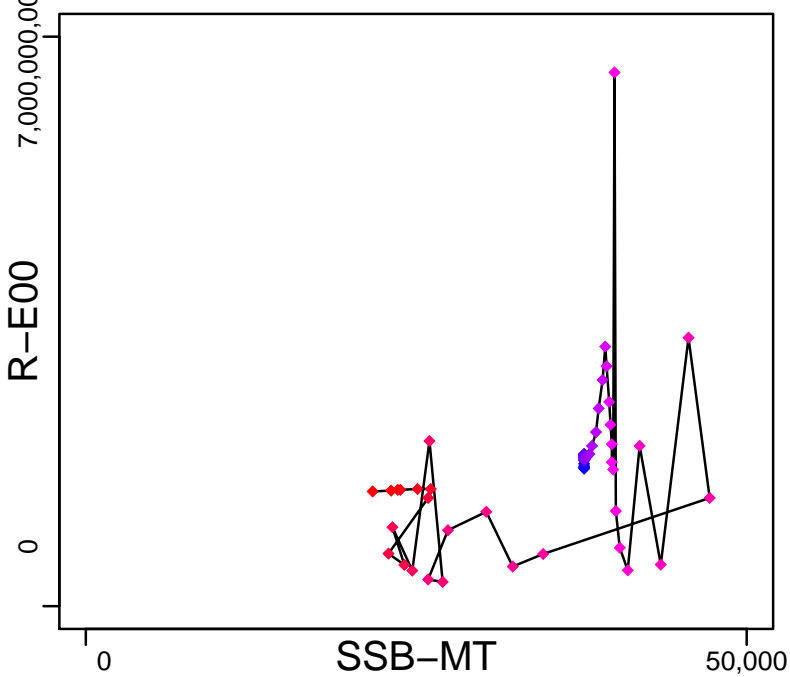
Kobe MSYpref (1960–2013–Brandao)



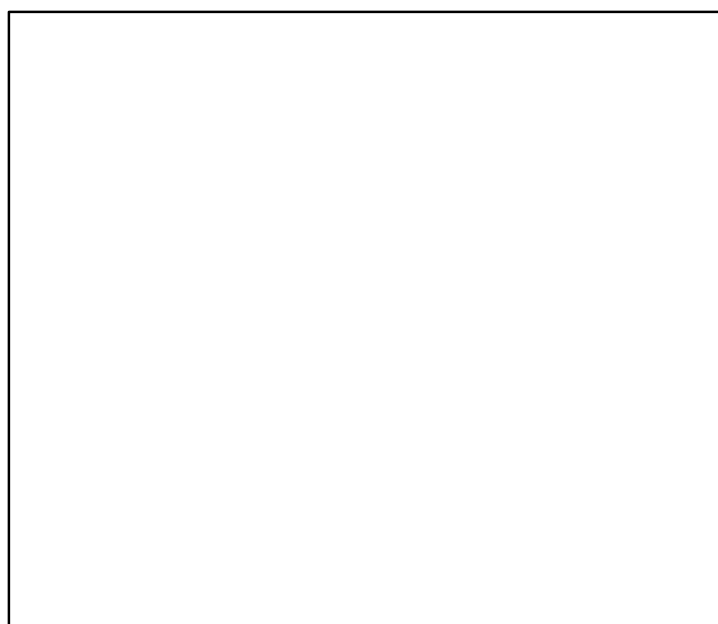
Kobe MGTpref (1960–2013–Brandao)



Spawner Recruit (1960–2015–Brandao)



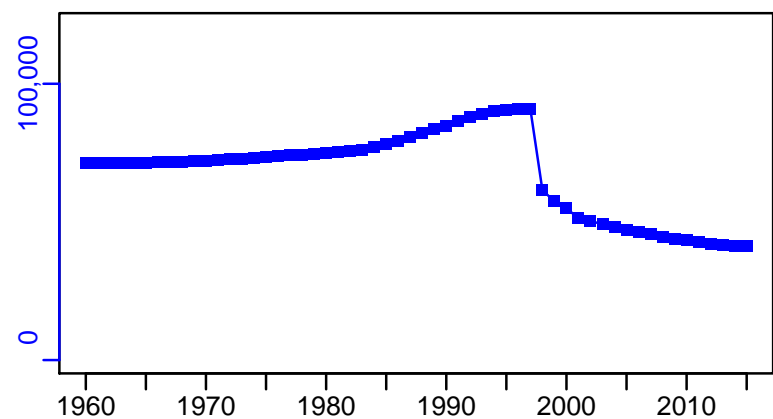
Production\*



◆ Start Year ◆ End Year \* No Data

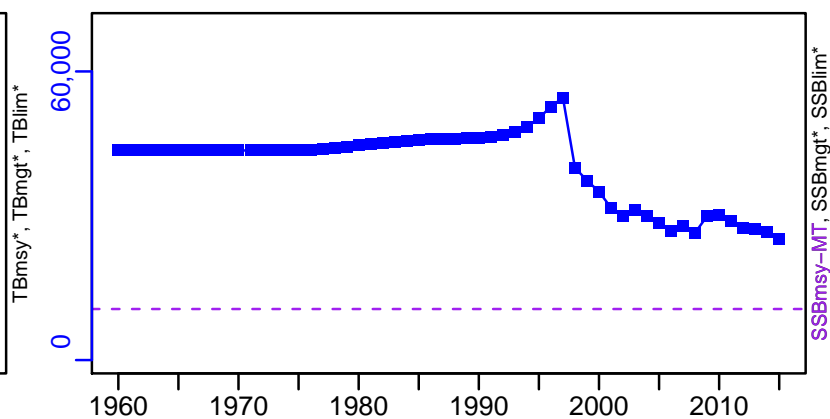
# Patagonian toothfish South Africa Subantarctic Prince Edward Islands [PTOOTHFISHPEI]

TB-MT (1960–2015–Brandao)



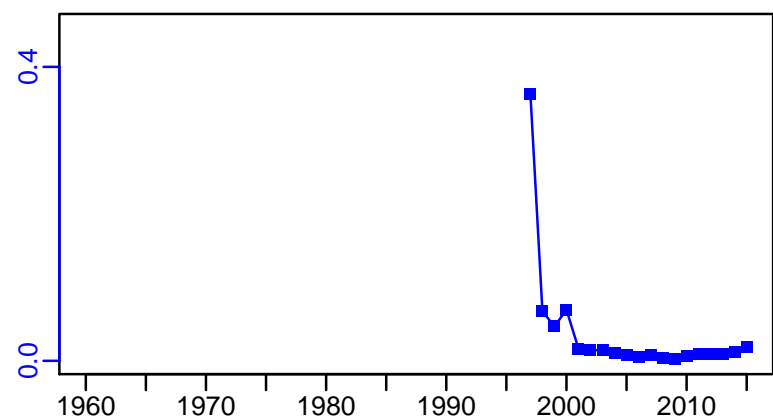
TN \*

SSB-MT (1960–2015–Brandao)

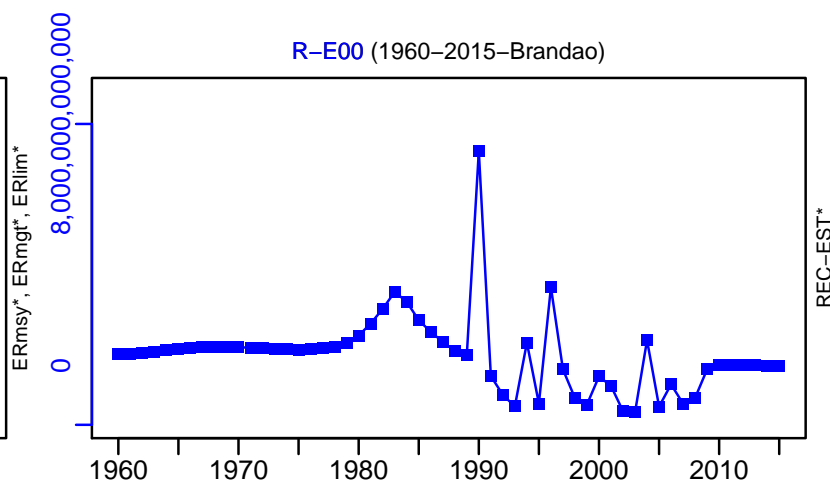


F\*

ER-calc-ratio (1960–2015–Brandao)



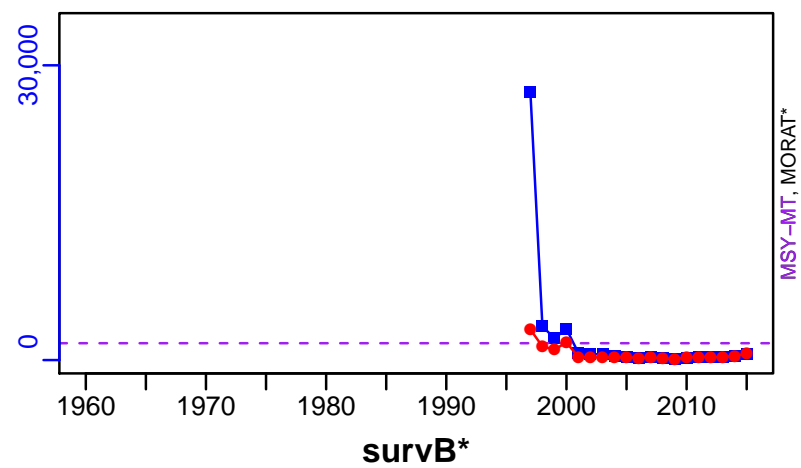
R-E00 (1960–2015–Brandao)





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

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



TAC\*, Cpair\*, Cadv\*



survB\*



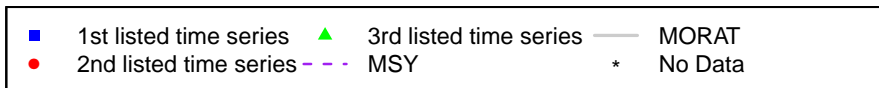
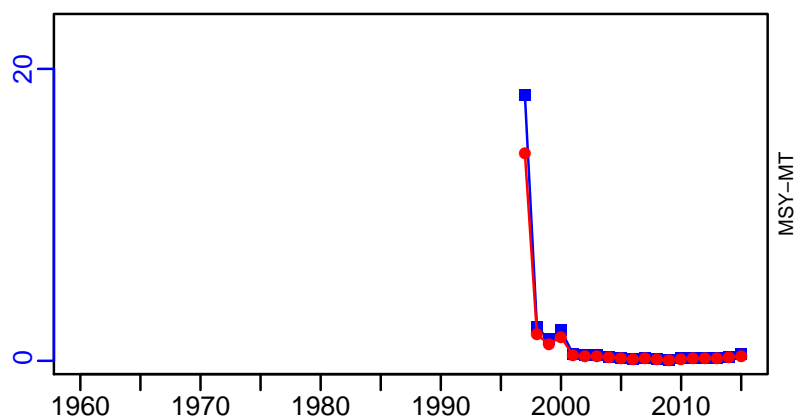
CPUE\*



EFFORT\*



TC-MT/MSY-MT, CdivMEANC-ratio, (1960–2015–Brandao)



## South African abalone South Africa [SAABALONESA]

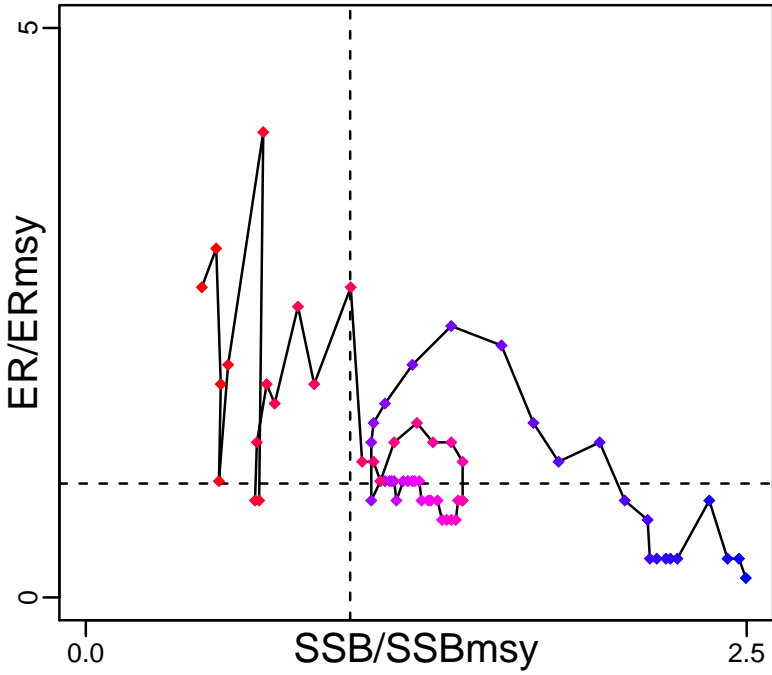
Metadata	
<b>Scientific Name</b>	Haliotis midae
<b>Current Assess ID</b>	MARAM-SAABALONESA-1951-2015-Brandao
<b>Area</b>	South Africa
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment 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>	TBmsy-est-MT	2013	14,023
<b>SSBmsy</b>	SSBmsy-pr-MT	2015	11,575
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-est-ratio	2015	0.059
<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>	MSY-est-MT	2015	788
<b>M</b>	M-1/yr	2015	0.15
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

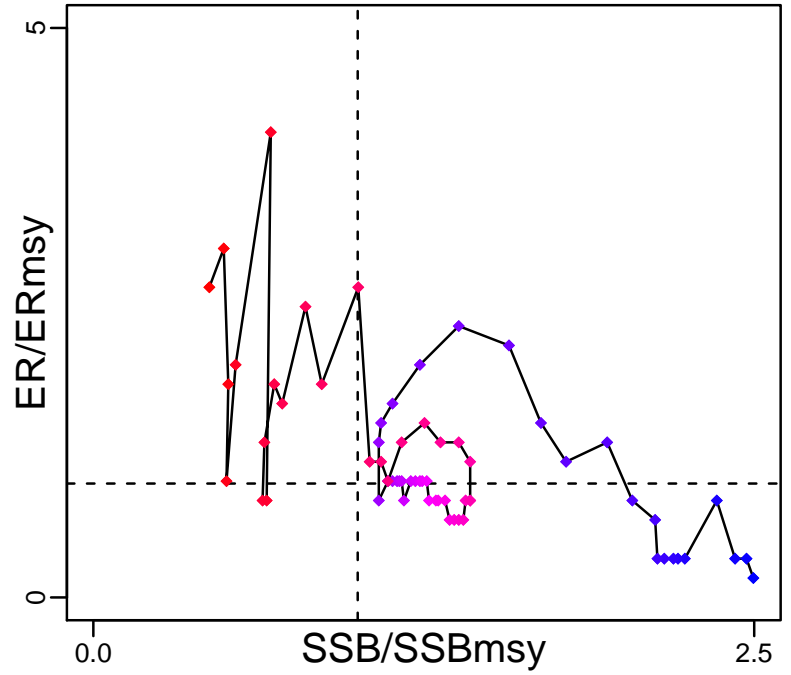
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2015	6210	-	1+
<b>SSB</b>	SSB-MT	2015	5080	-	7+
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2015	9,070,000	-	8
<b>F</b>	F-1/yr	2015	0.035	-	-
<b>ER</b>	ER-ratio	2015	0.16	-	-
<b>TC</b>	TC-MT	2015	985		
<b>TL</b>	TL-MT	2015	50		
<b>TB/TBmsy</b>	TB-MT/(TB0-MT*0.368)	2015	0.538		
<b>SSB/SSBmsy</b>	SSB-MT/SSBmsy-pr-MT	2015	0.439		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-est-ratio	2015	2.723		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# South African abalone South Africa [SAABALONESA]

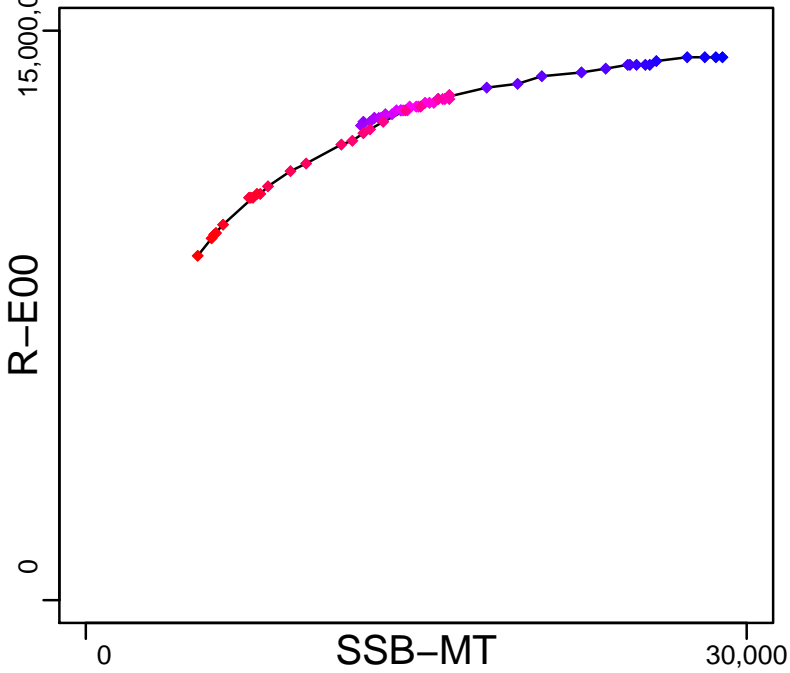
Kobe MSYpref (1951–2015–Brandao)



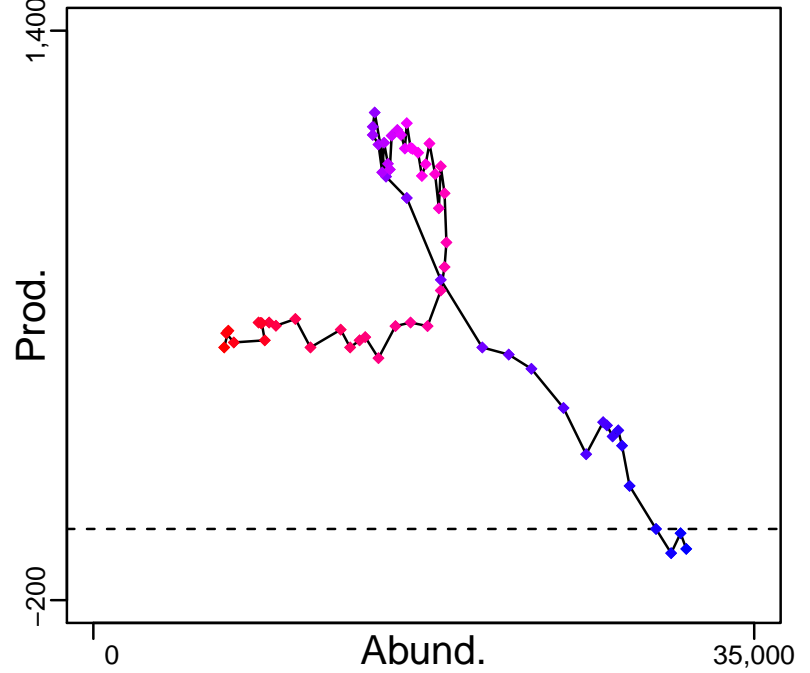
Kobe MGTpref (1951–2015–Brandao)



Spawner Recruit (1951–2015–Brandao)



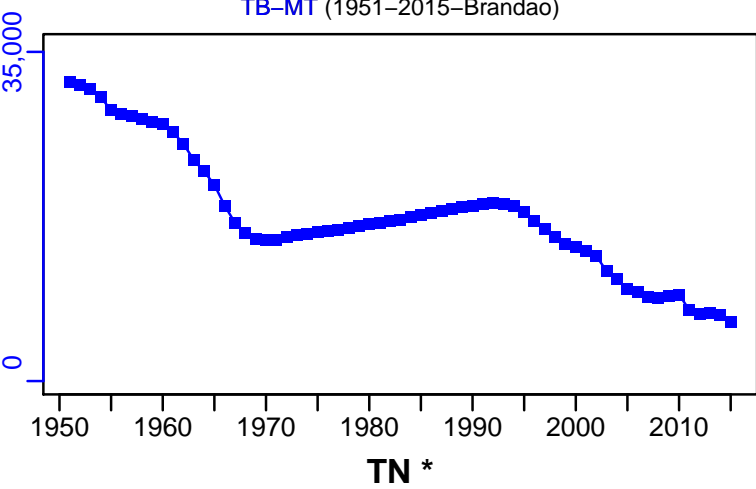
Production (1951–2015–Brandao)



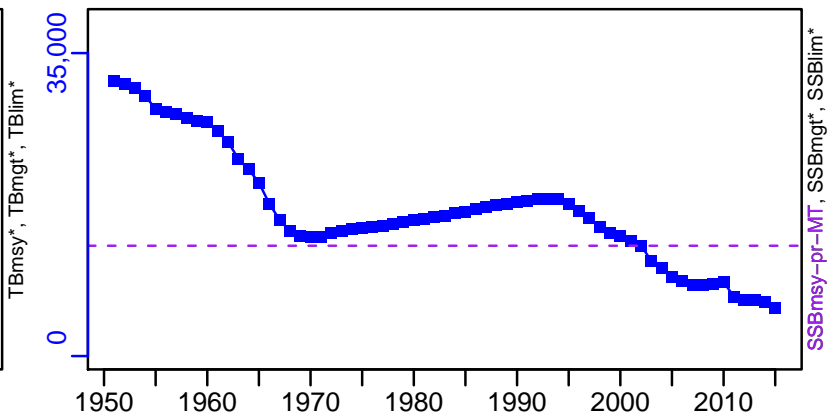
◆ Start Year ◆ End Year \* No Data

# South African abalone South Africa [SAABALONESA]

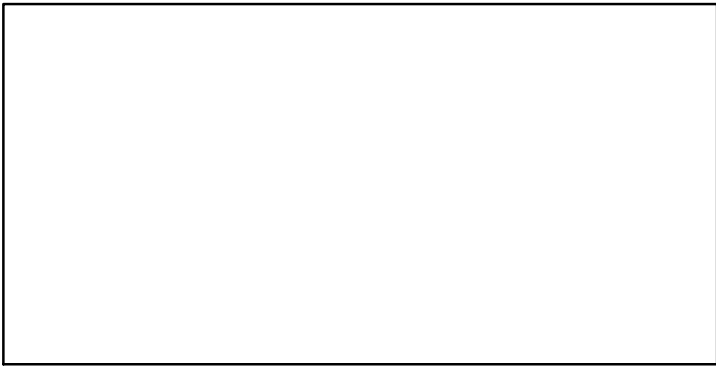
TB-MT (1951–2015–Brandao)



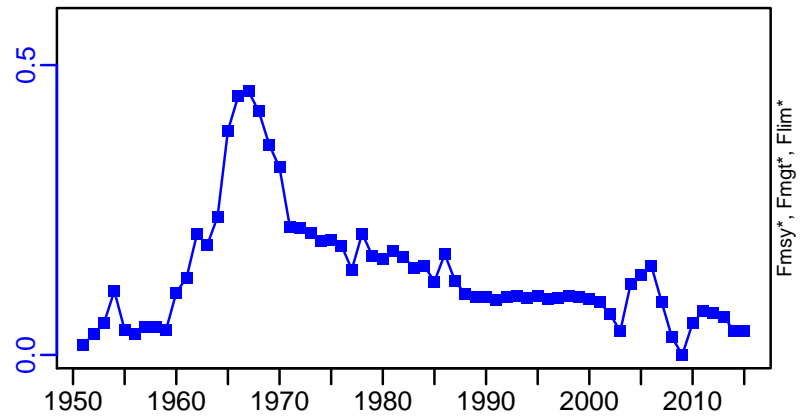
SSB-MT (1951–2015–Brandao)



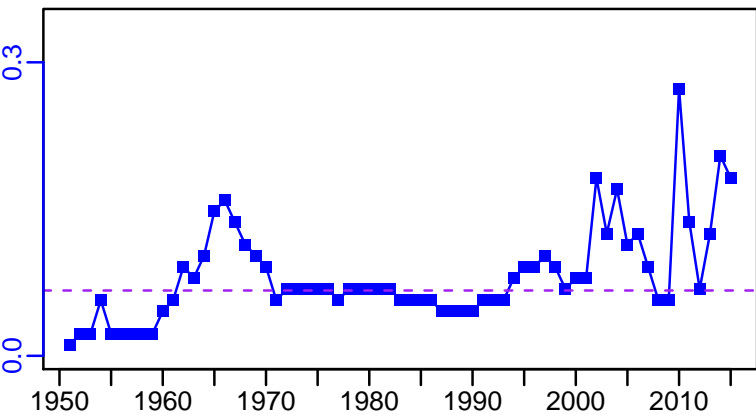
TN \*



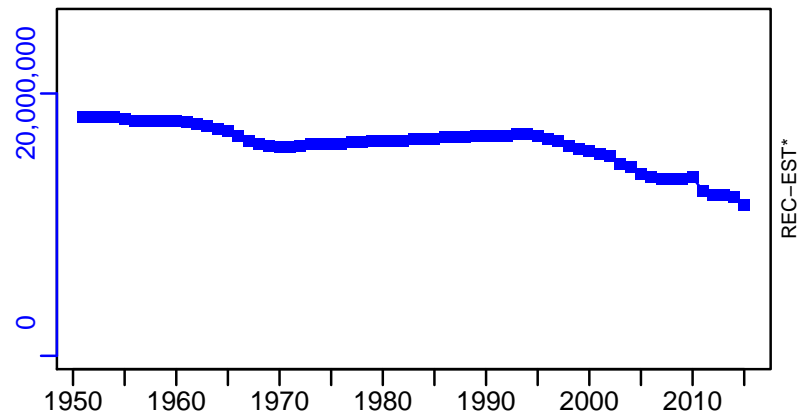
F-1/yr (1951–2015–Brandao)



ER-ratio (1951–2015–Brandao)

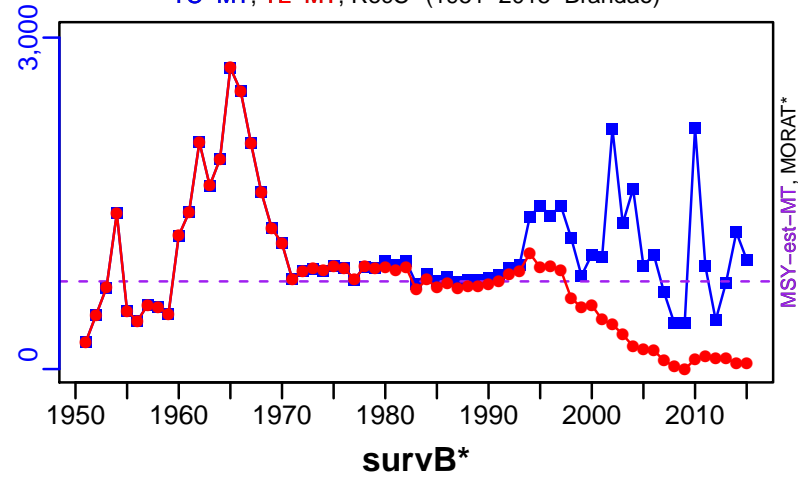


R-E00 (1951–2015–Brandao)



# South African abalone South Africa [SAABALONESA]

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



TAC\*, Cpair\*, Cadv\*



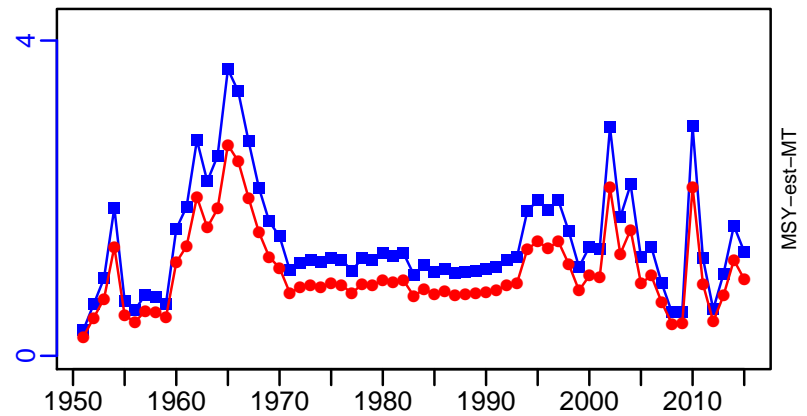
CPUE\*



EFFORT\*



TC-MT/MSY-est-MT, CdivMEANC-ratio, (1951-2015-Brandao)



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

## Sardine South Africa (South Component) [SARDSAS]

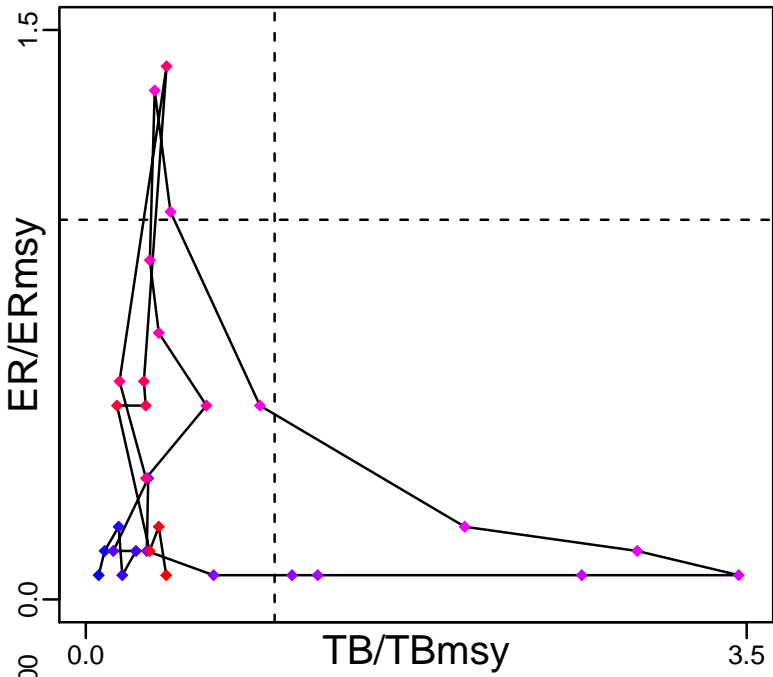
Metadata	
<b>Scientific Name</b>	Sardinops sagax
<b>Current Assess ID</b>	MARAM-SARDSAS-1984-2019-deMoor
<b>Area</b>	South Africa (South Component)
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2019

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-est-MT	2019	904,327
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-est-ratio	2019	0.157
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-est-MT	2019	141,682
<b>M</b>	M-1/yr	2019	1
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

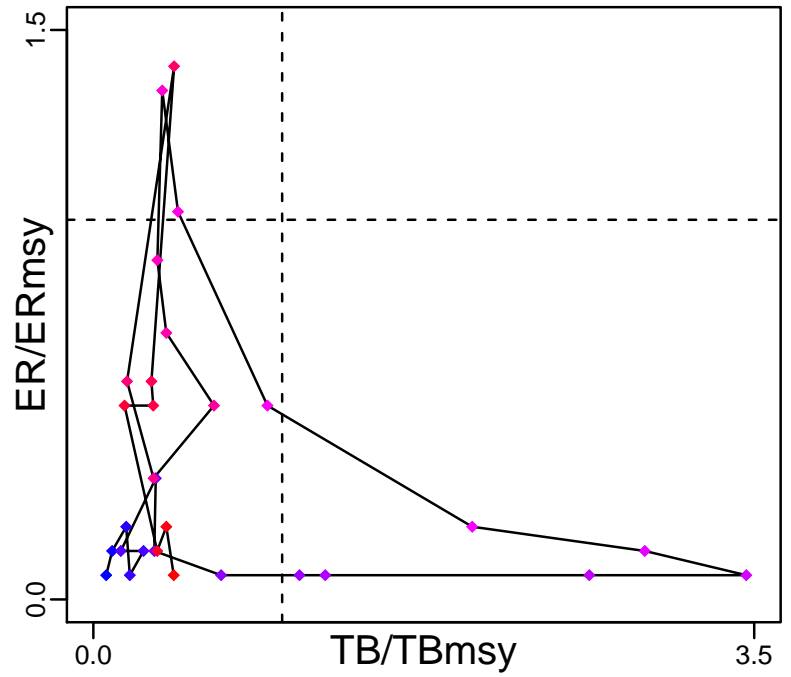
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2019	385,000	Both	0+
<b>SSB</b>	SSB-MT	2019	184,300	Both	mature
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2019	$2.453 \times 10^{10}$	Both	0
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2019	0.01	Both	0+
<b>TC</b>	TC-MT	2019	3500		
<b>TL</b>	TL-MT	2019	3500		
<b>TB/TBmsy</b>	TB-MT/TBmsy-est-MT	2019	0.426		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-est-ratio	2019	0.064		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Sardine South Africa (South Component) [SARDSAS]

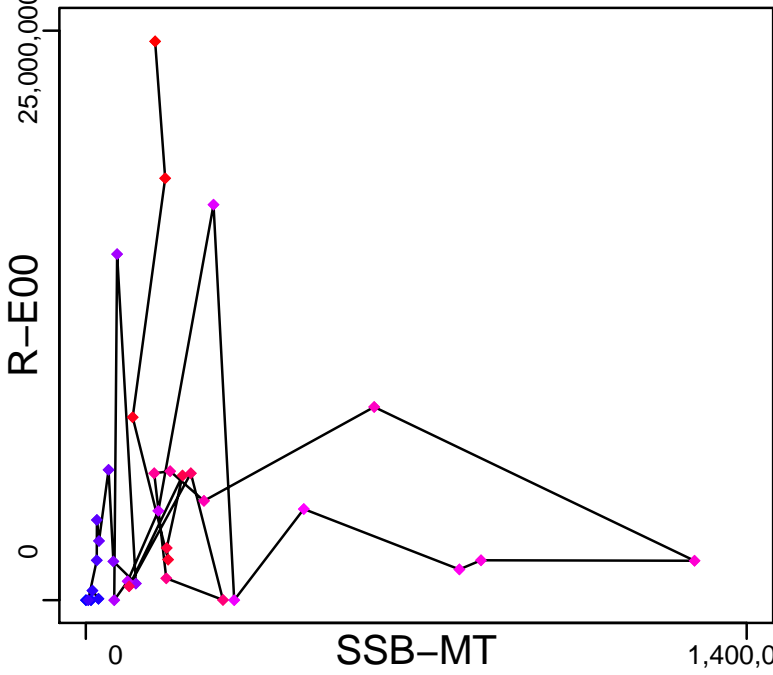
Kobe MSYpref (1984–2019–deMoor)



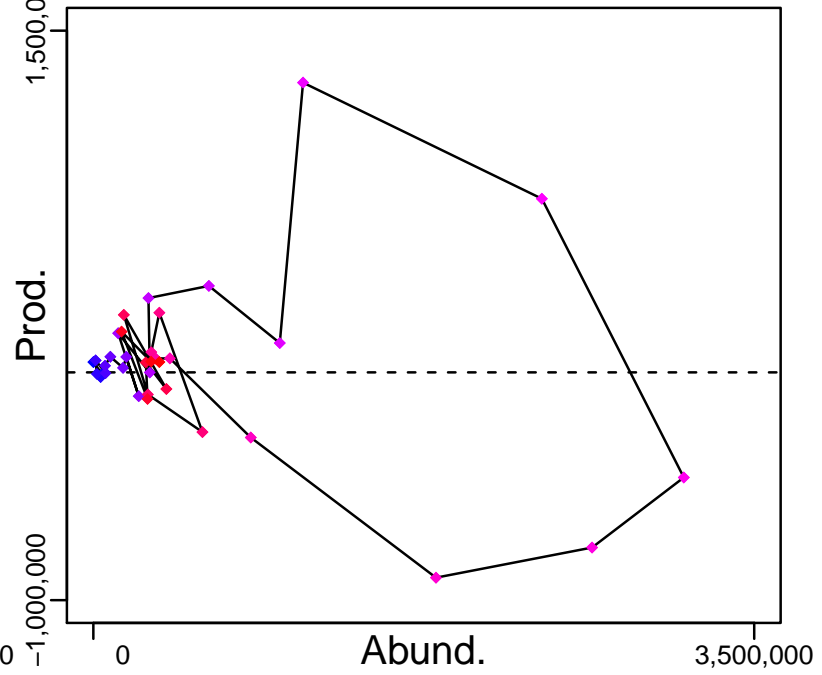
Kobe MGTpref (1984–2019–deMoor)



Spawner Recruit (1984–2019–deMoor)



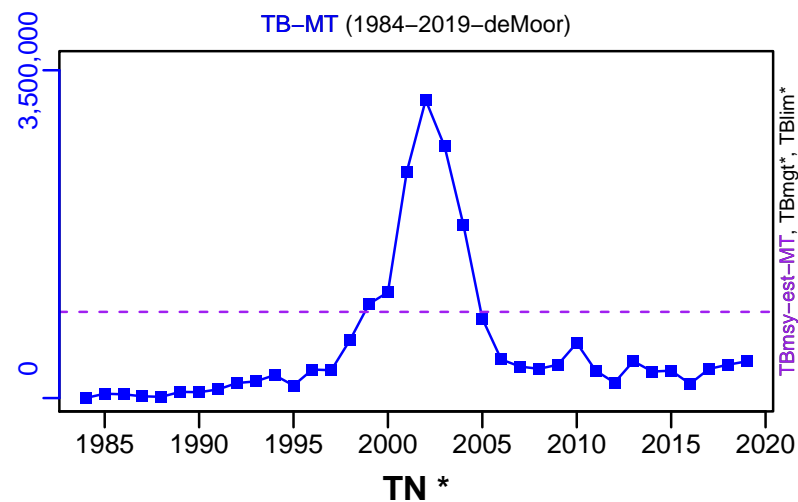
Production (1984–2019–deMoor)



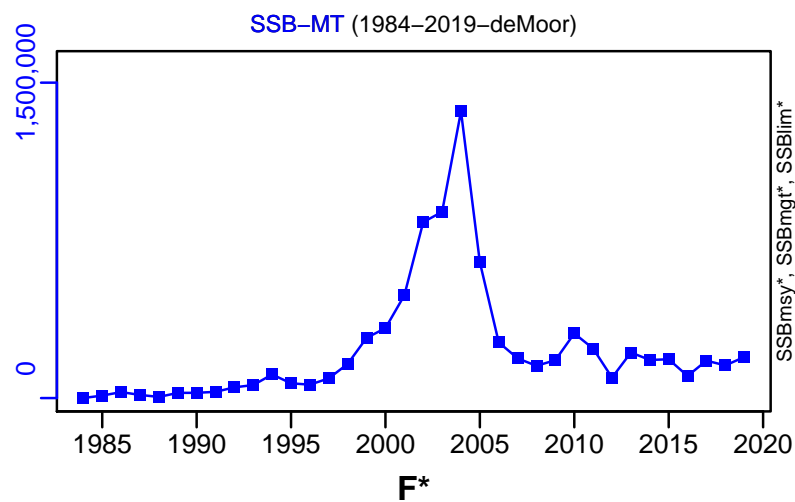
◆ Start Year ◆ End Year \* No Data

# Sardine South Africa (South Component) [SARDSAS]

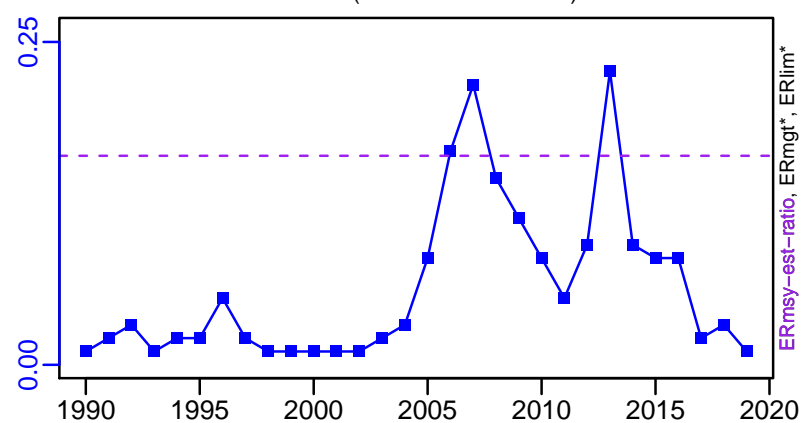
TB-MT (1984–2019–deMoor)



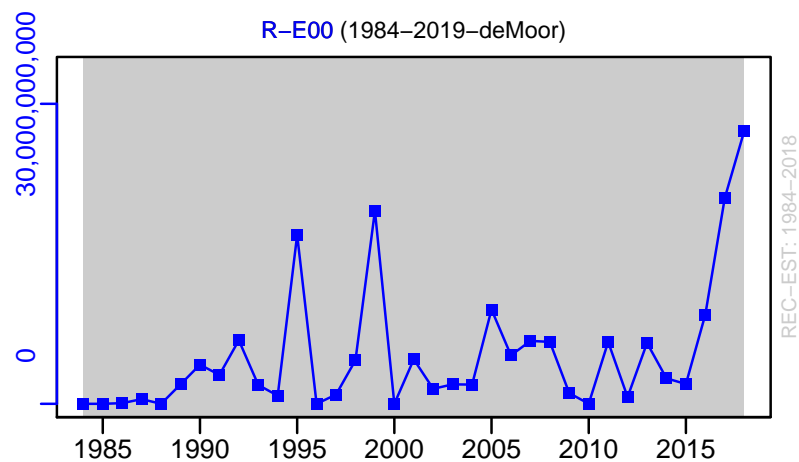
SSB-MT (1984–2019–deMoor)



ER-ratio (1984–2019–deMoor)



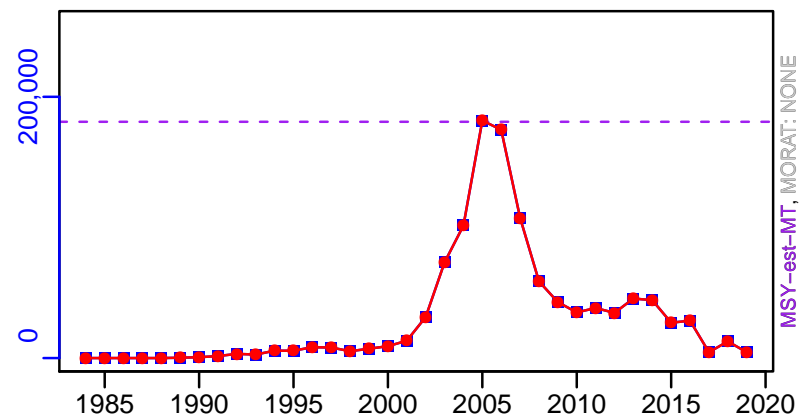
R-E00 (1984–2019–deMoor)





# Sardine South Africa (South Component) [SARDSAS]

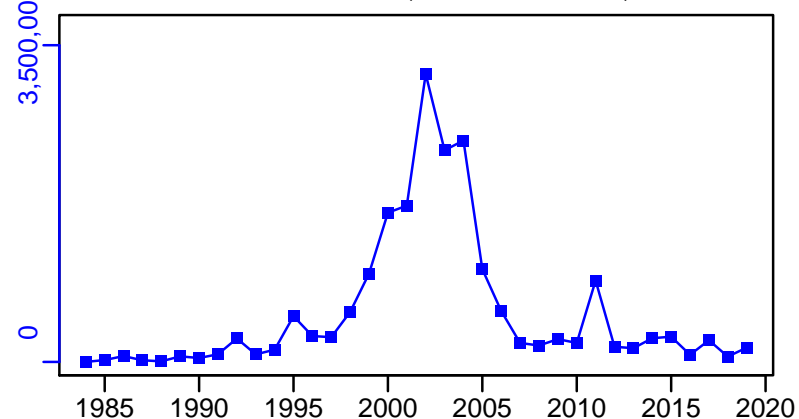
TC-MT, TL-MT, RecC\* (1984–2019–deMoor)



TAC\*, Cpair\*, Cadv\*



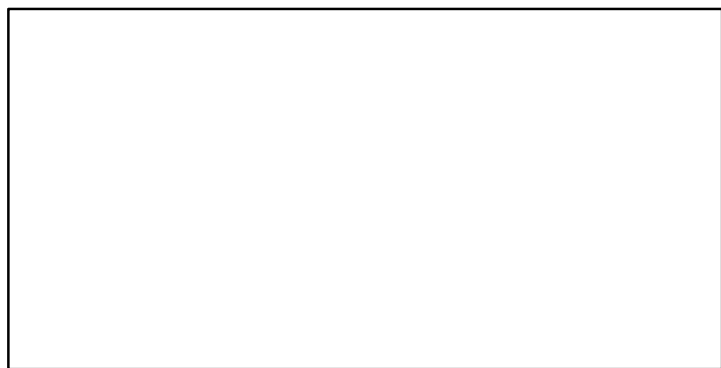
survB\_index-index (1984–2019–deMoor)



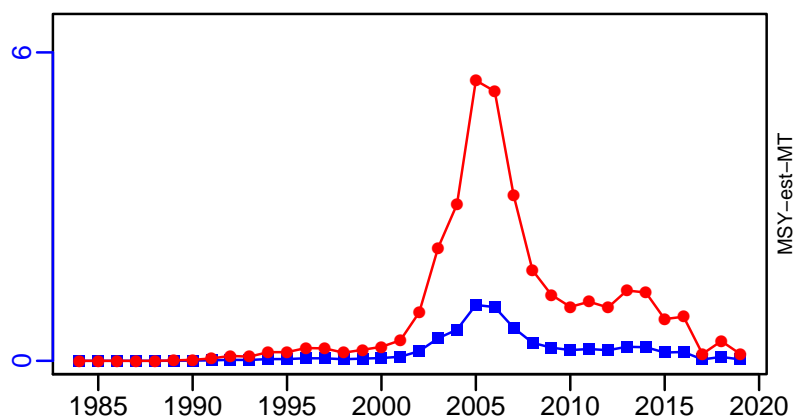
CPUE\*



EFFORT\*



TC-MT/MSY-est-MT, CdivMEANC-ratio, (1984–2019–deMoor)



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

## Sardine South Africa (West Component) [SARDSAW]

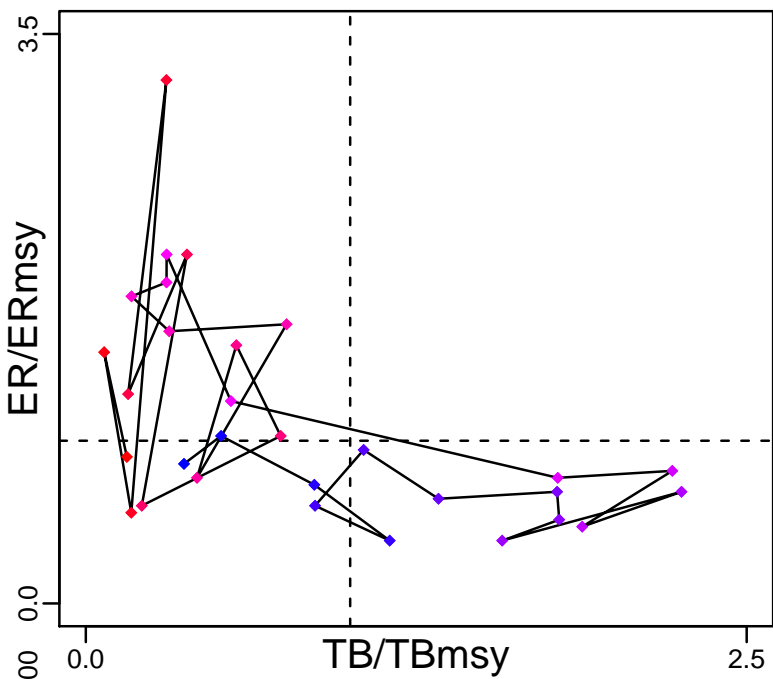
Metadata	
<b>Scientific Name</b>	Sardinops sagax
<b>Current Assess ID</b>	MARAM-SARDSAW-1949-2019-deMoor
<b>Area</b>	South Africa (West Component)
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	Marine Resource Assessment and Management Group, Department of Mathematics and Applied Mathematics, University of Cape Town, Rondebosch, 7701, South Africa
<b>Asmts in RAM</b>	2019

Reference Points			
Type	ID	Asmt Year	Value
<b>TBmsy</b>	TBmsy-est-MT	2019	577,431
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-est-ratio	2019	0.233
<b>TBmgt</b>	-	-	-
<b>SSBmgt</b>	-	-	-
<b>Fmgt</b>	-	-	-
<b>ERmgt</b>	-	-	-
<b>TB0</b>	-	-	-
<b>SSB0</b>	-	-	-
<b>MSY</b>	MSY-est-MT	2019	134,626
<b>M</b>	M-1/yr	2019	1
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

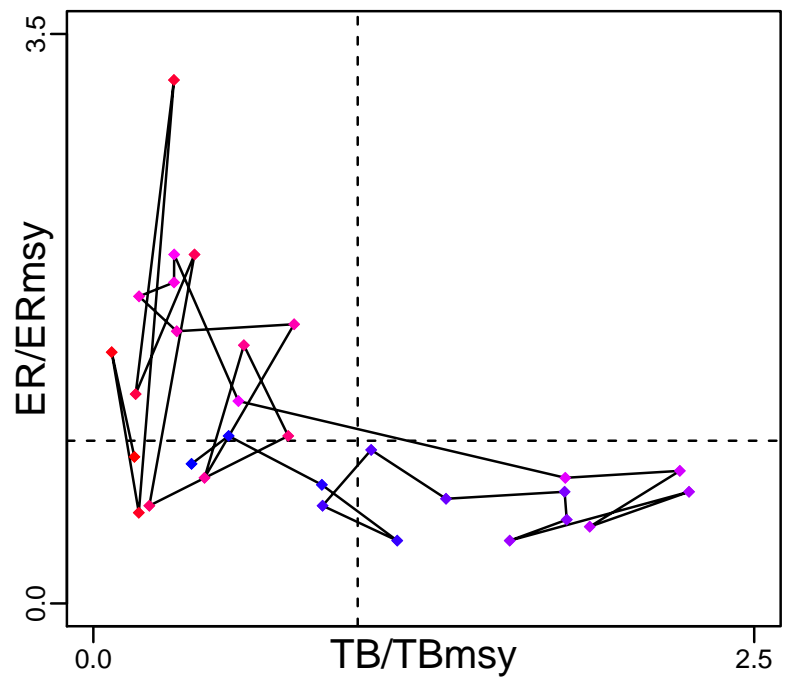
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2019	89,700	Both	0+
<b>SSB</b>	SSB-MT	2019	6800	Both	mature
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2019	$1.414 \times 10^{10}$	Both	0
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2019	0.21	Both	0+
<b>TC</b>	TC-MT	2019	8500		
<b>TL</b>	TL-MT	2019	8500		
<b>TB/TBmsy</b>	TB-MT/TBmsy-est-MT	2019	0.155		
<b>SSB/SSBmsy</b>	-	-	-		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-est-ratio	2019	0.901		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	-	-	-		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Sardine South Africa (West Component) [SARDSAW]

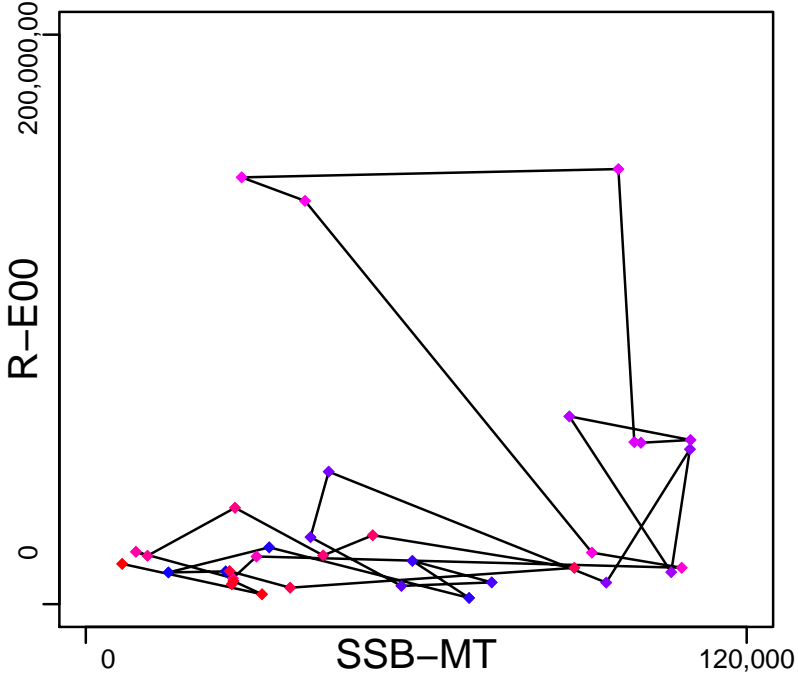
Kobe MSYpref (1949–2019–deMoor)



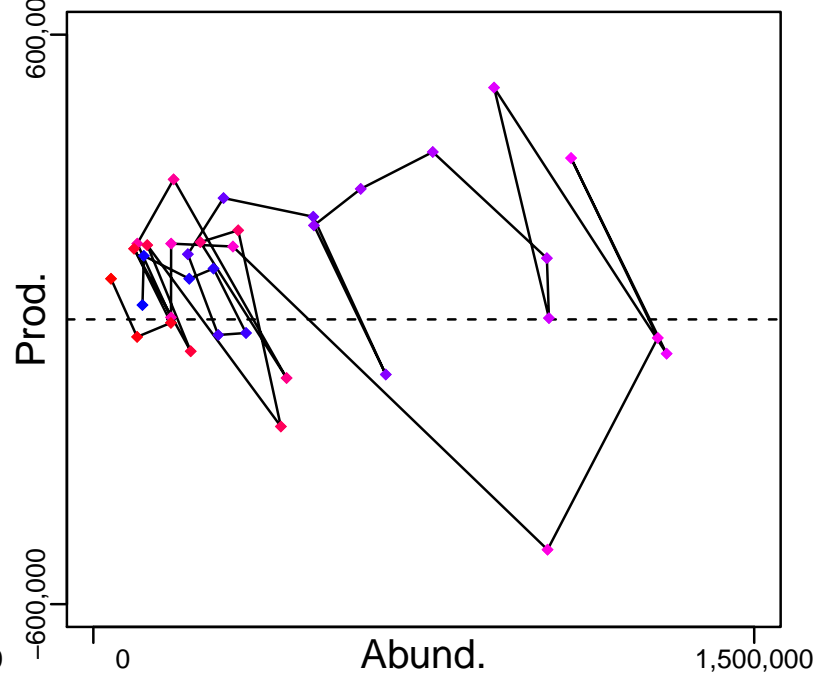
Kobe MGTpref (1949–2019–deMoor)



Spawner Recruit (1949–2019–deMoor)



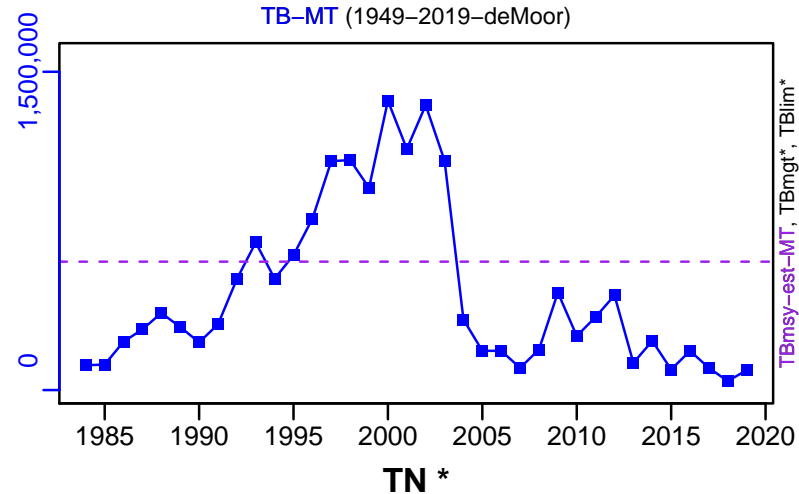
Production (1949–2019–deMoor)



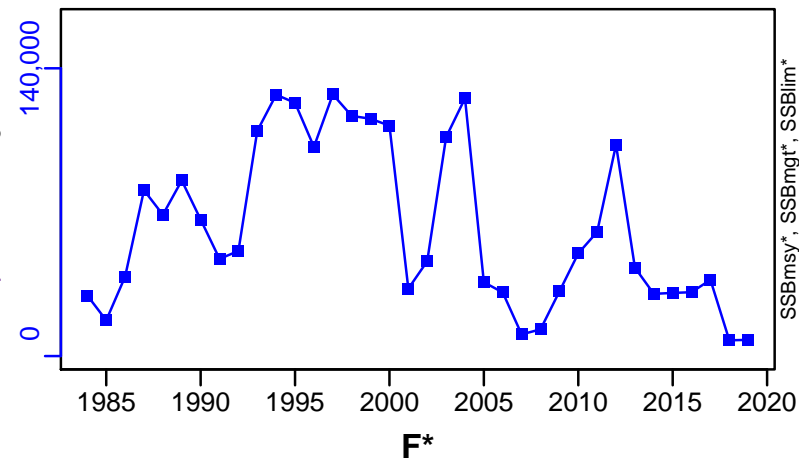
◆ Start Year ◆ End Year \* No Data

# Sardine South Africa (West Component) [SARDSAW]

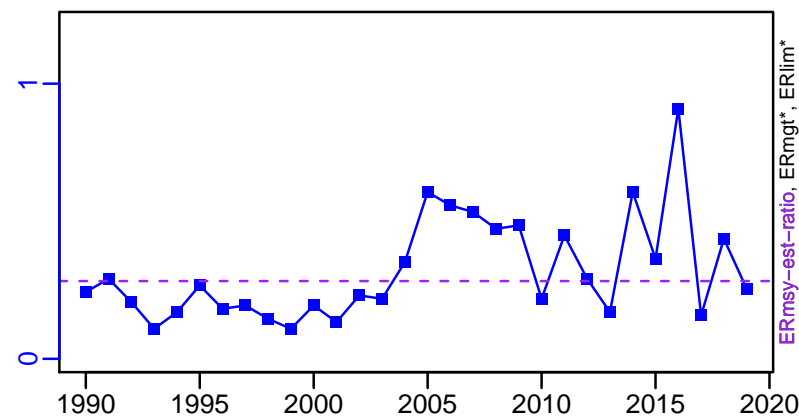
TB-MT (1949–2019–deMoor)



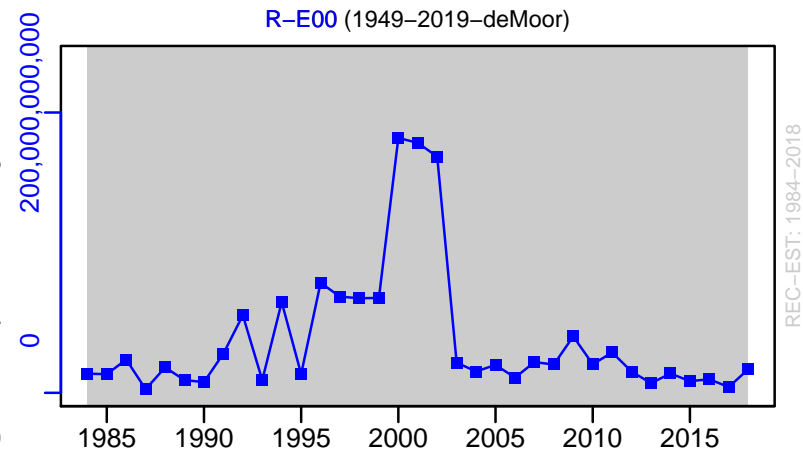
SSB-MT (1949–2019–deMoor)



ER-ratio (1949–2019–deMoor)

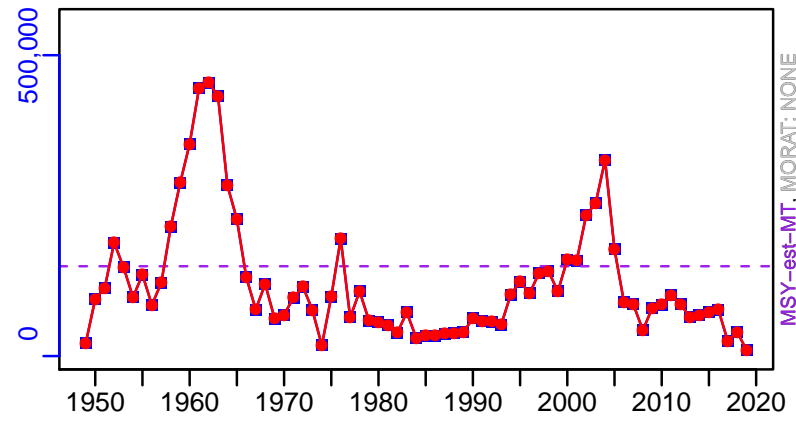


R-E00 (1949–2019–deMoor)



# Sardine South Africa (West Component) [SARDSAW]

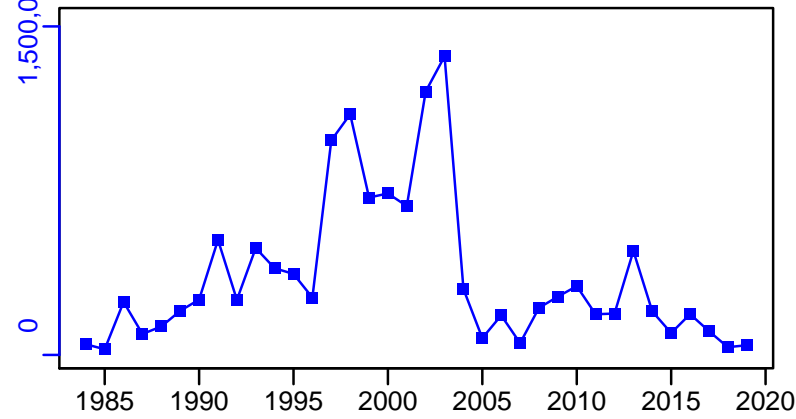
TC-MT, TL-MT, RecC\* (1949-2019-deMoor)



TAC\*, Cpair\*, Cadv\*



survB\_index-index (1949-2019-deMoor)



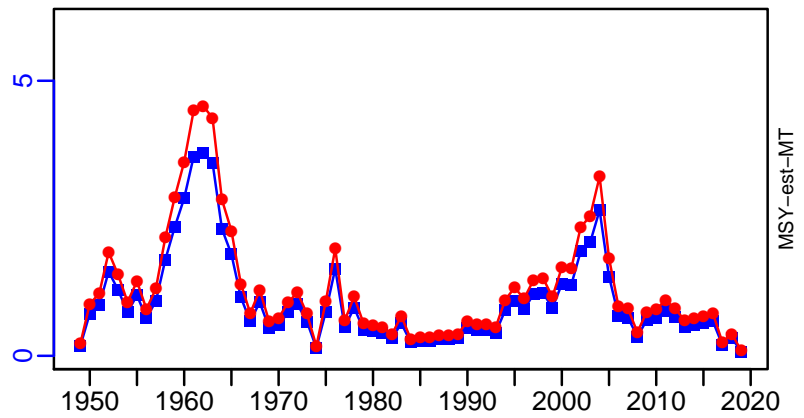
CPUE\*



EFFORT\*



TC-MT/MSY-est-MT, CdivMEANC-ratio, (1949-2019-deMoor)



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

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

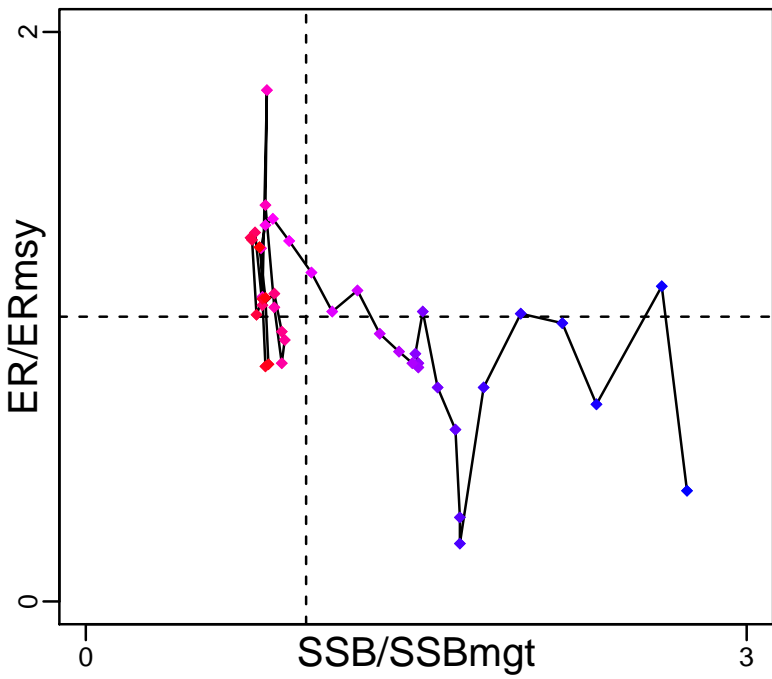
Metadata	
<b>Scientific Name</b>	Palinurus gilchristi
<b>Current Assess ID</b>	MARAM-SSLOBSTERSASC-1973-2014-Johnston
<b>Area</b>	South Africa South coast
<b>Management Authority</b>	South African national management, Fisheries Branch of Department of Agriculture, Forestry and Fisheries
<b>Assessor</b>	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>	TBmsy-est-MT	2012	2153
<b>SSBmsy</b>	-	-	-
<b>Fmsy</b>	-	-	-
<b>ERmsy</b>	ERmsy-est-ratio	2014	0.27
<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>	MSY-est-MT	2012	417
<b>M</b>	M-1/yr	2014	0.1
<b>TBlim</b>	-	-	-
<b>SSBlim</b>	-	-	-
<b>Flim</b>	-	-	-
<b>ERlim</b>	-	-	-

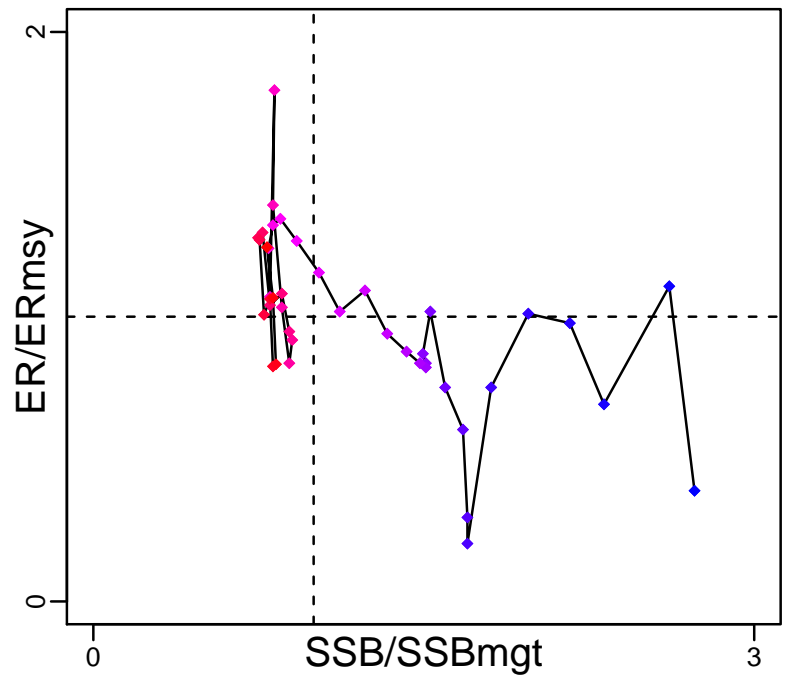
Time Series					
Type	ID	Asmt Year	Curr Value	Sex	Age
<b>TB</b>	TB-MT	2014	1070	-	-
<b>SSB</b>	SSB-MT	2014	1170	Females	-
<b>TN</b>	-	-	-	-	-
<b>R</b>	R-E00	2014	3,840,000	-	-
<b>F</b>	-	-	-	-	-
<b>ER</b>	ER-ratio	2014	0.336	-	-
<b>TC</b>	TC-MT	2014	359		
<b>TL</b>	TL-MT	2014	359		
<b>TB/TBmsy</b>	-	-	-		
<b>SSB/SSBmsy</b>	SSB-MT/(SSB0-MT*0.368)	2014	0.786		
<b>F/Fmsy</b>	-	-	-		
<b>ER/ERmsy</b>	ER-ratio/ERmsy-est-ratio	2014	1.244		
<b>TB/TBmgt</b>	-	-	-		
<b>SSB/SSBmgt</b>	SSB-MT/SSBmgt-MT	2014	0.788		
<b>F/Fmgt</b>	-	-	-		
<b>ER/ERmgt</b>	-	-	-		

# Southern spiny lobster South Africa South coast [SSLOBSTERSASC]

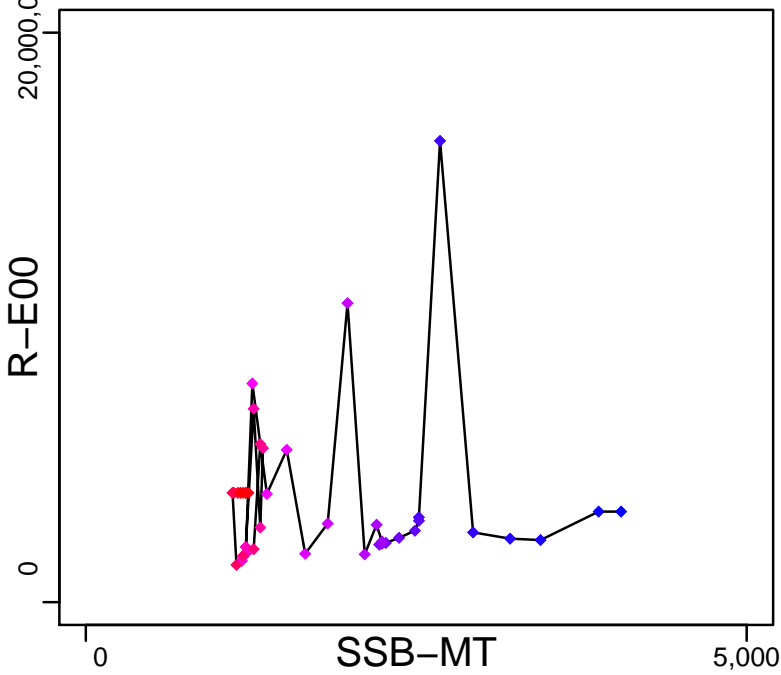
Kobe MSYpref (1973–2014–Johnston)



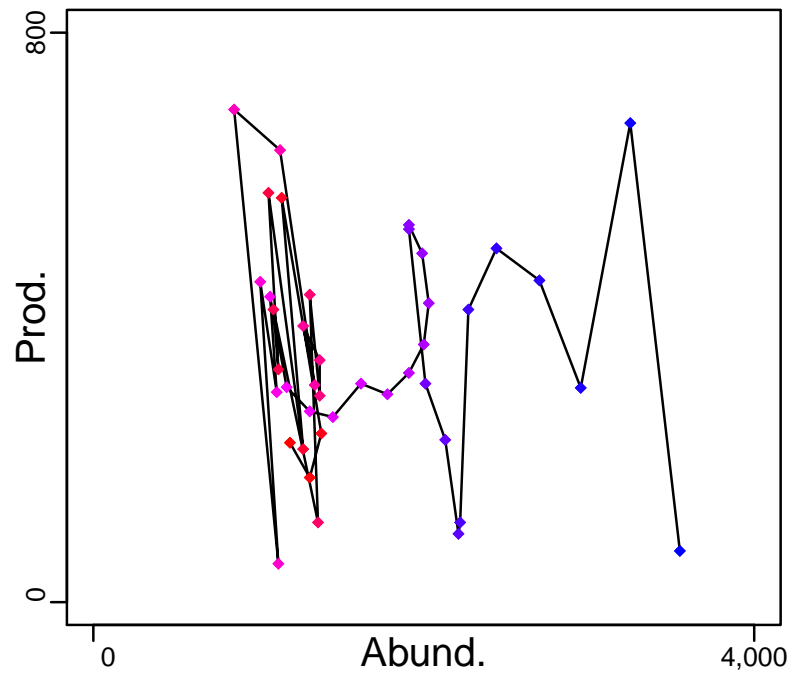
Kobe MGTpref (1973–2014–Johnston)



Spawner Recruit (1973–2014–Johnston)



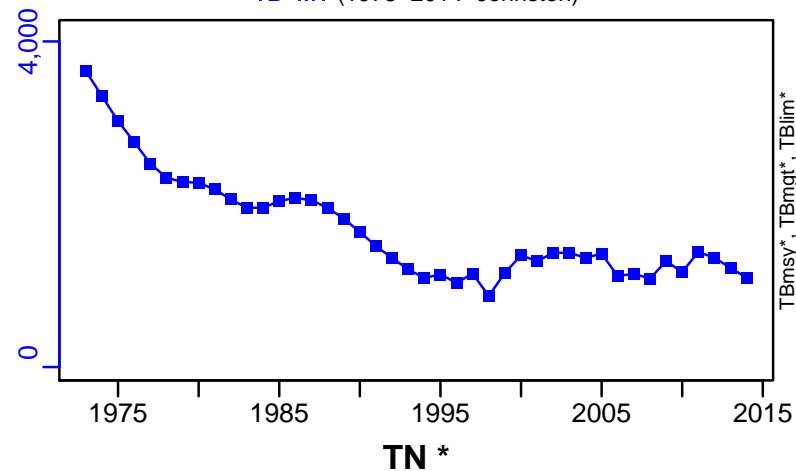
Production (1973–2014–Johnston)



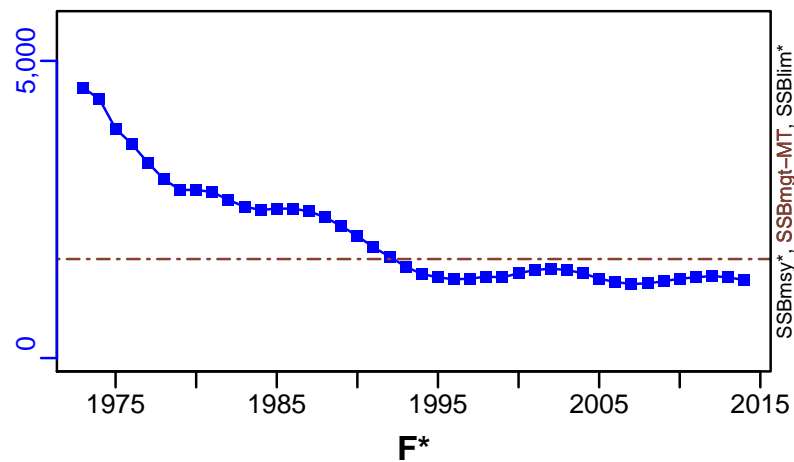
◆ Start Year ◆ End Year \* No Data

# Southern spiny lobster South Africa South coast [SSLOBSTERSASC]

TB-MT (1973–2014–Johnston)



SSB-MT (1973–2014–Johnston)



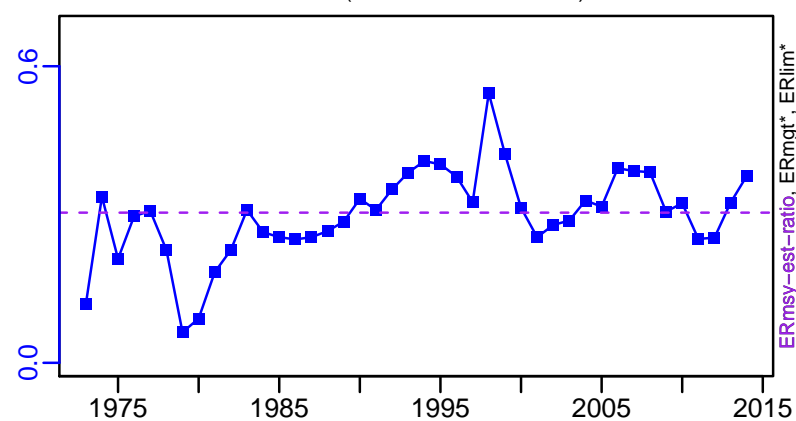
TN \*



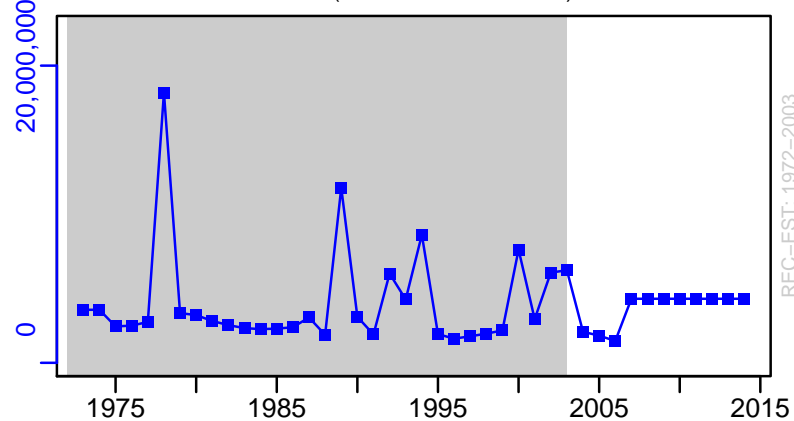
F\*



ER-ratio (1973–2014–Johnston)



R-E00 (1973–2014–Johnston)

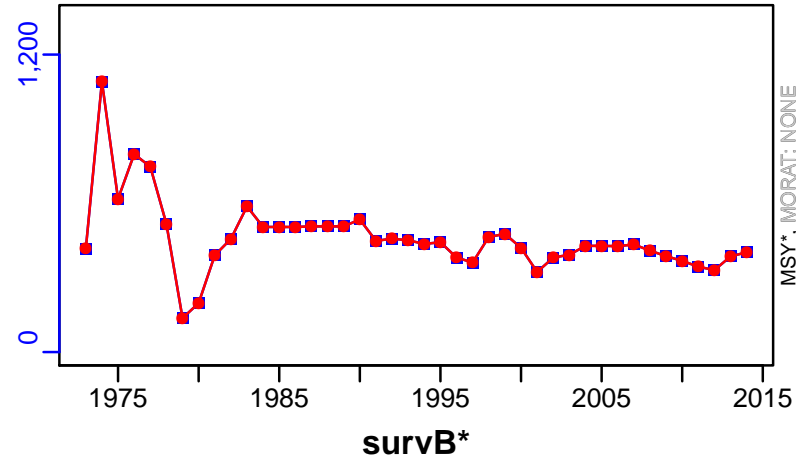




# Southern spiny lobster South Africa South coast [SSLOBSTERSASC]

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

TAC\*, Cpair\*, Cadv\*



EFFORT\*



TL-MT/MSY-est-MT, CdivMEANC-ratio, (1973–2012–Johnston)

